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ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN

6 July 2020
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Inception Meeting of the Mediterranean Sea Programme (MedProgramme):
Enhancing Environmental Security (GEF ID 9607)

Videoconference, 20-22 July 2020

GEF CEO endorsement Request (Project Document) and related Annexes of Child Project 2.2 (GEF ID 9685)

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UNEP/MAP
Athens, 2020



GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Mediterranean Coastal Zones: Managing the Water-Energy-Food and Ecosystems Nexus.			
Country(ies):	Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia.	GEF Project ID: ¹	9685
GEF Agency(ies):	UN Environment	GEF Agency Project ID:	01423
Other Executing Partner(s):	UN Environment/MAP and GWP-Med.	Submission Date:	
GEF Focal Area (s):	International Waters	Project Duration (Months)	60 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of Parent Program	Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security – ID 9607	Agency Fee (\$)	315,000

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
IW 2 Program 4	4.1 Increased water/food/energy/ecosystem security and sharing of benefits on basin/sub-basin scale underpinned by adequate regional legal/institutional frameworks for cooperation.	GEFTF	3,500,000	11,309,871
Total project costs			3,500,000	11,309,871

B. PROJECT DESCRIPTION SUMMARY

Project Objective: Balancing of competing water uses in priority coastal areas through water, food, energy and ecosystems integrated governance, to enhance environmental security and sharing of benefits.						
Project Components/Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
Component 1: Institutional Strengthening.	TA	Outcome 1: Enhanced regional and National capacities on the	Output 1.1: Regional Dialogue and Capacity	GEFTF	384,000	2,950,000

¹ Project ID number remains the same as the assigned PIF number.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

³ Financing type can be either investment or technical assistance.

		use of the Nexus approach to address land-based issues.	Building on Nexus assessment and approach.			
Component 2: Addressing Nexus issues affecting priority coastal zones of the Mediterranean LME.	TA	Outcome 2: Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.	Output 2.1: New or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents. Output 2.2: Water-energy-food-ecosystems Nexus Assessments and multi-stakeholder consultation dialogues in priority coastal areas. Output 2.3: Nexus strategies/action plans for priority coastal areas, possibly as part of other strategic documents for coastal areas.	GEFTF	1,804,000	2,820,000
Component 3: Testing and upscaling Nexus solutions.	TA	Outcome 3: Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs. Outcome 4: Priority Nexus interventions agreed upon including relevant mechanisms and arrangements.	Output 3.1: Nexus demonstration activities. Output 4.1: Identified interventions, including potential sources of funding.	GEFTF	595,000	2,430,000

Component 4: Consultation and outreach	TA	Outcome 5: The medium and long-term sustainability of results ensured by engaging the relevant stakeholders.	Output 5.1: A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.	GEFTF	551,000	2,300,000
Subtotal					3,334,000	10,500,000
Project Management Cost (PMC) ⁴					166,000	809,871
Total project costs					3,500,000	11,309,871

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount (\$)
Executing Agencies	UN Environment/MAP	In Kind	79,871
	GWP-Med	In Cash	1,000,000
		In Kind	3,000,000
Recipient Government	Lebanon	In Kind	730,000
Recipient Government	Morocco	In Kind	6,500,000
Total Co-financing			11,309,871

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b) ²	Total (c)=a+b
UN Environment	GEF TF	Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia.	International Waters		3,500,000	315,000	3,815,000

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Total Grant Resources	3,500,000	315,000	3,815,000
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a) Refer to the Fee Policy for GEF Partner Agencies

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>1 Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

⁵ Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

Project Core Indicators		Expected at CEO Endorsement
1	Terrestrial protected areas created or under improved management for conservation and sustainable use (Million Hectares)	
2	Marine protected areas created or under improved management for conservation and sustainable use (Million Hectares)	
3	Area of land restored (Million Hectares)	
4	Area of landscapes under improved practices (excluding protected areas)(Million Hectares)	
5	Area of marine habitat under improved practices (excluding protected areas)(Million Hectares)	
	Total area under improved management (Million Hectares)	
6	Greenhouse Gas Emissions Mitigated (Million metric tons of CO ₂ e)	
7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	1
8	Globally over-exploited marine fisheries moved to more sustainable levels (thousand metric tons)(Percent of fisheries, by volume)	
9	Reduction , disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)	
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? NO

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

N/A

PART II: PROJECT JUSTIFICATION

Overview of the MedProgramme and context of the Child Project 2.2

The GEF/UN Environment “Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security” (2019-2024) ⁶ represents the first GEF programmatic multi-focal area initiative in the

⁶ GEF Lead Implementing Agency: UN Environment. Other GEF Implementing Agency: European Bank for Reconstruction and Development (EBRD). Leading Executing Agency: UN Environment/MAP. Executing partners: UNESCO International Hydrological Programme (IHP), European Investment Bank (EIB), Global Water

Mediterranean Sea aiming to operationalize priority actions to reduce major transboundary environmental stresses in its coastal areas while strengthening climate resilience and water security and improving the health and livelihoods of coastal populations. The MedProgramme is implemented in nine beneficiary countries sharing the Mediterranean basin: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia. Its eight Child Projects⁷ cut across four different Focal Areas of the Global Environment Facility (International Waters [IW], Biodiversity [BD], Chemicals and Waste [CW], and Climate Change [CC]) and involve a wide spectrum of developmental and societal sectors, ranging from banking institutions, the private sector, governmental and non-governmental bodies, industry, research, media, and various other organizations. It builds on the MedPartnership and ClimVar & ICZM⁸ GEF projects which have enriched the knowledge on the Mediterranean environment and unraveled the implications of climate change and variability; strengthened countries' mutual trust, cooperation and common purpose; consolidated the partnership among countries, UN bodies, civil society organizations, bilateral donors and the European Union (EU); and tested on the ground the feasibility and effectiveness of technical and policy instruments aimed at addressing major present and future threats to environmental sustainability and climate related impacts.

The eight Child Projects (CP) of the MedProgramme (Figure 1 and Table 1) are expected to deliver a set of complementary results embracing three categories of priorities identified by the TDA for the Mediterranean Sea which are translated into three components of the programme: i) Reduction of Land-Based Pollution in Priority Coastal Hotspots and measuring progress to impacts; ii) Enhancing Sustainability and Climate Resilience in the Coastal Zone; and iii) Protecting Marine Biodiversity.

The fourth component (Knowledge Management and Programme Coordination) is comprised of Child Project 4.1 “Mediterranean Sea LME Environment and Climate Regional Support Project” which plays a key role within the MedProgramme as it “implements mechanisms for Programme-wide learning and dissemination of knowledge, monitoring the Programme’s progress to impacts, and fostering synergistic interactions among Child Projects”. Within the GEF programmatic approaches there is a need to ensure programme coherence and impact through coordination among diverse sets of multi-focal area Child Projects contributing to the same programme outcomes. A Support Project functions as a trait d’union (a common link) among Child Projects by providing overall coordination of the programme portfolio, resource-saving services, a robust system to managing knowledge effectively and a sound action plan for gender mainstreaming.

Partnership – Mediterranean (GWP-Med), WWF Mediterranean Programme Office (WWF MedPO), IUCN, Priority Actions Programme Regional Activity Centre (PAP/RAC), Plan Bleu Regional Activity Centre (Plan Bleu), Specially Protected Areas Regional Activity Centre (SPA/RAC) and the Sustainable Consumption and Production Regional Activity Centre (SCP/RAC).

⁷ At the time of its approval in October 2016, the MedProgramme was comprised of seven Child Projects. Subsequently, a Mediterranean climate change adaptation project was developed by UN Environment/MAP for financing through the Special Climate Change Fund (SCCF). It was agreed by the UN Environment/MAP, UN Environment and the GEF Secretariat that this SCCF project would be managed for all intents and purposes as an additional Child Project of the MedProgramme. Hence the reference to eight Child Projects of the MedProgramme.

⁸ More info on MedPartnership, ClimVar and ICZM (Integration of climatic variability and change into national strategies to implement the ICZM Protocol in the Mediterranean) projects: <http://www.themedpartnership.org/>, <https://iwlearn.net/iw-projects/2600> and <https://iwlearn.net/iw-projects/3990>.

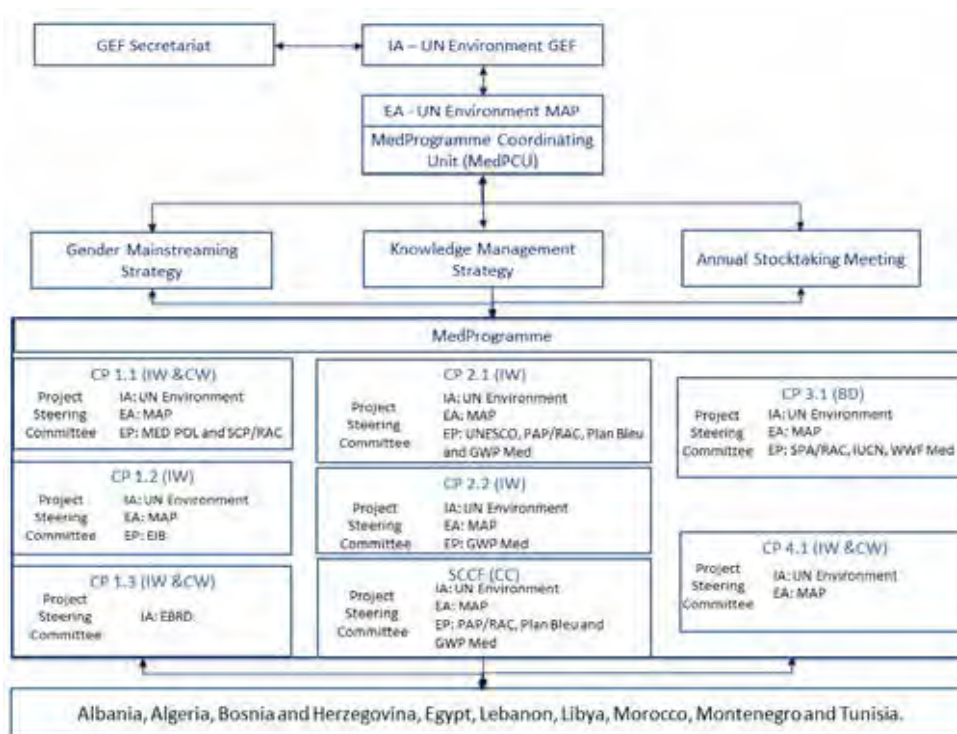


Figure 1 MedProgramme Structure

Table 1 MedProgramme Components, Child Projects and GEF Focal Areas

Mediterranean Sea Programme (MedProgramme)		
MedProgramme Component	Child Project	GEF Focal Areas
1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and measuring progress to impacts.	1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hot Spots and Measuring Progress to Impacts”	IW and CW
	1.2 “Mediterranean Pollution Hot Spots Investment Project”	IW
	1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”	IW and CW
2. Enhancing Sustainability and Climate Resilience in the Coastal Zone.	2.1 “Mediterranean Coastal Zones Climate Resilience Water Security and Habitat Protection”	IW
	2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem NEXUS”	IW
	SCCF “Enhancing regional climate change adaptation in the Mediterranean Marine and Coastal Areas”	CC

Mediterranean Sea Programme (MedProgramme)		
MedProgramme Component	Child Project	GEF Focal Areas
3. Protecting Marine Biodiversity	3.1 “Management Support and Expansion of Marine Protected Areas in Libya”	BD
4. Knowledge Management and Programme Coordination	4.1 “Mediterranean Sea Large Marine Ecosystem Environment and Climate Regional Support Project”	IW and CW

Child Project 2.2 will be key in informing the policy and management paradigm of natural resources in the Mediterranean. It will achieve that by introducing practical assessment and consultation approaches related to Nexus striving to link these with investment development, allowing the Water and Environmental policy and management approaches at the coastal and marine area to be informed by and/or inform the Energy and Agricultural decision making. This will foster sectoral integration resulting in improved design, hence applicability, of related policies responding to the carrying capacity, structure and functions of the Mediterranean coastal and marine natural and anthropogenic environment. Overall, by using the Nexus approach, the “Source-to-Sea” approach goes beyond Environment and Water objectives, addressing Energy and Agriculture considerations, thus facilitating sectoral and spatial integration through tracing the causes and the solutions of interlinked challenges faced within and beyond the coastal zone.

Consistent with the design of the MedProgramme, Child Project 2.2 will operate in synergy with all the other Child Projects under Components 1 and 2 addressing the reduction of pollution from nutrients and persistent toxic substances in coastal hotspots of (Child Projects 1.1, 1.2, 1.3), the reuse of treated wastewaters (Child Project 1.2), the mainstreaming of climate change adaptation approaches in ICZM planning (the SCCF Project), and the integrated coastal zone management as well as the conjunctive management of surface and groundwater as means to address coastal related pressures to the Mediterranean LME. (Child Project 2.1). The synergistic interactions among these projects will trigger catalytic impacts that will be enhanced and disseminated throughout the region by the MedProgramme-wide knowledge management and coordination project, Child Project 4.1.

Child Project 2.1 will strive to produce long lasting beneficial impacts in coastal zone management approaches in the Mediterranean region, better integration of hydrological, geological and environmental sciences with land use and water resources planning; education with capacity reinforcement; monitoring with policy making. Child Project 2.2, focusing on integration of Nexus sectors and approaches, will work in synergy with the Child Project 2.1 mutually assisting and reinforcing their aims and objectives. The involvement of UN Environment/MAP and GWP-Med in both projects will enable this.

Child Project 2.2 and 2.1 will work in close cooperation starting from the inception phase of the Programme. The details regarding the implementation of the activities will be formulated working closely with the countries during inception period of the project. Action will be taken to secure that there will be no duplication of activities and effort. While project 2.1 will invest in addressing the water related issues in the context of the ICZM planning ensuring IWRM application including conjunctive management of surface and underground water 2.2 will assess and address tradeoffs among the Nexus sectors thus addressing linkages that are geographically extending beyond the coastal area.

The detailed planning of activities (preparation of detailed workplans and budgets) will allow identifying potential risk for duplication. Exercising adaptive management guidance of the beneficiary countries will be sought for the identification of additional areas of intervention.

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF⁹

A.1. *Project Description*. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area¹⁰ strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

No changes to be reported.

1) THE GLOBAL ENVIRONMENTAL AND ADAPTATION PROBLEMS, ROOT CAUSES AND BARRIERS THAT NEED TO BE ADDRESSED.

The full-fledged Transboundary Diagnostic Analysis (TDA) carried out in 2005 as part of the Global Environment Facility (GEF)/UN Environment project “Determination of priority actions for the further elaboration of the Strategic Action Program for the Mediterranean Sea”, identified, and analyzed in some detail, four major transboundary environmental concerns (Table 2). They are:

1. Decline of biodiversity due to conversion and degradation of critical habitats, introduction of alien species, pollution in the form of excess nutrients and toxic wastes;
2. Decline in seawater quality due to inadequate sewage treatment, lack of application of best practice in the agricultural use of fertilizers and pesticides, inadequate controls on atmospheric emissions of heavy metals and persistent organic pollutants (POPs), inadequate discharge control for industries bordering the sea;
3. Human health risks due to exposure to POPs, the consumption of contaminated seafood, direct and indirect contact with seawater that is contaminated with pathogens and/or viral agents;
4. Degradation of coastal ecosystems and loss of related services due to growing demographic pressure and unregulated coastal development.

Table 2 Mediterranean Sea Large Marine Ecosystem (LME) - Transboundary Diagnostic Analysis

Mediterranean Sea Large Marine Ecosystem (LME) - Transboundary Diagnostic Analysis		
Major Environmental Concerns	Statement of the causes	Main Issues of Transboundary Concern
Decline of Biodiversity	Pollution (sewage, oil, nutrients, etc.), invasive species, introduced species, land reclamation, river damming and flow modification, over-fishing, by-catch, and adverse effects of fishing gear and uses on marine habitats (e.g. bottom trawling), solid waste disposal	Land Based Pollution Degradation and Conversion of Critical Habitats: Sea Grass Meadows; Coastal Wetlands and Lagoons.

⁹ For questions A.1 –A.7 in Part II, if there are no changes since PIF, no need to respond, please enter “NA” after the respective question.

¹⁰ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

Mediterranean Sea Large Marine Ecosystem (LME) - Transboundary Diagnostic Analysis		
Major Environmental Concerns	Statement of the causes	Main Issues of Transboundary Concern
	at sea, uncontrolled tourist presence in ecologically sensitive areas, as well as inadequate public and stakeholder awareness, and inadequate or non-existent legislation and available enforcement means.	Overexploitation of Marine Living resources Alien Species Introduction
Decline in Sea Water Quality	Land based sources of marine pollution, both point and non-point, determine increasing trends in eutrophication and its related oxygen deficiency and bloom of nuisance species; presence of hot spots of pollution (125 identified by TDA) leading to decline in overall water quality, loss of coastal habitats and biodiversity, and human health problems.	Land Based Pollution: (i) point sources (excess nutrients, toxics and persistent toxic substances). (ii) non-point sources (mostly nutrients from agriculture, and sediments). Anthropogenic Pressures on Coastal Zones
Human Health Risks	Pollutants that degrade the ecosystem also present risks to human health, including heavy metals, organochlorines, pesticides, hydrocarbons, and the like, but also microbial and viral pollution. In addition, the response of the ecosystem to stress may induce toxicity, such as toxic dinoflagellates that arise from eutrophic conditions in some instances. This may affect human health in the region. Primary pathways for human health risks include ingestion of water or seafood products, contact with contaminated seawater (or in some cases beaches), and perhaps contact with contaminated sea food (for marine products workers).	Land Based Pollution Anthropogenic Pressures on Coastal Zones
Degradation and loss of coastal freshwater resources, and of coastal ecosystem services.	Growing population and unregulated coastal development interfere with coastal processes, cause groundwater salinization, and degradation of coastal ecosystems	Anthropogenic pressure on Coastal Zones

Ten years later, two follow up GEF/UN Environment projects complemented the 2005 TDA with supplemental information regarding two elements of the physical environment – climate change and variability, and the processes at the freshwater - seawater interface, including coastal aquifers – whose critical importance in determining present and future environmental security in the Mediterranean Sea and its coastal regions, had only recently been fully realized. The results of these supplementary diagnostics

added new perspectives to the overall current state of the Mediterranean Sea and its coastal areas, that will guide future remedial and adaptation actions. These projects were:

- The GEF/UN Environment project “Integration of climatic variability and change into national strategies to implement the ICZM Protocol in the Mediterranean” (ClimVar & ICZM Project) (completed in 2015) resulted in guidelines for adapting to climate variability and change in Mediterranean Sea littoral countries, and in the development of a pilot Integrated Coastal Zone Management (ICZM) plan integrating measures related to climate variability and change ready for implementation.
- The GEF/UN Environment project “Strategic Partnership for the Mediterranean Large Marine Ecosystem-Regional Component: Implementation of Agreed Actions for the Protection of the Environmental Resources of the Mediterranean Sea and Its Coastal Areas” (MedPartnership) (completed in 2015) produced amongst others an assessment of coastal aquifers and related coastal ecosystems in all Southern and Eastern Mediterranean and Adriatic countries, a Supplement on Coastal Aquifers to the 2005 TDA, and sub-regional Action Plans for the protection an sustainable use of coastal aquifers and related ecosystems (wetlands and humid zones) for the Adriatic and for the Southern and Levantine Basin countries.

The two projects provided conclusive evidence that:

- (i) Climate change and variability will increasingly affect Mediterranean coasts and the livelihoods of ever-growing coastal populations, compounding all other issues of transboundary concern, with particularly severe impacts in identified hot spots;
- (ii) Integrated management of water and coastal resources is critical for the region’s sustainable development

It can be now stated, based on solid information, that:

According to assessments of the current state of fresh-water bodies and water-dependended ecosystems in the Mediterranean, these are generally neglected from major development policies and plans, they remain under pressure and are under progressive degradation. Land-based pollution, growing population, urbanization and increasing tourism exert, among other factors, high pressures on both. They also result to pressures on water quality and quantity, often leading to -secondary- negative effects on vulnerable coastal and marine ecosystems and habitats.

It is also well understood that securing food and energy supply is a prime socio-economic concern in the region; the production of these resources strongly interact -often by adversely affecting them- with water and ecosystems, including the ability to sustainably manage these.

Low efficiencies in the management and use of water, land, energy and ecosystems (the defining resources of the Nexus approach) and changing consumption patterns as a result of more resource-intensive lifestyles, constitute an additional underlying/root cause of pressures exerted to Mediterranean LME, including at transboundary level. They also trigger migration challenges, along with war and social unrest as well as climatic pressures.

Traditionally, the Nexus sectors and environment have been dealt with unilaterally in their policy development, management and investment planning, mostly through separate regulatory and institutional frameworks and related strategies, priorities and infrastructure and to address sector-specific challenges and demands. However, it is being increasingly realized that through the such traditionally fragmented approaches, it is difficult or even impossible to achieve sustainable management of and security in any of

these sectors without addressing trade-offs with the other two sectors, while not losing sight of environmental objectives.

2A) BASELINE SCENARIO: REGIONAL LEVEL

The Mediterranean Sea region, surrounded by 22 countries sharing a coastline of 46,000 km is home to around 480 million people living across three continents: Africa, Asia and Europe. Approximately one-third of the population is concentrated along the coastal regions and is expected to reach 174 million by 2025, almost doubling since 1979. Around 55% of the population resides in coastal hydrological basins, a ratio that increases to 65% of the population in the case of the southern region of the Mediterranean.

Densely and increasingly populated coastal regions, coupled with tourism activities – the Mediterranean region hosts one-third of the world's tourism – generate high pressures on the quality and security of supply of critical resources such as water, food and energy, also resulting in often critical impacts on vulnerable coastal and marine ecosystems and habitats.

The flows of water, food, energy transcend the coastal and hydrological borders. In this regard, the disproportionate concentration of populations and economic activities on the coastal areas, especially in its southern and eastern countries, means that needs for resources and the related services affect also the inlands at the level that these resources are "produced" in areas beyond the coast. Hence, the demand for natural resources consumption at the coast affects -through the rivers, the energy networks and trade-natural resources management inland. In a reverse course, management of natural resources inland – or upstream in the case of water – have an effect to the socio-economy and the state of natural resources in the coast and the receiving Mediterranean LME. A typical example to demonstrate this two-ways cause-effect "lane" is the case of the Nile in Egypt. Its drainage basin covers 11 countries, the agricultural production across its valley contributes significantly to the food security of coastal populations in Egypt, while power demand in the coast is covered – to a large extent – by the hydropower station at Aswan. Management of water upstream affects socio-economic activities in the delta and the coast. Another characteristic case is the electricity system of Albania: 100% of the country's electricity production comes from hydro plants located on its rivers, typically tens of kilometers far from the coastline. Possible increase of the electricity consumption on the coast, due to the growing tourism industry, will inevitably affect the energy management hence the basin management decisions inland/upstream. On the other hand, hydropower production affects sediment balance thus influencing the coastline creation/erosion dynamics. This point, i.e. that management decisions related to the water-food-energy-ecosystems Nexus in the coastal areas being strongly dependent on choices and decisions made far from their borders and at the same time management decisions related to the Nexus resources in the coastal areas affecting management decisions inland/upstream, is a critical one and guides the development of this project, its objectives and its activities.

Further, arguably the most critical and determinant stressor in the security of supply of water, food and energy resources in the region in the long term, will be climate change and its impacts. The Mediterranean region has been identified as one of the main climate change hotspots (i.e. one of the areas most responsive to climate change) globally. According to the Fifth Assessment Report of the IPCC, even assuming the medium-low emissions scenario (RCP 4.5), and despite the fact that climate change impacts will not be homogeneous across the region, by the end of the century the rise in temperatures is expected to be between 2°C and 4°C, precipitation throughout the region is expected to continue to decrease by up to 20% by 2100 while the intensity and frequency of extreme events like floods or droughts or mega fires should increase. The sea level is predicted to rise by between 30 cm and 40 cm by 2100 resulting in potentially significant impacts on coastal aquifers, habitats, communities and infrastructure.

Given the stressors and drivers outlined above, delivering water, energy and food for all in a sustainable, gender responsive and equitable way, while preserving the health of natural systems that form the basis of any economic activity, is one of the major challenges that the Mediterranean countries face. Overall security

can be achieved by creating intelligent synergies and fair trade-offs among the water, food, energy and environment sectors, while providing opportunities for innovation and learning to minimize security risks and enhance resource efficiency and equity.

This is the basic rationale behind the Nexus approach which is essentially about moving beyond the traditional sectoral thinking and adopting an integrated approach for the water-energy-food sectors, with a view to reconciling their interests and resolving conflicts as they compete for the same scarce resources, while respecting environmental constraints as well as human rights, and exploring emerging opportunities.

The interlinkages between water, energy and food systems are manifold and have been known essentially forever:

Water plays a role in energy production e.g. in hydroelectric plants, for cooling fossil-fuel and nuclear plants, in growing plants for biofuels, even in emerging technologies such as Concentrated Solar Power. At the same time, energy is required to process and distribute water, to treat wastewater, to pump groundwater, to desalinate seawater. Similarly, water is the keystone for the entire agro-food supply chain, while agricultural intensification impacts water quality. Energy is respectively an essential input throughout the entire agro-food supply chain, from pumping to processing and transportation. Aquifers and wetlands face over abstraction to meet food-related goals, subsidized energy fuels groundwater depletion due to over pumping.

Such interlinkages among the water-food-energy-environment sectors could equally lead to synergies or trade-offs.

Typical examples of synergies include the potential of wastewater treatment plants to produce energy and make available treated water for agricultural or environmental uses or the potential for using renewable energy in desalination plants etc. A large hydropower plant provides benefits across sectors by producing electricity, providing water storage for irrigation and urban uses, mitigating flood effects. However, this can have negative effects for downstream ecosystems and the coastal zone or require resettlements of communities. Similarly, using irrigation to grow bioenergy can help improve energy security but it may also result in competition with agriculture for land and water resources, therefore negatively impacting food security. Also, cultivations for biofuels or extended solar installations conflicts around land use could arise.

What is new under the Nexus approach is that such interlinkages among the relevant sectors, as well as the existing or potential synergies and trade-offs, are assessed, aiming to move from cross-sectoral conflicts to a consensus on overall optimization, and to identify integrated solutions that will foster security of supply for these resources and efficiency in their use, while reducing impacts and risks on ecosystems, in the case of this project those of the Mediterranean LME.

Some key current aspects of Nexus resources and interlinkages in the Mediterranean

It is self-evident that countries around the Mediterranean exhibit significant differences and variations among them on their climatic conditions, the availabilities of natural resources, the risks from climate change, on economic development, governance, demographic trends and socioeconomic issues, including gender disparities. A distinction can be made between the countries on the northern shores of the Mediterranean and those in its southern and eastern ones, although of course significant variances are evident at the sub-regional level and among different population subgroups.

Natural water resources are relatively abundant in the northern Mediterranean countries (although less in their coastal zones) averaging at 3,700 m³/capita/year in 2015. Contrary, the picture is bleak in the Northern African and Levant part of the Region, with an average water availability of 562 m³/capita/year, with all countries in that Region below the international water poverty line of 1,000 m³/capita/year. The two island

states in the Mediterranean Sea, Malta and Cyprus are below the international water poverty line as well. Jordan, Libya, Palestine and Israel particularly suffer from low resource availability with an annual availability of 95, 112, 179 and 221 m³/capita respectively¹¹. Malta (119 m³/capita/year) has very little resources as well, but compensates with desalination, with more than half of its drinking water supply coming from desalination.

Given this bleak water scarcity picture in the southern and eastern parts of the Mediterranean, it is evident that nonconventional water supplies, including wastewater recycling and reuse, rainwater and storm water capture, and desalination, will need to be significantly augmented to meet growing demands and achieve water security. According to the World Bank¹², assuming present-day technologies and production costs, more than US\$40 billion will need to be spent in nonconventional water supplies in the broader MENA region by 2050, with a large part of those dedicated to desalination infrastructure,

Desalination is indeed a key Nexus interlinkage with energy being consumed to increase the supply of water. According to the International Energy Agency¹³, the Middle East houses almost half of global installed desalination capacity, most of which is concentrated in the high-income Gulf countries. The production of desalinated seawater in the MENA region is projected to be 13 times higher in 2040 compared to 2014. Currently, the use of desalination for municipal use is already gaining importance in islands and coastal cities with limited water resources. In absolute terms the largest production of freshwater through desalination in the Mediterranean region takes place in Algeria (0.62 10⁹m³/yr), Egypt (0.20 10⁹m³/yr), Israel (0.14 10⁹m³/yr) and, Italy and Spain (both 0.10 10⁹m³/yr). In relative terms, Malta is the desalination leader, with more than half of its drinking water supply coming from desalination.

About 80 percent of the MENA region's wastewater is being discharged into the environment without being reused¹⁴. At present, some of the treated wastewater is recycled in agricultural systems or is injected in coastal aquifers, especially to prevent saltwater intrusion. Positive experiences in the region, for instance in Jordan and Tunisia, show that wastewater can be safely recycled for use in irrigation and managed aquifer recharge. Water recycling is a typical example of a Nexus interlinkage. Water recycling not only contributes towards water and food security goals, it can also be achieved at zero-net energy use by capturing and reusing for energy generation wastewater treatment by-products, such as biogas and sludge thus also reducing emissions from the water sector as well as overall energy demand.

Increasing water scarcity in the southern and eastern Mediterranean will have significant negative impacts on food production and will also affect the types of crops grown in the region. Specifically, the production of wheat and other grains is projected to suffer most from water availability constraints. The cost of producing crops is expected to rise as groundwater levels drop and the costs of pumping deeper increase. The availability of water to agriculture will likely face further constraints due to competition from high-value and inelastic demand in the urban sector but also the industrial one. Increasing water scarcity and the resulting declines in agricultural production are also expected to highlight and strengthen further interlinkages: migration patterns, especially in the most agriculture-dependent economies, are expected to accelerate, while food trade patterns and networks should be enhanced. Climate change and its impacts is expected to be a multiplier in all these stressors in the region.

According to OECD/FAO¹⁵, self-sufficiency ratios in terms of value of agricultural production and trade

¹¹ Burak, Selmin and Margat, Jean. "Water Management in the Mediterranean Region: Concepts and Policies" in *Water Resources Management* 30: 5779–5797, 2016

¹² World Bank Group "The Water-Energy-Food Nexus in the Middle East and North Africa, Scenarios for a Sustainable Future, 2018

¹³ IEA, *World Energy Outlook 2018*

¹⁴ World Bank Group, "Beyond Scarcity: Water Security in the Middle East and North Africa", 2017

¹⁵ OECD-FAO, "Agricultural Outlook 2018-2027, Special focus: Middle East and North Africa", 2018

vary among the MENA region countries: Palestine 16%, Jordan 38%, Lebanon 41%, Algeria 64%, Egypt 72%, Tunisia 75%, Morocco 80%. This is a result of the region being a difficult environment for agriculture. In addition to water, arable land is also scarce. Arable land as a share of total land area is 1% in Libya, 3% in Algeria, in Egypt and in Jordan, 11% in Palestine, 13% in Lebanon, 18% in Morocco and 19% in Tunisia. Another critical aspect in the MENA region is that both rain-fed and irrigated land suffer from ongoing degradation caused by wind and water erosion and unsustainable farming practices. According to FAO-ESCWA¹⁶, three-quarters of the broader region's 30 million ha of rain-fed cropland are estimated to be degraded, resulting in annual costs of USD 9 billion (between 2% and 7% of individual countries' GDP). Losses from salinity alone across the region are estimated at USD 1 billion annually, or USD 1,600 to USD 2,750 per ha of affected lands.

In terms of combating hunger and food insecurity, the progress is mixed in the Mediterranean MENA countries, with the Syrian conflict being a stressor in the region. This is particularly relevant for Lebanon, where according to the FAO¹⁷ and the World Bank¹⁸, economic productivity, absorption capacity (of new entrants – the Syrian refugees of working age) in the labor market, and the agricultural sector (and food availability) have been affected. To elucidate, available food supply has been disrupted due to conflict near the Syrian-Lebanese border governorates (where agriculture was predominant, and the climate allowed for varied multicropping), host communities have witness decrease in household income, and there is overall lack of service delivery in coping with refugee settlements and food insecurity. According to the FAO¹⁹, the prevalence of undernourishment in 2014 – 2016 compared to 2003 – 2005 has fallen from 9.0% to 4.6% in Algeria, 5.5% to 4.5% in Egypt, 5.8% to 3.5% in Morocco and from 5.6% to 5.0% in Tunisia but increased from 3.6% to 4.2% in Jordan and from 3.2% to 5.4% in Lebanon (no data for Libya, Palestine and Syria).

The water-energy interface is also quite critical in the Mediterranean region and extends further to the potable water production through desalination mentioned above.

Moving to the energy dimension, the region's energy sector will face challenges not only in adapting to increasing water scarcity, but mainly in meeting rising demands and transitioning toward meeting international climate change mitigation objectives. The World Bank estimates that electricity generation in the broader MENA region is expected to increase by 85% by 2050 in order to meet increasing energy demands, with expected increases of over 150% in Tunisia, Syria, Egypt, Morocco. In the MENA countries in the Mediterranean, groundwater pumping, water transfer and wastewater treatment represent some of the most energy intensive activities. Pumping for irrigation and drainage consumes around 6% of total electricity and diesel use in the broader MENA region²⁰.

Special focus in the context of the project is merited in the case of hydropower in the three Mediterranean countries of the Balkans. In Albania and in Montenegro hydropower is the dominant generation technology with shares of 100% and 59% respectively, while Bosnia & Herzegovina has a share of 32%. In both Montenegro and BiH the rest of the domestic electricity generation comes exclusively from coal²¹. Energy consumption per capita is just over half of that in the EU, but energy intensity (energy consumed per unit of GDP) is up to triple the EU average, reflecting inefficiencies, losses and high shares of coal in electricity. Another characteristic of the whole Western Balkans region is the minimal levels of electricity trade. Well-functioning cross-border electricity exchanges with the appropriate transmission infrastructure would lead

¹⁶ FAO, ESCWA “Arab Horizon 2030: Prospects for Enhancing Food Security in the Arab Region”, 2018

¹⁷ FAO, REACH “The Impact of the Syria Crisis on Agriculture, Food Security and Livelihoods in Lebanon”, 2014

¹⁸ World Bank “Lebanon – Economic and Social Impact Assessment of the Syrian Conflict, 2013.

¹⁹ FAO, Regional Overview of Food Security and Nutrition in MENA, 2017

²⁰ World Bank Group “The Water-Energy-Food Nexus in the Middle East and North Africa, Scenarios for a Sustainable Future, 2018

²¹ Source: IEA statistics

to annual savings of tens of millions of euros²², ensuring lower costs, more efficient generation, fewer losses, less need for reserves and greater overall security of supply.

All countries in the region have adopted renewable energy targets for 2020 in the context of the EU accession process. The national targets for the share of renewable energy in gross final energy consumption in 2020 are 38% for Albania, 40% for Bosnia and Herzegovina and 33% for Montenegro, and all countries are expected to meet these targets. On 29 November 2018, the 16th Ministerial Council of the Western Balkan countries which brought together ministers of energy as well as environment, recognized the need to establish targets on energy efficiency, renewable energy sources and greenhouse gas emission reduction for 2030, in line with the respective EU targets²³.

However, there is a clear possibility that in order to meet these targets, the countries will rely disproportionately on expanding their hydropower capacities, a development that may pose environmental risks on some of the healthiest and most pristine waterways remaining in Europe. According to their National Renewable Energy Action Plans for 2020, compared to 2016 Albania plans to increase its hydro capacity from 1,838 MW to 2,324 MW, Bosnia and Herzegovina from 2,180 MW to 2,700 MW and Montenegro from 674 MW to 826 MW. Hundreds new hydro plants, mainly at the micro scale (<10 MW) have been announced and are at various stages of planning. Without proper planning, dams on rivers – including ones for hydro – can have significant impacts on the longitudinal river continuum for biota and sediments, potentially leading to a loss of ecological integrity, and serious river degradation processes downstream of dams (channel incision) down to the coastal zone leading to coastal erosion, deterioration of deltaic and marine ecosystems. Such impacts are not of course restricted to the environment, as coastal tourism – so critical in the region – may suffer as well. Moreover, countries that rely heavily on hydropower may face reduced generation and higher prices in a case of protracted drought.

According to recent research²⁴, 95% of wetland sites in the Mediterranean that host more than 50,000 waterbirds are coastal; 48% of all wetlands in the Mediterranean have disappeared since 1970 (compared to a global average of 35%), while 23% of the remaining wetlands are artificial (compared to 12% worldwide); the flood control capacity of wetlands has decreased by 20% in some Mediterranean countries; 36% of Mediterranean wetland species are now threatened with extinction; the Iberian Peninsula, the Maghreb, the Balkans and the Near East are the regions that are likely to lose the largest number of wetland species as a result of climate change; Agriculture accounts for two-thirds of the increase in water withdrawals in the Mediterranean basin.

Nexus-related interlinkages are also evident in the case of the coastal wetlands of the Mediterranean. The assessment of all major Mediterranean coastal wetlands that was carried out under the MedPartnership (2012-2015) confirmed that they are all to various degrees dependent on coastal water resources, and that their functioning is being impaired by the decreasing water quantity and quality of the coastal aquifers feeding the wetlands. The threats to wetlands from aquifer mismanagement are twofold: (i) the excessive use of groundwater resources from coastal aquifers can result in the drying up of the wetlands that depend upon them; and (ii) saline intrusion and pollution, which occur when coastal aquifers are over-exploited, and pollutants introduced into the aquifers, can degrade the health and functioning of wetlands. Both these threats are strongly associated with agricultural practices (water abstraction, use of nutrients) both locally and upstream.

In order to fully capture existing potential for benefits and synergies, the development and management choices in the water-energy-food sectors require enhanced integration at the knowledge, policy, legislative and institutional levels/frameworks; this is an aim lying at the core of the Nexus approach and the reason

²² Energy Community Secretariat, "Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market", 2018

²³ <https://energy-community.org/news/Energy-Community-News/2018/011/212.html>

²⁴ Mediterranean Wetlands Observatory, "Mediterranean Wetlands Outlook 2", 2018

of its adoption by the water community.

The "Rapid Nexus Assessment" indicated that currently, uncoordinated governance settings and policies in countries of the Mediterranean, constitute an impediment in addressing issues related to the management and security of the Nexus resources at the national and regional levels. Most governments have separate agencies to oversee water, energy, and agricultural food production, and they set policies and plan for each sector separately. The same is also true, to some extent, of research on these issues: expertise on energy, water and land use is clustered in separate groups, with limited interaction

However, there are increasingly evident on-going efforts at the governmental level for the coordination of actions across the Water, Food, Energy and Environment sectors and the achievement of integration at the level of planning and implementation of actions, even though some ministries or sectoral institutions often have the stronger leverage and decision-making power.

At the institutional level, the Table 3 below presents a mapping of the Nexus-related competencies of the relevant Ministries in all Mediterranean countries.

Table 3: Mapping of Nexus-related Ministerial Competencies in the Mediterranean (Source: GWP-Med)²⁵

Country	Environment	Energy	Water	Agriculture	Nexus Integration of Ministerial competencies
Spain	Ministry for the Ecological Transition ²⁶			Ministry of Agriculture, Fisheries and Food	Environment, Energy, Water
France	Ministry for the Ecological and Inclusive Transition		<i>Cross-ministerial</i>	Ministry of Agriculture and Food	Environment & Energy (and partially water)
Italy	Ministry for Environment, Land and Sea Protection	Ministry of Economic Development	Ministry for Environment, Land and Sea Protection	Ministry of Agriculture, Food and Forestry Policies	Environment & Water
Slovenia	Ministry of Environment and Spatial Planning	Ministry of Infrastructure	Ministry of Environment and Spatial Planning	Ministry of Agriculture, Forestry and Food	Environment & Water
Croatia	Ministry of Environmental Protection and Energy		Ministry of Agriculture		Environment & Energy; Water & Agriculture
Bosnia and Herzegovina	Ministry of Environment and Tourism	Ministry of Energy, Mining and Industry	Ministry of Agriculture, Water-Management and Forestry		Agriculture & Water
Montenegro	Ministry of Sustainable Development and Tourism		Ministry of Agriculture and Rural Development		Environment & Energy; Water & Agriculture
		Ministry of Economy			
Albania	Ministry of Tourism and Environment	Ministry of Infrastructure & Energy	National Water Authority	Ministry of Agriculture and Rural Development	-
Greece	Ministry of Environment and Energy			Ministry of Agriculture	Environment, Energy, Water
Malta	Ministry of Environment, Sustainable Development, and Climate Change				All

²⁵ Table 3 is a complete mapping of the Mediterranean Countries provided to highlight the wide range of competent authorities covering the Nexus. However, as detailed in the pages that follow table 3, Child Project 2,2 will focus on Albania, Lebanon and Morocco for the national activities. In addition, the Project will also provide regional training and workshops which will benefit all the GEF eligible countries in the Mediterranean.

²⁶ Ministries in green color are competent for more than one sector.

Country	Environment	Energy	Water	Agriculture	Nexus Integration of Ministerial competencies
Cyprus	Ministry of Agriculture, Rural Dvlp and Env.	Ministry of Energy, Commerce, Industry and Tourism	Ministry of Agriculture, Rural Development and Environment		Environment, Water, Agriculture
Turkey	Ministry of Environment and Urban Planning	Ministry of Energy and Natural Resources	Ministry of Agriculture and Forest		Agriculture & Water
Lebanon	Ministry of Environment	Ministry of Energy and Water		Ministry of Agriculture	Energy & Water
Israel	Ministry of Environmental Protection	Ministry of National Infrastructure, Energy and Water Resources		Ministry of Agriculture and Rural Development	Energy & Water
Palestine	Environmental Quality Authority	Palestinian Energy and Natural Resources Authority	Palestinian Water Authority	Ministry of Agriculture	-
Egypt	Ministry of Environment	Ministry of Electricity and Renewable Energy	Ministry of Water Resources and Irrigation	Ministry of Agriculture and Land Reclamation	-
Libya	Ministry of Health & Environment	Ministry of Electricity & Renewable Energy	Ministry of Water Resources	Ministry of Agriculture, Animal and Marine Wealth	-
Tunisia	Ministère des Affaires locales et de l'Environnement	Ministère de l'Energie, des Mines et des Energies Renouvelables	Ministère de l'Agriculture, des Ressources Hydrauliques et de la Pêche		Agriculture & Water
Algeria	Ministère de l'Environnement et des Energies Renouvelables	Ministère de l'Energie	Ministère des Ressources en Eau	Ministère de l'Agriculture, du Développement Rural et de la Pêche	Environment & Energy (only regarding renewables)
Morocco	Ministère de l'Energie, des Mines et du Développement Durable		Ministère de l'équipement, du Transport, de la Logistique et de l'Eau	Ministère de l'Agriculture, de la pêche maritime, du développement rural et des eaux et forêts	Environment & Energy

2B) BASELINE SCENARIO: PROJECT COUNTRIES

A "Rapid Nexus Assessment" for the nine countries participating in the project, in the form of a detailed overview of the institutional, legislative and policy framework of their water, agriculture and energy sectors, is available in Annex R. A brief summary of this assessment including additional data to describe the baseline scenario in the project beneficiary countries is given in the section above.

This section presents the key issues for the three countries – Albania, Lebanon, Morocco – where Nexus Assessments will be developed, and Nexus Dialogues will be implemented (see under Alternative Scenario, Component 2) including a brief section on the coastal zone of each one.

The "Rapid Nexus Assessment" showed that similar challenges are shared by all countries; of course, there are varying levels in the way that these challenges are manifested in each one of the countries.

The assessments done through the GEF projects focusing on the Mediterranean indicated specific countries having a higher share in terms of pressures exerted to the coastal and marine areas. While it would have been logical for this project to hierarchise its action using this scale of importance, there are also other criteria to be taken into consideration. These are based, among others, on the following facts:

- The project has at its disposal a definite level of resources.
- There have been efforts and initiatives for the adoption of integrated solutions under the water-food-energy nexus framework in the Mediterranean; still there have been only isolated cases of the Nexus approach being used as means of integrated planning and management. In this regard the Child Project 2.2 constitutes a demonstration project implementing the Nexus approach as tool of integrated policy making and management and demonstrating its applicability in addressing the causes of the issues identified in the Mediterranean. It is expected that this Project will create the conditions to replicate the implementation of the Nexus approach in the rest of the Mediterranean countries, scaling up action related to Nexus solutions.
- There is no responsible institution in any of the countries to support the Nexus approach and lead its implementation of resulting strategic documents.

Based on the above, the following criteria were used to select the countries that the Nexus Assessments and the Nexus Strategies or Roadmaps will be developed:

- Synergies with Child Project 2.1 (with which the Child Project 2.2 share the same overall outcome under MedProgramme's Component 2) with the aim to maximize impact in the areas where the MedProgramme intervenes. Child 2.1 works in Lebanon (at country level to prepare the ICZM Strategy) and in Morocco (to prepare an ICZM plan in the Tangier-Tetouan region).
- Willingness of countries to prepare a Nexus strategic document as well as likelihood of this being implemented. Without a Nexus-responsible ministry, the likelihood of implementation of a Nexus strategic document increases should this becomes part of an existing or in-the-making strategic document that is already of integrative nature, thus possibly expanding its scope and enriching its integrative character (see point above regarding the preparation of ICZM Plans and Strategies). Lebanon is to prepare an ICZM Strategy and Morocco will prepare an ICZM plan for the Tangier-Tetouan region
- Synergies with other initiatives and financing. The Austrian Development Agency finances the implementation of a Nexus Assessment Phase 1 (qualitative analysis) and the accompanying consultation dialogues in Albania.
- Diversity of political, natural and socio-economic contexts. One country from South East Europe, one from Near East and one from North Africa is chosen.
- Interest presented by countries on implementing Nexus approaches within political processes that the Project is linked with, like the Nexus Thematic Area of the UfM Water Agenda in which Albania, Lebanon and Morocco actively participate and contribute.

ALBANIA

Albania is a mountainous country endowed with significant water resources. It has historically developed its Hydropower sector which still accounts for essentially all electricity generation in the country. Such a dependency on a single energy source introduces a significant parameter of risk around the security of supply in case of extended periods of drought, especially for a country that is a net importer of electricity. The transmission and distribution infrastructure are of poor quality leading to significant losses.

Around 58% of the population lives in rural areas and agriculture remains an important sector (22% of GDP), but is characterized by low productivity, limited available area, highly fragmented ownership and inadequate infrastructure. The main inter-institutional body in the country is the National Water Secretariat, responsible for policies and plans around integrated water resources management, which is chaired by the Prime Minister and composed of seven main stakeholder ministries.

A key Nexus-related challenge in the country is the further development of hydropower, which may negatively affect freshwater and coastal ecosystems downstream and possibly Tourism and Fisheries. Further, it should be noted that in 2016 the government imposed a 10-year moratorium on logging in all its forests and banned timber exports. The move followed decades of untrammled exploitation, mainly driven by people's need for energy, that had significantly reduced the country's forests not only impacting ecosystems but also hastening erosion and affecting the water cycle. Finally, at the institutional level, the potential for enhanced inter-ministerial coordination remains largely untapped.

LEBANON

Lebanon is a small and densely populated country which in recent years hosts a very large (compared to the native population) number of refugees fleeing the conflict in neighboring Syria. This development puts significant additional strain to the country's existing stressors regarding the availability of and access to key resources, such as food and energy.

Among the Mediterranean countries of Middle East and North Africa, Lebanon has the 2nd lowest self-sufficiency ratio (41% in 2013) in terms of value of agricultural production and trade, after Palestine. Additionally, undernourishment in 2014-2016 compared to 2003-2005, increased from 3.2% to 5.4% of the population; while this indicator was decreasing in the Region's non-conflict countries.

Lebanon has no fossil fuel reserves and has to rely on imports to meet essentially all its energy needs. The country is facing a chronic shortage in electricity production with consumers in many regions having to bear with frequent power cuts, and poor quality of grid infrastructure. Essentially all electricity in Lebanon is produced in power plants burning imported and expensive oil.

In terms of institutional coordination, Lebanon has a Climate Change Coordinating Committee, led by the Ministry of Environment, while a national committee coordinated and convened by the Council of Ministers is responsible for sustainable development.

MOROCCO

Morocco has taken steps to modernize its agriculture sector, focusing on high-value products and increasing productivity. It has the highest self-sufficiency ratio in terms of value of agricultural production and trade among the Mediterranean countries of the MENA Region. In the water and agriculture sectors, of key concern is the over-abstraction of groundwater which leads to its growing salinization, locally exacerbated by seawater intrusion. Levels of wastewater treatment remain low, but the sector provides a significant growth opportunity for reuse of treated wastewater. Morocco also plans to significantly increase its desalination capacity aiming to reach 500 million m³ per year by 2030. Both these non-conventional water resources are typical examples of Nexus interlinkages and where a respective approach could yield additional overall efficiencies and benefits. Morocco has essentially no fossil fuel reserves and has to rely on imports to meet its energy needs, importing crude oil and oil products as well as coal and natural gas for electricity generation. It has recently embarked on arguably the most ambitious plan for the development of renewable energy in the Region aiming to reduce both its emissions and its import dependency.

There is significant experience of inter-institutional coordination in the country. The High Council for Water and Climate (CSEC) brings together the various stakeholders in the water sector and is responsible for formulating the orientations of the country's water and climate change policies. The Inter-ministerial Water Commission (CIE) is an administrative commission composed of representatives of all the ministerial departments concerned with water issues, aiming to ensure and monitor the implementation of CSEC recommendations.

A detailed baseline analysis of the coastal areas and the water, agriculture and energy sectors in Albania, Lebanon and Morocco is presented in Annex R.

3) THE PROPOSED ALTERNATIVE SCENARIO

The Mediterranean Sea Programme - Enhancing Environmental Security: Rationale and Framework

The MedPartnership and ClimVar & ICZM GEF projects have enriched the knowledge on the Mediterranean environment, unraveled the implications of climate change and variability and the importance of coastal aquifers; strengthened countries' mutual trust, cooperation and common purpose; consolidated the partnership among countries, UN bodies, civil society organizations (CSOs), bilateral donors and the EU; tested on the ground the feasibility and effectiveness of technical and policy instruments aimed at addressing major present and future threats to environmental sustainability and climate related impacts. Alongside and thanks to these GEF funded support actions, UN Environment/MAP, at the request of the Contracting Parties to the Barcelona Convention, has developed a comprehensive regional policy framework including strategies, plans and guidelines that will serve as guidance for the regional and national efforts in the Mediterranean for the years to come.

The update of the National Action Plans (NAPs) for the implementation of the LBS Protocol of the Barcelona Convention and its Regional Plans in the framework of the Strategic Action Programme to address pollution from land-based activities (SAP-MED), and preparation process succeeded in creating momentum at local, national and regional levels, with a remarkable level of involvement and participation of all stakeholders. In each country, national and local authorities, the industrial sector and NGOs discussed priorities, possible actions and opportunities for investment, thus making the NAPs a realistic initiative.

These remarkable achievements, while not yet bringing about measurable changes in the levels of environmental stress or in degradation trends, have however created the indispensable foundation and the enabling conditions for initiating national actions targeting major causes of marine and coastal transboundary degradation. The task is now to confront the challenge of implementation, thereby achieving concrete and lasting results.

The stage of assessments, diagnostics, priority setting, planning and experimentation having been completed, a higher level of effort is now required at the national and regional levels. This renewed and expanded effort is not only justified by the continuing degradation of the Mediterranean coastal zone and shallow marine environments, but also urgent in view of the looming climate related threats, and of the loss of livelihoods and dramatic deterioration of social conditions along critical sections of the Southern and Eastern Mediterranean shores.

To address this multiplicity of threats, countries have joined efforts and obtained further GEF support through the Programmatic Approach funding modality. The "Mediterranean Sea Programme: Enhancing Environmental Security", approved by the GEF Council in 2016 aims to assist GEF beneficiary countries of the Mediterranean Basin to rise to this challenge and step up their efforts and commitments, including those financially related.

The term "environmental security", used in the title of the proposed Programme to capture its overall perspective and goal, embraces three categories of concerns:

- Concerns about the adverse impact of human activities on the environment; the emphasis here is on the security of the environment as a good in itself, for the sake of future generations, as the context for human life.

- Concerns about the direct and indirect effects on national and regional security of various forms of environmental change (especially water scarcity and degradation), which may be natural or human-generated; here the focus is on environmental change triggering, intensifying or generating the forms of conflict and instability relevant to conventional security.
- Concerns about the insecurity that individuals and groups (from small communities to humankind) may experience due to environmental change such as water scarcity, air pollution, climate variability and change.

The current situation of the Southern and Eastern shores of the Mediterranean shows all the signs of progressive deterioration of environmental security as a consequence of complex and interlinked factors. Among them, the loss and degradation of coastal and shallow marine ecosystems and of the scarce freshwater resources, compounded by the increasing negative impacts of climate variability and change, play an important role in determining social instability and political volatility. The presumption underlying the Programme design and its seven Child Projects is that overall environmental security, including the sustainability of the livelihoods of growing coastal populations and their resilience to the adverse impacts of climate change and variability, will be improved by:

- Reducing nutrient pollution and habitat degradation in coastal hot spots (Child Projects 1.2, 1.3);
- Contributing to the improved health of humans and ecosystems through the elimination of persistent toxic substances in hot spots (Child Projects 1.1, 1.2, 1.3);
- Implementing ICZM and introducing conjunctive surface and groundwater management in the coastal zone, thereby protecting coastal groundwater-related ecosystems (Child Project 2.1);
- Promoting the Nexus planning approach to reconcile conflictive coastal resources uses (Child Project 2.2);
- Protecting coastal/marine biodiversity (Child Project 3.1).

Child Project 2.2 “Mediterranean coastal zones: Managing the Water-Energy-Food and Ecosystems Nexus”

Rationale

Water, food, energy and ecosystems are essential for human well-being, poverty reduction and sustainable development. These are interlinked through a Nexus of natural, institutional, economic and social frameworks.

The Water-Energy-Food-Ecosystems Nexus (a.k.a Nexus) approach aims to facilitate the enhancement of water, energy and food security, while preserving ecosystems and their functions, and increasing climate resilience, by reducing trade-offs, shifting towards more sustainable consumption patterns and improving demand management towards efficiency, building synergies and improving governance across sectors.

A Nexus approach to sectoral management, through enhanced technical assessment, policy dialogue, governance improvements, mobilization of financing, replicable applications, collaboration and coordination, ensures that co-benefits and trade-offs are considered towards integrated approaches for the management of natural resources.

Because of this multiplicity of conceptual expansions, the Nexus represents a promising vehicle for promoting considerations on cross-cutting issues e.g. gender, stakeholder engagement, rights, poverty, transboundary cooperation, etc. The Nexus can assist in the efforts to further mainstream these issues in addition to its pivotal role in promoting green job creation.

The Project will focus on producing benefits for the coastal and the marine area. It will do that while concurrently addressing inland conditions and challenges, where decisions on socio-economic and natural resources management aspects translate into drivers and causes of issues manifested in the coastal and marine zones.

Particularly related to water, by addressing the Nexus, the Project recognizes the relevance of the entire spectrum of competing water needs, stressing the explicit role, interests, and leadership of other sectoral stakeholders beyond the water sector.

The Project will introduce the Water, Energy, Food and Ecosystems Nexus approach and will catalyze action for its adoption and implementation in the Mediterranean area. Action will be taken to present and report the Nexus approach to the Contracting parties to the Barcelona Convention. Sustaining and upscaling outcomes through synergies, the Project will align with and contribute to the Union for the Mediterranean (UfM) Water Agenda as well as the Nexus agenda of the European Commission.

In selected areas, using the Nexus approach, the Project will seek to:

- Understand the interlinkages among the Nexus sectors and related issues;
- Identify solutions in response to challenges for fostering water-food-energy security, reduction of land based nutrient pollution and other pressures, protection of coastal habitats and biodiversity and climate change resilience;
- Support the development of Nexus Strategies and/or Action Plans as parts of existing or in-the-making plans and strategies e.g. ICZM plans and strategies;
- Seek for and test novel approaches for addressing management issues and work to upscale these;
- Develop project proposals enabling priority solutions/interventions to address pressing issues identified.

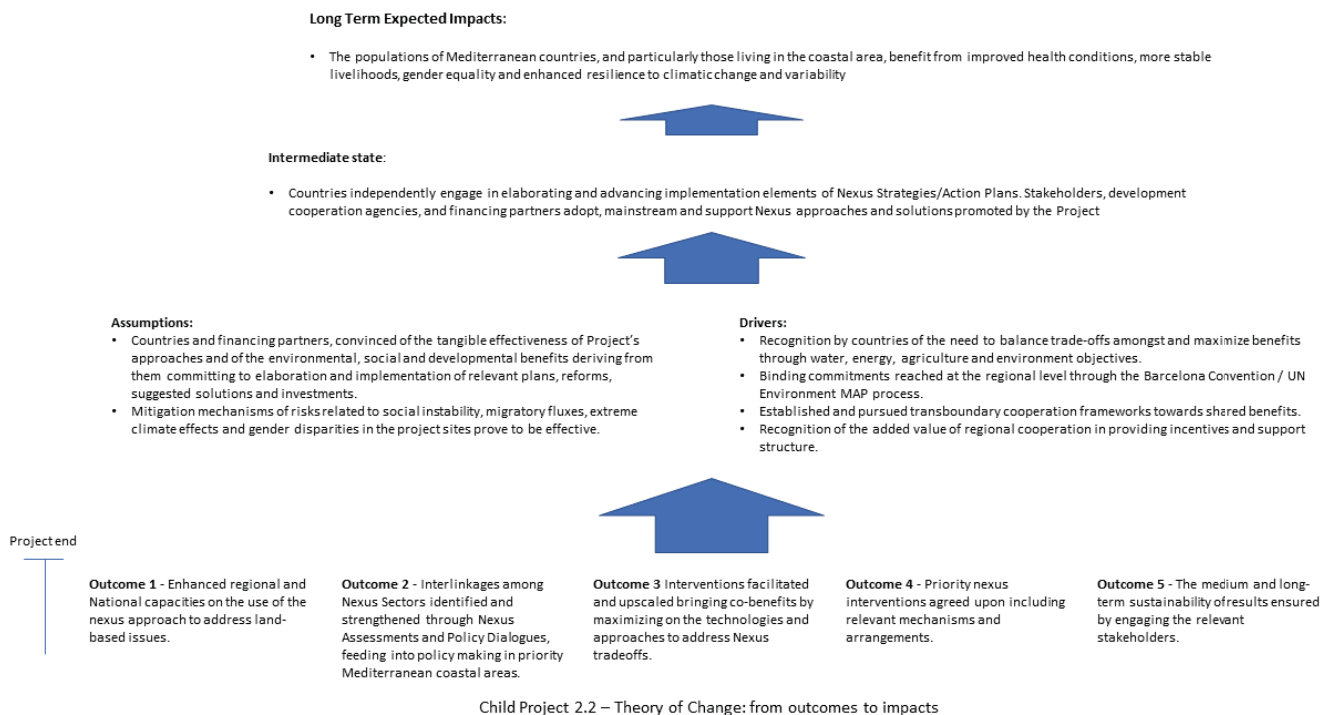
Inter-disciplinary methods would be applied for scenario analyses on how to identify and resolve interlinkages and trade-offs and manage conflicting interests in the allocation of natural resources, such as water, for all uses including sustainable ecosystem functioning, while identifying actionable solutions to provide benefits for relevant sector players.

Methods would be adjusted to the optimum scale and boundaries of analysis and would incorporate knowledge from various sources, including experience of on-the-ground practitioners.

Theory of Change

In line with the MedProgramme design principles, architecture and objectives, the Project assumes that by introducing the Nexus approach and enhancing related capacities in the countries as well as by supporting and accelerating selected countries' action in elaborating, through assessment and highly participatory processes, and advancing implementation of Nexus Strategies / Action Plans, the Project will enhance environmental security and sharing of sustainable development benefits through balancing of competing water uses in priority coastal areas through integrated governance of water, food, energy and ecosystems.

The Theory of Change (Figure 2) informing the Project design builds on the notion that if countries design, adopt and apply integrated approaches for key natural resources management i.e. for water, energy, land and ecosystems; if coastal and marine areas get in the focus of balancing Nexus trade-offs towards increased benefits; if transboundary cooperation will ensure harmonization of policies and of monitoring procedures, then the populations of Mediterranean countries, and particularly those living in the coastal area, will benefit from improved health conditions, more stable livelihoods, gender equality and enhanced resilience to climatic change and variability. A summary of the expected achievements of the project is set forth in the Results Framework.



Child Project 2.2 – Theory of Change: from outcomes to impacts

Figure 2 Child Project 2.2 Theory of Change: From outcomes to impacts

Table 4: Summary of Expected Project Achievements

Objectives	Outputs	Targets	Key products
Fostering water-food-energy security and the reduction of land based nutrient pollution and other pressures, through the adoption of the water-food-energy-ecosystems Nexus approach.	Output 1.1 Regional Dialogue and Capacity Building on Nexus assessment and approach.	3 Nexus Regional Roundtables – targeting 50 participants each – for the countries to build capacity on and discuss options on adopting the Nexus approach for integrated resources management in the Med Three (3) Training events – targeting 15 participants each – for technical national and local staff of administration and of key stakeholders on the introduction and	Mediterranean Nexus Study Nexus Atlas Reports of the three (3) Regional Roundtables. Statistics on participation including numbers of men and women engaged in the roundtables. Reports of the three (3) regional trainings.
	Output 2.1: New, or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents.	One (1) Nexus Assessment developed and 1 Nexus Dialogue implemented in each of the 3 priority areas Three (3) Nexus Strategies or Nexus Action Plans are developed	Reports of the three (3) meetings of the Steering Committees, including advise and decisions with respect to the Nexus assessments and strategic documents. Stakeholders Analysis document. Reports of the consultation workshops (each consultation workshop to be organized back-to-back with the first consultation event of each Nexus Dialogue process).

Objectives	Outputs	Targets	Key products
			Three (3) Nexus assessment reports including scoping level (Phase I) as well as in depth assessment and quantification of selected Nexus linkages. Reports of the series of multi-stakeholder consultations.
	Output 3.1: Nexus demonstration activities.	Four (4) Nexus already applied approaches assessed for their efficiency and feasibility for replication and upscaling as Nexus solutions. Two (2) Nexus demonstration activities testing Nexus solutions to address water-food-energy-ecosystems related management issues.	Report on selected Nexus solutions and sites. Analysis of at least one (1) and up to four (4) applications/cases, assessing efficiency, benefits and feasibility for replication and upscaling. Report(s) detailing technical aspects of Nexus solutions tested on the ground, strengthened capacities of local stakeholders. Analysis of the two (2) demonstrations, assessing efficiency, benefits and feasibility for replication and upscaling
	Output 4.1: Identified interventions, including potential sources of funding.	Project proposals/ investment fiches for three (3) priority local Nexus interventions and/or investments.	Project proposals/ investment fiches for three (3) priority local Nexus interventions and/or investments.
	Output 5.1: A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.	1 SEGMS for the Mediterranean including description of action in each of the priority areas for intervention	Stakeholders Engagement Strategy.

The project consists of four Components:

Component 1: Institutional Strengthening

The lack of integrated management is one of the underlying causes of degradation of natural resources such as water, and the ecosystems. The level of awareness of this fact among decision makers as well as among administrators and experts in national institutions and/or the level of their understanding about the related causes and solutions varies, but it is often low indicating limitations in capacities as well as the in prospects to overcome the associated management barriers.

The Nexus approach presents a tool to foster integration among the most important sectors for the society and economy as well as the environment. Child Project 2.2. aspires to demonstrate the applicability of the Nexus approach in addressing real life coastal and marine area management issues (through Components 2 and 3; see below). While Component 4 will be used to harvest the knowledge generated and disseminate this, it is necessary to create the conditions for the replication of Nexus related action in countries additional to those that Component 2 focuses on.

These conditions are created through Component 1 and are:

- Institutional. The development and adoption of a regional strategic document crystallizing the collective aspirations in terms of adoption and usage of a management tool -should action proves this to deliver results- would create tangible goals to be accomplished by the countries that develop and abide to such a document. The Barcelona Convention would be the natural institutional framework for such an endeavor. Decision and actions under the Convention are political and prior consent of the Parties to take such action is necessary. The Project can support related action should the countries take a decision for the development of a Nexus related regional strategic document.
- Linked to capacities of the experts and decision makers. Nexus interactions are complex and dynamic, while cross-sectoral issues exist within a wider context of transformational processes or drivers of change that need to be considered. There are different conceptualizations of the Nexus that vary in their scope, objectives and understanding of drivers. An enrichment of contents, a structured dialogue among stakeholders on related approaches, training of targeted partners on Nexus themes, and knowledge sharing would assist promotion of integrated approaches to natural resources management. Performing these at regional level will assist for experience-based cross-fertilization towards joint understanding, even of the diversity of stakes and drivers, and, possibly, towards aligned approaches.

Representatives of all project beneficiary countries will be given equal opportunities to participate in the activities.

This Component is expected to:

- Identify the level of integration among Nexus sectors' strategic documents in each country; the information will feed in and benefit the discussions among countries regarding the Nexus approach and will assist in debating the usefulness and the possible development of a Nexus Regional strategic document (see below).
- Initiate discussion and decide on a strategic document e.g. a Roadmap describing orientations, partners, capacities and steps for the introduction of Nexus approach considerations in the natural resources management frameworks.
- Raise awareness, increase understanding and enhance capacities of institutions and stakeholders, through knowledge exchange and cross-fertilisation regarding the Nexus approach. This is expected to work in synergy with the results of Component 2. Practitioners with higher level of understanding about the Nexus approach framework in terms of content and applicability will be able to follow the results of the implementation of Nexus Dialogues and Assessment in the countries of focus and be able to replicate these.

Outcome 1: Enhanced regional and National capacities on the use of the Nexus approach to address land-based issues.

Output 1.1:

Regional Dialogue and Capacity Building on Nexus assessment and approach.

Regional, national and local institutions and stakeholders will be engaged for developing enhanced awareness, knowledge, and capacities on the Nexus approach and its usage towards, IWRM in a source-to-sea context and ICZM as means for sustainable natural resources management. This will facilitate the adoption of the Nexus approach towards improved management of the Mediterranean LME and, ultimately, sustainable growth.

An effort will be made for all activities of Output 1.1 to build on and align, as relevant, with Nexus action lines of institutions and organizations in the region, including the Nexus work of the UfM Water Agenda; GIZ 'Nexus Regional Dialogues' Programme supported by the EC; UNECE work on the Nexus at transboundary level; FAO work on the Nexus and Climate, supported by Sida; PRIMA supported by the EC; GWP-Med 'Nexus in Southeastern Europe' Project supported by ADA, Germany and GEF IW:LEARN; GWP-Med 'Making Water Cooperation Happen – Matchmaker' Project, supported by Sida; MAVA Foundation projects on Ecosystems / Nexus; etc.

The European Commission (EC) and GIZ are implementing Nexus activities for North Africa and Middle East (MENA) as part of a global initiative of the EC and GIZ to promote the Nexus Approach[1] under the leadership of the League of Arab States; it is implemented by GIZ. There is on-going cooperation between GWP and GIZ at a global scale in this

regard; GWP has executed the regional dialogue in South Africa. Phase I of the programme is currently coming to an end and EU DEVCO has recently approved the funding for a phase II, which should start in 2020. GWP-Med is currently coordinating with the GIZ regarding the activities to be implemented in the MENA region. This will secure complementarities and avoidance of duplications.

UfM actions in the area are being implemented in close cooperation with GWP-Med. The latter is the: technical facilitator of the of the UfM Water Expert Group; technical contributor to the UfM Climate Change Expert Group, etc. There are discussions for the activities under this project to be part of the program of work of the Nexus Task Force under the UfM.

Activities :

1.1.1 Preparation of a Mediterranean Nexus Study.

This activity aims to advance content and knowledge providing a Nexus baseline for the region, building on related studies and work done in previous years by different stakeholders. The Study will identify in each MedProgramme beneficiary country the level of integration of the management of natural resources related to Nexus i.e. water, energy, land/food and environment. It will look at related national sectoral institutional settings and strategic documents to identify inter-linkages and potential conflicts among these. The Study will provide suggestions on ways forward for tackling Nexus challenges in the region affecting the coastal and marine environment. These will be debated, among others, at the Regional Roundtables and Nexus Trainings that are part of the Project activities (see below).

1.1.2 Dissemination, usage and enrichment of knowledge Nexus material in the form of the JRC/GWP-Med/UfM Nexus Atlas.

The Nexus Atlas in the Mediterranean is prepared by the European Commission's Joint Research Centre (JRC), the Union for the Mediterranean (UfM) and GWP-Med. The activity is implemented in-parallel to the Project and it contributes to its aims and objectives. The Atlas will be a spatial baseline analysis and projection of Nexus requirements in the Mediterranean region, addressing inter-sectoral trade-offs and synergies as promoters of stability and socio-economic development in the region. The Atlas aims at offering both a scientific, but also cultural, perspective regarding Nexus issues addressed using a language accessible to a broad audience ranging from the interested citizen to specialized stakeholders and experts. In order to grasp the ground reality in the region, the baseline analysis will be complemented by a collection of Nexus best practices and success stories. These will highlight the benefits of an integrated Nexus-thinking, from the economic, societal and environmental perspectives and cover large-scale projects down to local examples for instance at farm level. Activities will entail the collection of case studies through an open call addressed to Mediterranean Nexus stakeholders as well as through direct communication with organizations active in the field of Nexus, development of a conceptual and editorial design of the Atlas involving partners and scientific institutions, design of “WEFE -metrics” on the basis of which the analysis of case studies will be made assisting also in communicating findings and creating argumentation on the benefits of practices included in the Atlas to the economy and the environment, preparation of and compilation of an overview on maps/assessments, development and dissemination of the publication.

1.1.3 Organization of Regional Roundtables

The organization of Regional Roundtables will be part of a regional multi-stakeholder dialogue to advance Nexus understanding and facilitate cross-fertilization among institutions, organizations and practitioners. The **Mediterranean Nexus Study** and the **Atlas** will offer conceptual and technical background to feed in the dialogue. The Roundtables will follow up and expand on the Roundtable on the Nexus in South East Europe (22-23 October 2018, Skopje) and the Regional Conference on the Nexus in MENA and the wider Mediterranean (26-28 November 2018, Beirut), that were organized during and contributed to the Project preparation phase. Three (3) Regional Roundtables will be organized in cooperation with hosting national institutions, project partners, regional institutions and other contributors depending on the focus issue and interest expressed. Each event should be 2 days in duration and will target the participation of appx. 60 stakeholders. Leveraging synergies with ongoing initiatives and/or projects supported by e.g. international organizations, bilateral donors, national authorities and other entities and institutions will be sought.

Three half days' meetings of representatives of the Nexus Ministries from the beneficiary countries will be organized each one back to back with each Regional Roundtable. These meetings will discuss the need for the development and the content of a Nexus Mediterranean Strategy/Roadmap describing orientations, partners, capacities and steps for the introduction of Nexus approach considerations in the ICZM and water resources management frameworks of the countries, and of the Barcelona Convention.

1.1.4. Organization of Nexus Trainings

This activity aims to advance capacities of targeted stakeholders, such as for policy makers, managers at public administrations, civil society, members of parliaments and media etc. addressing policy, managerial and selected technical issues. Three (3) regional trainings locations will be selected according to a set of criteria, including existence of well local organizational capacities, existence of local facilities, convening costs, balance among project countries, documented case studies, etc. Each event will be 2-3 days of duration and will target up to 15 selected participants that will be identified in collaboration with competent organizations and institutions at the regional and national levels using input from the stakeholders analysis.

Component 2: Addressing Nexus issues affecting the Mediterranean LME

Component 2 is the key component of the Project. The Nexus approach used to foster integrated policy making and management will be applied in three countries at different spatial scales:

- Albania; at country level;
- Lebanon; at country level;
- Morocco: in the Tangiers Tetouan region.

The Nexus Assessment and the Nexus Policy Dialogues – the two using and feeding into each other – are tools to enable the application of the “Nexus approach”.

- Nexus Assessment

The elaboration of Nexus assessments in the selected countries will be conducted using already applied methodologies e.g. the one developed under the UNECE Water Convention for the assessment of the water-food-energy-ecosystems nexus as well as using other approaches already tested on the field e.g. under the work of the Joint Research Center of the European Commission in Africa. The assessment is used to identify and study the linkages/benefits/trade-offs, among sectors and to indicate ways of optimal use of natural resources for sustained growth. The outcomes of the assessment facilitate coordination of policies and actions across sectors, institutions and countries. Inputs are made by a range of available sources, including state data, bibliography review and stakeholders' inputs.

The specific focus of the Nexus Assessment in each case is determined by the realities in the country or basin. The priority inter-sectoral concerns are identified through the Dialogues process – see below.

Depending on the context and main purpose of the analysis, the Nexus Assessment and, consequently, the Nexus approach can have different entry points: food and land use, energy, water, ecosystems, or a combination of those. Under this Project the entry point will be the Water²⁷. Despite that, the scope goes beyond integrated water resources management, with deeper involvement of the economic sectors and full consideration of interlinkages among energy, food/agriculture, environment and, potentially, climate change.

²⁷ Water is central in the Nexus approach as it is used by almost all economic sectors and the society for different purposes and by different users; its quality and availability can be affected by pollution, flow regulation, multiple uses and access constraints; changes in quality and availability in one geographic area can influence other areas and uses. Water “facilitates the transport” of positive and negative effects allowing the interaction between the natural - economic - spatial components. Furthermore, it is central to food and energy production and is key factor in terms of adaptation of societies and economies to climate change.

- Nexus Policy Dialogues

Experience shows that an evidence-based analysis of Nexus interactions and the elaboration of scenarios, strategic visions/roadmaps and policy/management response options are best carried out through a multi-stakeholder Policy Dialogue. The Dialogue process helps to make explicit the various goals, interests and drivers of stakeholders and offers a process to reconcile possible differences. Stakeholders are also source of information at the needed aggregate level and scale. Dialogue also helps building ownership among partners, it informs and legitimizes decision-making processes, it provides for peer learning and enhances the potential for replication of good practices.

Nexus Assessments and focused Technical Studies (see Output 2.2) will feed the content of the Policy Dialogues that include Consultation events (roundtables, workshops, etc.); Stakeholders Analysis and Governance Analysis are used as basis for both the Nexus assessment and dialogue.

The Nexus Assessments and Policy Dialogues are guided by a Governance Body (see Output 2.1). The outcomes of the Dialogues are captured in a draft Nexus Strategy or Action Plan (see Output 2.3).

Overall, Component 2 will: (i) facilitate integrated policy making and management in the countries of focus applying novel tools; (ii) create the basis for the replication of such activities in other countries and scales.

In each of the countries of focus, actions under this Component will be used to:

- Identify linkages/benefits/trade-offs among sectors, quantifying those that are of priority at the level possible and assessing the trends under different developmental scenarios leading to concrete suggestions for synergic action in the field of policy making, and management as means towards optimal use of natural resources for sustained growth and for protecting the Mediterranean LME.
- Identify concrete steps and actions for the application of solutions identified through the Nexus assessments and dialogues as well as for the incorporation of the Nexus approach in national policy formulation and decision making for natural resources management.
- Identify priority nexus related interventions.
- Foster input of stakeholders in the Nexus Assessments and the identification of solutions as well as ownership of the process for their development and the resulting outcomes.

Outcome 2: Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.

Output 2.1:

New, or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents.

Activities:

2.1.1 Facilitation of the work of existing or establishment of inter-institutional bodies to function as Steering Committees of the Nexus Dialogues

Efforts will be made for an existing inter-institutional body to be used and act as the Steering Committee of each of the Policy Dialogues (SCPD) in the three selected countries. A new inter-institutional body, in the form of an Interministerial

Committee, will be established should a country decide that none of the existing bodies can undertake this role.^{28 29} Moreover, efforts will be made to involve key line ministries the institutions which has responsibility of planning and finance in each country. The aim is to promote ownership for increasing the potential of sustainability of outcomes and securing implementation of decisions taken in the framework of the Project. The Project will support the establishment and/or the work of the SCPD providing technical and secretariat support including but not necessarily restricting to: facilitating coordination among members; organizing meetings; preparing background documentation and reports etc.

Each SCPD will:

- Discuss the developments, provide advice for the implementation of the Nexus Dialogue including the preparation of the Nexus Assessment, endorse reports and other outputs etc.
 - Discuss and assist in the formulation of the Nexus Strategy or Action Plan; in the case the Nexus Strategy or Action Plan is integral part of another sectoral strategy, related decisions lie with the responsible sectoral Ministry;
 - Discuss and decide on steps for the implementation of the Nexus Strategy or Action Plan; in the case the Nexus Strategy or Action Plan is integral part of another sectoral strategy related decisions lie with the responsible sectoral Ministry.
1. Each of the countries of focus will be asked to appoint or form a SCPD at the initiation of the Policy Dialogues enabling them to engage early, develop understanding and become able to productively contribute and steer. The countries will decide on the sectors that should be represented in the SCPDs (in the case a new body is formulated). As a minimum, the sectors of Water, Agriculture/Food, Energy and Environment should be represented. Additional sectors in the SCPD (as representatives or observers) may include Forestry, Territorial/ Land Use, Industry, Climate, Health, Economy/Finance/Development, Physical Planning, Infrastructure, Local Administration, Flood Management, etc.

The SCPD will meet at least three times throughout the implementation of the Dialogue and will be technically supported by the Project's human resources and capacities. The meetings will be held back-to-back with the consultation meetings (see Output 2.2).

Output 2.2:

Water-energy-food-ecosystems Nexus Assessments and multi-stakeholders consultation dialogues in priority coastal areas.

Activities:

2.2.1. Development of a Stakeholders Analysis

The stakeholder analysis will be developed in the beginning of each dialogue. It will assist in identifying the:

- Stakeholders groups, institutions and individuals that could influence/affect or be influenced/affected by decisions for the management of the water, land, energy and ecosystems, map their competences, stakes and possibly perceptions in relation to the management of the natural resources.
- Stakeholders that are marginalized due to social, economic and political reasons, elaborating on options for their meaningful involvement.

²⁸ There is preference towards the use of an existing body since experience has indicated that creation of IMCs for each new project create an unnecessary burden to the institutions of the countries. Additionally, having the project activities under an existing body with specific mandate assists in the project's outcomes and outputs informing policy documents contributing in their sustainability. Aiming coordination among CP 2.1 GWP-Med will work with partners under CP 2.1 to use a single inter-institutional body for both CPs (existing or new body).

²⁹ Costs for the operation of inter-institutional bodies are minimal to none as they comprise of state officials using governmental buildings for meetings.

The Stakeholders Analysis involves the following key steps: (i) Identification of the range of stakeholders, preliminary analysis of Nexus-related characteristics and perceptions of selected stakeholders; (ii) Consultation workshop (organized back-to-back with the first Consultation meeting for the development of the Phase I Nexus report) to validate findings and collect further information; and (iii) Preparation of the Stakeholders Analysis, incorporating comments by the SCPD. The Stakeholders Analysis will contribute to the Nexus Assessment (see below).

2.2.2. Development of Nexus Assessments

Phase I: Development of a scoping-level Nexus Assessment.

This entails:

- A brief desk review of available documentation on natural resources management and economic sectors in the country and/or the coastal area and/or the basin/aquifer, forming an initial mapping of the water-food-energy-ecosystems inter-linkages and related issues. This will be used as input for the multi-stakeholders consultation event (see below).
- A governance analysis (in addition to the Stakeholders Analysis), outlining the roles and responsibilities of the national, regional and international institutions as well as the level and efficiency of existing management mechanisms and arrangements.
- A multi-stakeholders consultation event 1 to identify the perceptions of stakeholders regarding inter-sectoral linkages/benefits/trade-offs and their expected future development (see also stakeholders analysis above); and, define the focus and objectives of a more in-depth analysis of such inter-sectoral linkages/benefits/trade-offs.
- Development of Phase I Nexus assessment report that will include the outcomes of the analysis including all or part of the following depending on the area of focus and the available information: Socio-economic trends and development options; Sectoral (land use/food, energy, water, environment) characteristics and issues; Inter-sectoral linkages/benefits/trade-offs and priority issues; Qualitative future scenarios, involving elaboration of trends, such as socio-economic projections, and their implications on resource uses; Potential solutions identified and concrete suggestions for possible directions of synergic action that are identified for detailed analysis (in Phase 2). The report will also include assessment of information gaps to perform analysis under Phase 2. The assessment report will be discussed in a second consultation workshop and a meeting of the SCPD of each Dialogue.
- Multi-stakeholders consultation event 2 to validate the findings of the Phase I Nexus assessment report; prioritize the solutions identified and the suggestions for possible directions of synergic action that are identified for detailed analysis; indicate sources of additional information that may be necessary for the Phase II Nexus Assessment.

The Phase I Nexus assessment in Albania will be implemented with funds provided by the Austrian Development Agency.

Phase II: In-depth assessment and quantification of Nexus linkages.

This entails:

- Data collection and/or generation to fill information gaps identified in Phase 1, and modelling to quantify the physical resource requirements and the linkages among resources to highlight future constraints (related to e.g., scarcity, losses, degradation) and identify corrective actions.
- Different scenarios incorporating “business-as-usual” and alternative options can be assessed with the use of modelling tools; the results of Phase I will guide the focus hence the means -in terms of models- for this analysis. The demands on any of the water, energy and land and the effects on the Mediterranean LME can be quantified under each scenario and options that can be pursued by policy choices and decisions made (changing energy mix, irrigation practices, water treatment etc.) will be depicted.
- The analysis will focus on issues of priority identified in Phase I and selected by the SCPD. The level of project's resources will define the number of issues to be addressed.
- Preparation of Phase II Nexus Assessment Report including the outcomes of the analysis. The outcomes of the assessment report will be discussed in the SCPD meeting of each Dialogue that will consider it for endorsement.
- Consultation with national sector authorities and other stakeholders organized to discuss and evaluate the results, review the recommendations and identify means for the recommendations to be put into practice.

The Joint Research Center of the European Commission will be engaged in the development of the Nexus Assessments.

Output 2.3:

Nexus strategies/action plans for priority coastal areas, possibly as part of other strategic documents for coastal areas.

Activities

2.3.1. Development of Nexus Strategies or Action Plans

A Nexus Strategy or Action Plan will be the main output of each of the Nexus Policy Dialogues in the 3 countries of focus. It will indicate the action to be taken to implement the solutions identified through the Nexus assessments and dialogues and assist in and guide the incorporation of the Nexus approach in policy formulation and decision making for natural resources management.

The decisions for the development and adoption of these strategic documents lies with the countries and is a political one. The project will strive to create the necessary conditions and, should a decision be taken by the countries, it will provide technical assistance for the development of these documents. Aiming at convergence and increased chances for applying the Nexus Strategy or Action Plan, linkages with existing and/or emerging strategies will be pursued.

The development of each of the three Strategies or Action Plans will be based on the information generated by the Nexus Assessment; views and opinions of the stakeholders as identified through the Stakeholder Analysis; outcomes of the Nexus Dialogue; guidance by the SCPD of each of the Dialogues.

Each Strategy or Action Plan will (the list below is provisional; the structure and content will be defined by the realities during the development of the document as well by the specificities of the country for which it will be developed for):

- Define the developmental priorities that are related to the Nexus sectors i.e. water, energy and agriculture;
- Identify the key trade-offs among these sectors that hamper: (i) water and/or energy and/or food security and/or environmental sustainability; (ii) developmental potentials; (iii) the sustainability of the Mediterranean LME;
- Identify potential benefits to be shared among sectors;
- Define the steps to be followed as means to address key trade-offs and/or conflicting elements among sectoral (water, food, energy, environment) strategies and/or unsustainable practices and externalities, and enable benefit sharing;
- Identify appropriate institutional options and modalities for the implementation of the strategic document and the coordinated management of the basin/aquifer.

Following consultations, the Strategy or Action Plan will be discussed and finalized in the final SCPD meeting.

Component 3: Testing and upscaling Nexus solutions

The development of Nexus assessments (Outcome 2) will result in the identification of interlinkages and trade-offs among sectors as well as to solutions to address these. Internationally, there is a plethora of assessments and management plans, at different levels, that identify governance, managerial and technical solutions meant to address issues touching upon more than one sector. Such solutions strive to respond to the nexus of causes that result to pressures and to the subsequent nexus of issues. .

On the governance side, Nexus solutions assist decision-makers in building institutional and regulatory mechanism and tools that enable cross-sectoral cooperation for tackling inter-sectoral impacts. On the technical side, Nexus solutions provide for tangible outcomes in Nexus resources ‘budgets’, and can be in both the areas of traditional and cutting-edge technology (developed by the range of technology partners: from technology “giants” or start-ups). The implementation of identified Nexus solutions, beyond their practical benefits, contributes for enhanced coordination and cooperation between sectors to manage resources, to reduce trade-offs and to increase synergies.

Traditional technical applications, that today are recognised for their Nexus contents, had been used and often are still in use. Their practices have been carved through long hands-on experience and experimentation. Modern way of life has resulted in them being abandoned or their use being restricted, although their cost-effectiveness may be equal or higher than modern techniques. Rainwater harvesting or agricultural techniques to minimize water use, are among these.

On the other end, there is in-vitro Nexus research, such as this looking into the maximization of agricultural production with the minimization of water use including through use of renewable energy, while IT enterprises (such as IBM, etc.) develop artificial intelligence software systems that allow predicting the water flow and availability far better than any existing mathematical model. Or, start-ups use real-time application of multi-spectrum cameras on vehicles that apply fertilizers and pesticides to adjust their use at the level of less than square meter, minimizing the quantities used thus the effects to environment and the cost to the farmers positively contributing to food security.

Aiming at demonstrating tangibles and promoting their replication, the screening of Nexus interventions' options of the Nexus Assessments (of Component 2) will be matched with pilot Action through this component, in order to showcase the 'how tos' and promote practical synergy for achieving these.

Small/medium scale Nexus solutions i.e. technical applications addressing issues touching upon two Nexus sectors, will be identified and/or implemented to assist stakeholders accruing direct experience on Nexus approaches, technologies, management practices and organizational settings, while testing their cost effectiveness, feasibility and replication potential.

Screening of Nexus solutions would address all Project countries, drawing from their needs and experience (Output 3.1.1). The countries that Component 2 focuses on will have a priority for screening possible Nexus technical interventions that can be applied. At inception stage the project will establish contact with the WWF/ICPDR Dyna project titled "Danube River Basin Hydromorphology and River Restoration (DYNA)" with the aim to further enhance the uptake of cost efficient natural infrastructure solutions and associated lessons learnt.³⁰ Out of the range of identified Nexus solutions, selected cases will be assessed on their feasibility and replication potential in the region (Output 3.1.2).

As a sample, the following Table presents Nexus Solutions' categories and related examples³¹

SOLUTION CATEGORIES	EXAMPLES
<p>Institutions</p> <p>Spanning from institutional reforms to improved institutional cooperation and governance culture.</p>	<ul style="list-style-type: none"> Clarify roles and responsibilities (e.g. regarding the involvement of national and local governments in rural development, or in the management and financing of irrigation schemes) Set up or improve existing mechanisms for coordinating across sectors at the national and/or transboundary level (e.g. climate change adaptation planning and sustainable development strategy development). Set up or ensure coherence between sectoral strategies: that is, by seeking complementarity and avoiding counter-productivity (e.g. across strategies for energy sector development, climate action and/or environmental protection).
<p>Information</p> <p>Improving collection, accessibility and communication of data, information and knowledge related to basin resources and their dynamics.</p>	<ul style="list-style-type: none"> Improve monitoring of resource availability, quality, uses etc. (e.g. to ensure resilience of energy generation and agricultural production), as well as weather forecasting and predicting consumption patterns etc. Identify policy implementation barriers (and cross-sectoral actions in particular). Introduce and improve standards (e.g. for buildings) and develop and apply integrated planning principles and guidelines. Share data across borders (e.g. for flood preparedness) and with users (e.g. through appropriate extension services in agriculture).

³⁰ (GEF ID: 9801) "Danube River Basin Hydromorphology and River Restoration (DYNA)" Project

³¹ Table adapted from UNECE Methodology for Assessing the Water-Energy-Food-Ecosystems Nexus in Transboundary Basins and Experiences from its Application: http://www.unece.org/fileadmin/DAM/env/water/publications/WAT_55_NexusSynthesis/ECE-MP-WAT-55_NexusSynthesis_Final-for-Web.pdf

<p>Instruments</p> <p>Defining and implementing various instruments to address trade-offs and promote synergies in the management of natural resources and environmental protection.</p>	<ul style="list-style-type: none"> • Policy instruments (e.g. implementation of the Strategic Environment Assessment, setting up detailed targets for renewables and energy efficiency etc.) • Economic instruments to provide incentives for rational and sustainable resource use (e.g. tariff-setting on water, cross-subsidization of energy, application of “user pays” and “polluter pays” principles etc.) • Legal instruments (e.g. defining minimum environmental flows, agreements and protocols)
<p>Infrastructure (and investments)</p> <p>Planning (i.e. designing, siting, financing) and modernizing or modifying existing infrastructure.</p>	<ul style="list-style-type: none"> • Direct investments towards multi-purpose and environmentally sound infrastructure projects (both “grey” and “green”). • Improve resource efficiency in transmission and conveyance networks on the user side as well, taking into account indirect and cross-sectoral impacts (reducing water leaks in irrigation networks, for example, may save electricity; at the same time, improving a farm’s efficiency may result in higher energy consumption). • Account for different needs (including environmental needs) in optimizing the use of existing structures.
<p>International coordination and cooperation</p> <p>The most cross-cutting category: solutions of this type are aimed at broadening the scope of transboundary cooperation and identifying common priorities.</p>	<ul style="list-style-type: none"> • Improve basin-wide monitoring, data verification and exchange, as well as knowledge-sharing (particularly on the development of tools to quantitatively analyse resource flows, impacts and benefits at the basin level or the regional level). • Define areas of common interest for regional development and potential complementarities of resources (e.g. agricultural land and forests) and policy goals (e.g. environmental protection and tourism development). • Facilitate trade (e.g. agricultural goods, electricity) to boost local economies; improve water, energy or food security; and/or optimize the use of resources and infrastructure at the regional level (e.g. addressing obstacles to trade to cut the need to produce water-intensive crops on national territory under unfavourable conditions). • Develop common rules and joint guidelines for key sectors (e.g. navigation, hydropower, ecotourism).

A limited number of small-scale Nexus applications will be designed and implemented directly by the Project in the focus areas (Output 3.1.3). These will aim at benefits in more than one sector, contributing in reducing the pressure on ecosystems or the environment at large. Small-scale applications are opted both due to the funding available from the project (while fundraising/co-financing options will be further explored) as well as to complex licencing and safeguarding normally needed for larger scale practical interventions. Outcomes of this activity will link with and contribute to the Nexus Atlas (Output 1.1).

Financing Nexus solutions is key, both for its obvious practical purpose of implementing agreed Nexus strategies/plans, but also for its use as a tangible driver during Nexus dialogue processes (e.g. on understanding Nexus challenges, defining priorities articulated in Nexus Strategies/Action Plans, etc.). While Nexus investments should produce benefits for all Nexus sectors that are set to address, they may also suggest opportunities for financing the less attractive among the Nexus sectors, like water and environment. Recently, major institutional financing partners, like IFIs, bilateral donors, climate funds, etc., have been adopting new policies, structures and tools for financing SDGs, placing integrated approaches high in their focus, with Nexus being gradually surfacing in these. The need to sustainably engage the private sector in Nexus investments is clear, while challenges for its participation in financing water and environment infrastructure remain, though energy and food entries may provide new impetus for related tangible ways forward. Output 4 will focus on enabling priority interventions and/or necessary investments through preparation of related projects documentation/investments fiches, based on identification of needs and opportunities during dialogue activities under Component 2. To achieve these, the Project will strive to attract a range of interested financing partners, public and private (including Corporate Social Responsibility partners), since its early stages.

Outcome 3: Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs.

Output 3.1:
Nexus demonstration activities

Activities:

3.1.1. Identification of traditional or novel Nexus solutions

The Project will seek for Nexus technical and managerial solutions that have been already applied in the Mediterranean or they are at experimental stage (project demonstration and/or research activities) and are considered promising for their novelty and feasibility potential. Innovative as well as mainstreamed and traditional solutions will be considered. The identification of solutions and sites and selection of cases will be done primarily using the outcomes of the Nexus Atlas. Alternatively, an open call for related proposals may be addressed to key stakeholders in the Project focus countries, providing guidelines to follow in the description of the proposed cases and sites.

The selection of the demonstration activities will be done during the early stages of Project. Selection criteria would include: relevance to the Project; relevance to the Nexus approach; feasibility; efficiency; sustainability; synergies; contribution to youth and gender objectives; replication / up-scaling potential; availability of (co) financing; effective management arrangements (see Table 5 below). For these, the Project will build on and benefit from the 10+ years implementation experience of the GWP-Med 'Non-Conventional Water Resources Management (NCWR) Programme in the Mediterranean' (www.gwpmed.org/NCWR), primarily supported by the Coca-Cola Foundation. Through that, GWP-Med has implemented more than 130 technical interventions, several of which are of Nexus content, in more than 30 locations in Mediterranean islands and coastal cities, tailored to address specific needs in close collaboration with local authorities.

Table 5: Nexus demonstration activities selection criteria

RELEVANCE WITH THE PROJECT
Are the intended results likely to contribute to the achievement of the overall project goal and outcomes?
RELEVANCE WITH THE NEXUS
Is the issue to be addressed a Nexus issue linked with the protection of the Mediterranean LME?
Do the demonstration activity pilot Nexus solutions applying scientific research or technical innovations proven to bring promising results at the “laboratory” scale or in other parts of the world?
EFFICIENCY
Does the demonstration activity intend to make use of / build upon pre-existing institutions, partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency?
Are research institutions including universities and/or the private sector active in the development and testing of technical solutions in any of the WEFE sectors enabling lower or more efficient consumption of resources and at the same time maximization of production member of the partnership for the implementation of the demonstration activity?
SUSTAINABILITY / REPLICATION AND CATALYTIC EFFECTS
Are private sector AND WEFE related management authorities of the area where the demonstration activity is implemented, members of the partnership for the implementation of the activity, securing that existing economic activities and governance schemes are used as vehicles for the successful demonstration activities to be replicated and possibly upscaled.
Does the pilot present a strategy / approach to sustaining outcomes / benefits?
Are there environmental factors, positive or negative, that can influence the future flow of pilot benefits?
Is the demonstration activity expected to contribute to policy changes?
Is there enough level of ownership by the main national and regional stakeholders necessary to allow for the pilot results to be sustained?
MANAGEMENT, EXECUTION AND PARTNERSHIP ARRANGEMENTS
Have the capacities of partner(s) been adequately assessed?
Specify the roles and responsibilities of internal and external partners.

3.1.2. Assessment of replication potential and feasibility of already applied Nexus

Up to four (4) Nexus solutions among those identified under 3.1.1 will be chosen, successfully used to address management challenges touching upon different Nexus sectors, creating benefits for different stakeholders and the environment. These cases should spread across different socio-economic and climate settings, to allow assessing a variety of Nexus-related technological, governance and finance approaches to reach sustainable natural resources management as means for local/regional development while addressing pressures to the Mediterranean LME. Such cases may be in the fields of agriculture/ ICT based precision irrigation, waste water treatment for secondary purposes or potable water

production with renewable energy, energy and resource recovery from waste water treatment, desalination with renewable energy, etc.

An analysis of the Nexus technological, governance and finance parameters will be performed for each case, assessing their efficiency and the feasibility for replication and upscaling.

3.1.3. Testing of novel applications and assessment of their replication potential and feasibility

Two (2) novel Nexus solutions among those identified under 3.1.1 will be chosen, to be tested directly by the Project, as means for demonstration and hands-on training of competent local stakeholders as well as for public awareness raising. An analysis of the results will be performed for each case in relation to their efficiency along with an assessment of the feasibility for replication and upscaling. The Project will partner with research institutions and the private sector active in the development and testing of technical solutions in any of the Nexus sectors enabling lower or more efficient consumption of resources and maximization of production.

Where applicable, the Project will engage young professionals of technical background (e.g. engineering, architecture, natural resources management, water and energy technologies) who can design and implement Nexus systems as well as of non-technical backgrounds (e.g. art, history, communication, social sciences, etc.) who can communicate Nexus messages. In this regard, the Project will engage with universities and young professionals, improving their Nexus knowledge and skills and fostering their employability options and capacities on green/blue jobs. Operational linkages with financiers and the private sector will be sought.

Fundraising options are already screened, and will be screened throughout the Project, for increasing the number and/or the scale of applied Nexus solutions, aiming at further impact as well as co-financing.

Outcome 4: Priority Nexus interventions agreed upon including relevant mechanisms and arrangements.

Output 4.1:

Identified interventions, including potential sources of funding

Activities:

4.1.1 Preparation of projects documentation/investments fiches for priority interventions and/or necessary investments

The Project will prepare project proposals/ investment fiches for three (3) priority local Nexus interventions and/or needed investments. The issues to be addressed, the type and content of interventions, their management scheme and the financing partners, will be proposed and identified through the Nexus Dialogues, and will be approved by the SCPD of each dialogue or the line Ministry. It is expected that the three interventions will be implemented respectively in each of the three areas the Component 2 focuses on, i.e. in Albania, Lebanon and Morocco.

The selected Nexus interventions/investments will focus on the implementation of technical solutions in combination with all or some of the following types of action (the list is not exhaustive) and will be based and closely align with Component 2 Nexus Assessments in priority areas: mainstreaming and/or development of Nexus-focused policies; development and implementation of management schemes; raising of institutional and professional capacities; promotion of employability options; assistance to creation of Nexus technology markets; etc.

Interesting fields for developing financeable projects may include: small scale Nexus interventions like for agriculture/ ICT-based precision irrigation, waste water treatment for secondary purposes with renewable energy including for the tourism industry, energy and resource recovery from waste water treatment, desalination of seawater or brackish water with renewable energy, etc.

With regard to the financing partners, the involvement of multilateral and bilateral Developmental Partners (DPs), like EC including the European Sustainable Development Fund (ESDF), Green Climate Fund (GCF), Sida, ADA, Climate-

KIC, etc. as well as International Financing Institutions (IFIs) such as EIB, EBRD, KfW, etc., will be explored for related practical engagement.

Furthermore, the involvement of private sector partners will be explored, including private banks (aiming at their green funding schemes), consumer companies (aiming at their corporate social responsibility schemes), etc. Specifically, on the role of private banks, the project proposals/ investment fiches will capitalize and build on related ongoing GWP-Med work carried out in Lebanon and the MENA region within the 'Governance & Financing for the Mediterranean Water Sector' Programme. The work concerns deepening the focus on water investments, upscaling and replicating, within the country and beyond, of an innovative financing scheme that allows private sector entities to apply for incentivized loans on any type of environmental conservation measure. The particularity of the model is that it is operated through specific Circulars of the Central Bank of Lebanon and is implemented jointly with the Lebanese Ministry of Energy and Water also with the assistance of the Lebanese Centre for Energy Conservation (LCEC). Important element in the provided support to this process, has been the facilitation of a multi-stakeholder consultation to discuss the development of criteria for promoting water-specific projects, but also criteria for mainstreaming social environmental considerations. Currently the replication of the model, through adaptation to local circumstances, is ongoing in Jordan, with interest to participate expressed by both Morocco and Tunisia.

Engagement of international and local funds/organizations supporting development of employability and innovation options, like through start-up financing of entrepreneurs and innovators, vocational training of young technicians, etc., will be sought as well. It is anticipated that financing partners that will be engaged in the process, will self-finance their own inputs for the development of the project proposal/investment fiches. It is also considered that the proposals / fiches to be developed by the Project will follow formats and contents required by their potential financiers.

The following criteria will be applied (the list is tentative) in the scoping for developing project proposals/ investment fiches: interest/commitment by countries for action in the field also in relation to the prioritization of such interventions within existing strategies and plans; novelty in approaches, partnerships and contents; feasibility; potential for / commitment of financing; potential for impact; potential for replication.

For each of the three proposals/ investment fiches, the Project will support: development of technical background and contents; identification of and coordination among partners, including the organization of meetings; reach out to and negotiation with financing partners; etc. Effort will be made to engage, as pertinent, youth, gender and media representatives in the processes.

Component 4: Consultation and outreach

Equally important to the linkages between the project activities (e.g. the outcomes of the Nexus Assessments will feed the preparation of the Strategies/Action Plans etc.), is the multilevel non-linear linkages among the stakeholders groups that are by default engaged in the management of the Nexus resources and that the project activities concern: who, how, when, at what level is engaged in partnership with whom. The former will define the success of the project in terms of implementation of the activities while the latter will define the success of the project in terms of creating the conditions for sustaining its outcomes and achievements. Information and strategic communications, consultation and engagement activities will be an integral part of the Project in pursue of strengthening the commitment of decision makers, users and other stakeholders at all levels as well as the public, as appropriate.

Successful stakeholder³² involvement and public participation³³ demands activities such as multi-stakeholder meetings to define problems, identify what is desired and achievable, and produce agreement on how common goals will be reached. Web-based tools will be used, as appropriate.

The project will be implemented within a context where the principles of stakeholder involvement, while fully recognized -in most cases- by the national laws, are not yet adequately translated into daily practice and at all levels. The Nexus

³² An agency, organization, group or individual who has an (direct or indirect) interest in the project/program, or who affects or is affected positively or negatively by the implementation and outcome of it.

³³ Refers to participation by the public (individuals, NGO's) in decision-making, ranging from merely commenting on drafts to co-decision making.

related sectors are no exception; there is much room for improvement regarding civil society and public participation while the private sector does not participate to the policy development process. The project will contribute in advancing these at country and local levels, focusing on tangible outcomes. The knowledge generated, and experience gained under Component 2 through the implementation of the Nexus assessments in three countries and Component 3 through the testing and assessment of technologies and approaches to address Nexus trade-offs will be captured and translated into messages and notes to be broadcasted/disseminated to stakeholders to raise awareness and enhance capacities. Along with Component 1, Component 2 will create the conditions for the introduction and implementation of the Nexus approach in the management of natural resources.

Outcome 5: The medium and long-term sustainability of results ensured by engaging the relevant stakeholders

Output 5.1:

A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.

Activities:

5.1.1. Preparation of a Stakeholders Engagement Strategy

A Stakeholders Engagement Strategy – aimed at achieving this higher level of involvement and participation – will be the basis of the planning and organization of consultation and involvement activities.

The Stakeholders Engagement Strategy of Child Project 2.2 will be developed coherently with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies annexes (Annex P and O, respectively) as also explained in the sections A.4 and A.8 of the current document.

The main project areas in which the stakeholders will be involved in through consultation processes include the:

- Regional Dialogue; and
- Nexus Policy Dialogues including the development of the Nexus Assessment.

4) INCREMENTAL COST REASONING EXPECTED CONTRIBUTIONS FROM THE BASELINE AND CO-FINANCING, AND GLOBAL ENVIRONMENTAL BENEFITS

The GEF funding will in fact work in synergy with and complement Government baseline programs – as delineated in SAP-MED, SAP-BIO and the NAPs – and programs funded by other sources and described in the section 2b) of the Baseline Scenario. Its incremental role will be developed along four main lines of action:

The Child Project 2.2 aims at providing countries with mechanisms to identify and resolve existing and potential conflicts among competitive water uses and users (food, energy, environment, tourism etc.) in a number of critical coastal areas thus providing a key contribution to water security in the region. This approach is new, and would not be adopted without GEF funding, which is hence fully incremental with respect to ongoing baseline activities.

The GEF funding will be variously distributed in all GEF eligible countries of the Mediterranean Basin in an effort to reconcile regional TDA priorities with national priorities and adhere to the MedProgramme's stress reduction and environmental security imperatives. Experiences gained in one country will be systematically shared regionally, so that all countries will benefit in terms of capacity to adopt and replicate good practices. Increased knowledge and scientific advances (e.g., submarine groundwater discharges) will be common patrimony of all Mediterranean countries and stakeholders and leverage both further research and practical applications.

The Global Environmental Benefits to be gained through the project, in line with the MedProgramme's overall global objectives, are:

- Improved integrity and sustainability of a globally significant transboundary large marine ecosystem – the Mediterranean Sea - and of the coastal ecosystem goods and services that it provides to society;
- Strengthened multi-country frameworks and transboundary cooperation; and
- Increased resilience to the adverse impacts of climate change in vulnerable developing countries.

5) INNOVATION, SUSTAINABILITY AND POTENTIAL FOR SCALING UP

Innovation

The project presents a number of innovations building on the MedProgramme’s focus on integrated approaches to natural resources management towards defining and applying Nexus solutions in the Mediterranean coastal areas, by promoting synergies and addressing trade-offs between water, energy, agriculture and environmental objectives.

The project includes a number of actions that are novel for the region, and even in the front-line of global developments related to the Nexus, including:

- Participatory elaboration of local/coastal Nexus Strategies/Action Plans, building on technically sound and institutionally anchored Nexus assessments, embedded in or affiliated with existing and/or upcoming sustainability plans at appropriate level.
- Demo application of replicable Nexus solutions (technological, managerial, institutional, etc.), selected through inclusive processes and showcasing tangibility of approaches.
- Identification and promotion of Nexus investments, engaging a range of partners including financiers.
- Introduction of gender equality considerations not just in project execution modalities, but also and primarily as an integral part of Nexus processes.

These will contribute to the consolidation and further achievement of regional agreements, binding instruments and long-standing multi country cooperation established through the Barcelona Convention and its Protocols while building on the results of previous GEF funded initiatives and projects and fostering their sustainability and scaling up.

Sustainability

Sustainability of the Project’s outcomes and impacts has been an integral element of its design, including through:

- Embedding these within MedProgramme’s objectives in support of implementing SAP-MED and related NAPs as well as a contribution to the ICZM Protocol to the Barcelona Convention.
- Reflecting needs, priorities and commitments of Project countries as expressed in the PPG phase, related to existing and emerging national and local plans. The Project will further embed, as relevant, its activities within the context of on-going institutional and technical processes active at the time of its implementation period.
- Associating these with agendas of regional institutions, like the UfM Water Agenda, and those of development partners, promoting contextual and operational linkages, including towards Nexus investments.

By such means, and through the efforts of project partners and associates to fully involve their constituencies and capacities at regional/national/local levels, ownership over the Project will be maximized.

These will contribute at ensuring the continuity of efforts initiated, and the sustainability of outcomes achieved under the Project, well beyond the project’s own lifespan.

Stakeholder buy-in

Engagement of the range of Nexus stakeholders is in the heart of the Project, and among critical factors of its success. Ownership of national and local stakeholders will provide for the Project’s implementation as well as for the scaling up and replication of its results. Special attention is given to the involvement of women, youth and indigenous groups within local communities. Engagement of development partners is also an integral part of the Project’s design.

Replication and up-scaling of results

A major scaling-up of the Project efforts and outcomes in the Mediterranean will be essential for making a substantial contribution to the longer-term objectives of the SAP-MED and the NAPs long-term action program through promoting the Nexus agenda. Up taking of lessons learnt, up-scaling of best practices, and replication of applicable solutions is an essential element of the Project's life-cycle.

Being nested in the MedProgramme, the Project will benefit from the supporting platform provided by Child Project 4.1 specifically designed for such future replication within the region, for enhancing the human and institutional capacity, and fostering better coordination and collaboration among stakeholders, GEF focal areas and different donor initiatives. The Project will also substantially benefit from and contribute to the success and up-scaling of the Child Project 2.1.

A.2. CHILD PROJECT? IF THIS IS A CHILD PROJECT UNDER A PROGRAM, DESCRIBE HOW THE COMPONENTS CONTRIBUTE TO THE OVERALL PROGRAM IMPACT.

Child Project 2.2. will play a crucial role to extend the influence and impact of the MedProgramme: (i) across sectors beyond the ones responsible for environment, water and climate; (ii) spatially - apart from the coastal areas also on the inland areas where socio-economic and natural resources management decisions formulate the drivers and causes of issues manifested in the coastal and marine zones.

Addressing the Nexus of water-food-energy-ecosystem security, the project recognizes the relevance of the entire spectrum of competing water needs, stressing the explicit role, interests, and leadership of other sectoral stakeholders beyond the water sector.

In selected coastal areas, using the water-food-energy-ecosystems Nexus (a.k.a Nexus) approach, the project will seek to (i) understand the interlinkages and trade-offs among the Nexus sectors as means to understand the causes of environmental and socio-economic issues (ii) identify solutions to address the causes of those issues and integrate -at the level possible- strategies and management options. Technologies and management approaches will be tested and assessed. Practitioners and stakeholders will be engaged in a regional dialogues aiming their cross-fertilization and enhancement of their capacities constituting them receptive of the experience and knowledge gained through the application of the Nexus approach in the priority areas. The overall objective is to replicate the implementation of the Nexus assessments and dialogues in areas beyond those that the Project will focus on and adopt the Nexus approach as means of address issues of priority in coastal areas, fostering water-food-energy security, reduction of land based nutrient pollution and other pressures, protection of coastal habitats and biodiversity and climate change resilience.

Action will be taken to facilitate the Nexus approach being adopted at the Mediterranean level. In this sense the Contracting Parties to the Barcelona Convention will be informed about the outcomes of the Child Project 2.2 to consider possible upscaling of the intervention.

The regional policy dialogue supported by the project will be under the auspices of the Barcelona Convention and the Union for the Mediterranean. This will facilitate the Nexus approach being adopted at the Mediterranean level as part of the institutional framework of either of the two political processes, (related decisions should be taken by the member countries) as means to: (a) sustaining and upscaling the outcomes of the intervention; (b) matching the global Nexus related efforts of the European Commission.

The project will also foster compliance with a number of regional and global agreements, and support country efforts to achieve numerous targets of the Sustainable Development Goals, with focus on Goals 6, 13 and 15. The following Table 6 summarizes the project's contributions to the Agenda 2030 process.

Table 6: Contribution of Child Project 2.2 to the SDGs

Sustainable Development Goals	Contributions of Child Project 2.1
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1. End Poverty in all its forms everywhere	Targets 5, 1. a
5. Achieve gender equality and empower all women and girls	Target 5
6. Ensure availability and sustainable management of water and sanitation for all	Targets 1, 2, 3, 4, 5,6, 6.a, 6. b
8. Promote sustained, inclusive and sustainable economic growth, full productive employment and decent work for all	Targets 4, 9
12. Ensure sustainable consumption and production patterns	Target 2
13. Take urgent action to combat climate change and its impacts	Targets 1, 2, 3, 13. a
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Target 2
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss	Targets 1, 3, 5

Relevant UNDAF priorities for the countries with activities executed at national level.³⁴

Albania

Relevant UNDAF priorities, Albania has identified “Environment and Climate Change” as one of four priorities in its UNDAF 2017 – 2021, with an associated outcome for government and non-government actors to adopt and implement innovative, gender-sensitive national and local actions for environmental sustainability, climate change mitigation and adaptation, and disaster risk reduction. Child Project 2.2 will contribute to this priority in Albania’s UNDAF through activities to support the implementation of environment policies and strengthen the conservation and sustainable use of natural resources with emphasis on the coast using the Nexus approach, and to enhance the protection and sustainable management of the country’s ecosystems. The project will also respond to Albania’s priorities by promoting strategic Nexus planning, assisting investment prioritization and mobilization, demonstrating Nexus approaches and applications, raising capacities and awareness. Furthermore, gender has been mainstreamed in the activities of the project, including specific actions to promote gender equality and inclusivity.

Lebanon

Relevant UNDAF priorities, a core priority of Lebanon’s UNDAF 2017 – 2020 is to reduce poverty and promote sustainable development, while addressing the country’s immediate needs in a manner that is sensitive to human rights and gender issues. Outcomes corresponding to this priority include the development of national development plans and processes integrating biodiversity, renewable energy, energy efficiency, sustainable consumption and production, climate change, sound chemical management, sustainable consumption & production and ecosystem services values as well as the protection of forests, land and water ecosystems; improvement of water quality and reduction of water pollution; and protection of coastal zones. The Child Project 2.2 will contribute to these Lebanon’s priorities by promoting strategic Nexus planning, assisting investment prioritization and mobilization, demonstrating Nexus approaches and applications, raising capacities and awareness. Furthermore, gender has been mainstreamed in the activities of the project, including specific actions to promote gender equality and inclusivity.

Morocco

Relevant UNDAF priorities, in its UNDAF 2017–2021, Morocco has designated ‘Sustainable Inclusive Development’, ‘Inclusive, integrated and sustainable rural development’ and ‘Economic inclusion, reduction of inequalities and vulnerabilities’ within its six expected results, and has identified a number of specific outcomes that can be enhanced through collaboration with the UN system, including territorial planning that integrates the principles of sustainable development and the preservation of natural and cultural heritage, and increased equitable access to natural resources and ecosystem services. Child Project 2.2 will contribute to these national priorities through by promoting strategic Nexus planning, assisting investment prioritization and mobilization, demonstrating Nexus approaches and applications, raising

³⁴ United Nations Development Assistance Framework (UNDAF)

capacities and awareness. Furthermore, gender has been mainstreamed in the activities of the project, including specific actions to promote gender equality and inclusivity.

A.3. STAKEHOLDERS. IDENTIFY KEY STAKEHOLDERS AND ELABORATE ON HOW THE KEY STAKEHOLDERS ENGAGEMENT IS INCORPORATED IN THE PREPARATION AND IMPLEMENTATION OF THE PROJECT. DO THEY INCLUDE CIVIL SOCIETY ORGANIZATIONS (YES /NO)? AND INDIGENOUS PEOPLES (YES /NO)? ³⁵

Successful WEF NEXUS implementation is based and fully dependent on the effective participation of all relevant stakeholders.

Stakeholder participation is an inherent part of the structure of UN Environment/MAP and the Barcelona Convention where all countries (represented by the UN Environment/MAP focal point) form the Contracting Parties to the Barcelona Convention. Within each country, UN Environment/MAP and its Regional Activity Centres have designated focal points that are responsible for the co-ordination of specific actions. In addition, about 100 NGOs and Intergovernmental Organizations, termed “partners” are participants to the meetings of the Barcelona Convention. It should also be stressed that stakeholders participated in the formulation of the TDA-MED, SAP-MED, SAP-BIO and countries’ NAPs, on which the present project is based. The activities of the project have been developed based on priorities of all participating countries, and all activities have been designed to involve all key stakeholders on a number of levels, from implementation, knowledge transfer, dissemination and replication. In summary, the key stakeholders on a national level include:

- Public Sector: ministries/entities responsible for water resources; environment; spatial and development planning; transport; tourism; fisheries; industry; maritime affairs; health; community development; education; culture; local government authorities.
- Private Sector: national and regional organizations representing: farmers; fisherfolk; manufacturers/industrialists; tourism and aquaculture sector; banks; insurance sector.
- Non-governmental Organizations (NGOs): national trusts; conservation associations; women’s organizations; community-based organizations (CBOs);
- Scientific community: researchers; sociologists; environmental managers; engineers (water, civil, environmental); environmental economists; biologists; climatologists, geographers, oceanographers; teachers; curriculum specialists; media practitioners.

Annex T provides detailed information about the typologies of stakeholders and expected role for Child Project 2.2 as well as their link to the specific Project’s outcome and outputs.

A.4. GENDER EQUALITY AND WOMEN'S EMPOWERMENT. ELABORATE ON HOW GENDER EQUALITY AND WOMEN’S EMPOWERMENT ISSUES ARE MAINSTREAMED INTO THE PROJECT IMPLEMENTATION AND MONITORING, TAKING INTO ACCOUNT THE DIFFERENCES, NEEDS, ROLES AND PRIORITIES OF WOMEN AND MEN. IN ADDITION, 1) DID THE PROJECT CONDUCT A GENDER ANALYSIS DURING PROJECT PREPARATION (YES /NO)?; 2) DID THE PROJECT INCORPORATE A GENDER RESPONSIVE PROJECT RESULTS FRAMEWORK, INCLUDING SEX-DISAGGREGATED INDICATORS (YES /NO)?; AND 3) WHAT IS THE SHARE OF WOMEN AND MEN DIRECT BENEFICIARIES (WOMEN X%, MEN X%)? ³⁶

UN Environment and all the MedProgramme partner agencies are committed to supporting capacity development of its national partners to adopt approaches that advance women’s rights and take account of the full range of their contributions to development. Involving both women and men in the Programme’s activities is likely to increase project effectiveness and efficiency. Participation by both genders also improves project performance and improves the likelihood of sustainability. In other words, a project is more likely to achieve what planners hope it will achieve if

³⁵ As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

³⁶ Same as footnote 8 above.

women and men (both rich and poor and representing different sectors) are active participants and decision makers.
(MedProgramme)

Gender mainstreaming and promoting women's empowerment are strategic and operational imperatives for the GEF. Having launched its initial gender policy in 2011, the GEF approved a reinforced policy in October 2017, shifting the focus from a *gender-aware do no harm* approach to a *gender-responsive do good* approach. Men and women have differentiated access to natural resources and, as a result, they are affected differently by changes to these resources and dependent livelihoods. Gender inequality and social exclusion increase the negative effects of environmental degradation on women and girls. Despite recent promising policy and legal reforms, and the full appreciation in the region that women in decision-making spaces can promote sustainable water resource use and management, persistent gender-discriminatory social and cultural norms, unequal access to land, water and productive assets, and unequal decision-making power continue to constrain women and men from equally participating in, contributing to, and benefitting from environmental projects and programs.

Involving a range of diverse users and resource-dependent communities, women and men from these social groups, and other marginalized demographics in integrated natural resources management initiatives has generated empirical evidence of increase in project effectiveness, efficiency, ownership and longevity. When inclusive and meaningful participation is encouraged for women and men (from different income levels and representing different sectors) through long-term target driven efforts and monitored by an evidence-based system, projects are likelier to achieve optimal and improved outcomes, while providing stakeholders access to and buy-in of the project's vision and overall goals. For example:

- Egypt: A stakeholder-friendly and gender-responsive platform created through the World Bank's private sector collaboration wastewater treatment plant project in New Cairo saw both environmental and social co-benefits: a pioneering wastewater treatment effort was kick-started, water security in the region was improved through the plant, expected to benefit 3 million people and improve public health.³⁷
- Lebanon: FAO is currently implementing a project that amalgamates the food and water security perspectives. Through its 'Reclamation of Agricultural Livelihoods and Employment through Investment in Land Reclamation and Water Reservoirs', smallholder male and female farmers are being given to better livelihood options, along with land reclamation and water infrastructure development – leading to both sustainability in agriculture and social inclusion.

The role of women, hitherto undervalued or invisible, has been recognized as a key component of the Nexus approach. Due to its multifocal and interlinked methodology, the Nexus approach can generate pioneering effort in addressing the gender inequality and poverty, which inform the success of establishing water-energy-food security in any given context. At the latest Conference of Parties in Katowice, Poland (COP24) by the UNFCCC, for example, gender mandates within broader climate action, and co-benefits thereof, was highlighted.³⁸ Thus, a gender mainstreaming strategy tailored for Child Project 2.2 is not only timely – but necessary to achieve optimal and improved outcomes of the project vision.

Indeed, gender relations in the Mediterranean region are a kaleidoscope³⁹ of overlapping social, economic and cultural roles, spread across a diverse multitude of countries and communities. The European Mediterranean countries have distinct social patterns and gender norms, are distinctive in certain facets, from the Middle East and North Africa (MENA) Mediterranean countries, for example. In south-eastern Europe (such as Albania), for example, a historical tradition of active participation of women in the economy, as a result of erstwhile socialist regime policies till the early 90s, has ensured representation in Ministries responsible for the management of natural resources.

Additionally, the varying political situations in the region also determine how women and men are able to access and leverage sustainable development opportunities to be able to cope with the lack of water-energy-food insecurity, and the

³⁷ The World Bank Group. "Wastewater: From Waste to Resource – the case of New Cairo, Egypt" in *Water Global Practice* publications. 2018

³⁸ See the web [news release](#) on www.water-energy-food.org.

³⁹ See [this report](#) by the Union for the Mediterranean (UfM) regarding an action plan towards investing in gender equality in the region.

looming threat multipliers such as marine pollution, climate change and lack of adequate adaptive as well as mitigation opportunities in the current baseline.

The Gender Mainstreaming Strategy will thus inform the identification of gender aspects and applicable gender mainstreaming tools/actions for each activity will be done during the project inception phase in line, among others, with the GWP Gender Strategy. A preliminary Gender Assessment and Action Plan (for the preparation stage) has been developed by UN Environment/MAP to provide a foundation for this in-depth activity (see Annex N). This Assessment and Action Plan have been prepared in accordance with the MedProgramme’s overarching Gender Mainstreaming Strategy (Annex P). Gender-balance and access to equal opportunities during the multi-stakeholders activities will be ensured in the course of implementation of the Project. Further, gender-responsive policymaking will be encouraged through specialist gender policy groups to be included as stakeholders in the process.

The Gender Mainstreaming Strategy will be prepared and submitted to the Project Steering Committee for approval, aiming to:

- Achieve balanced gender participation and contribution in project activities;
- Ensure that both genders will be equally benefited by the project by mainstreaming gender action points throughout the project portfolio;
- Identify gender-blind and gender-specific barriers for the participation of women and propose actions to overcome these; and,
- Indicate adaptive management responses in the case of gender-unbalanced contribution.
- Include gender-sensitive indicators in relation to the impact of the project activities (short term: for the duration of the project; medium term: for sustainability) that will assist monitoring its implementation.

The implementation of this Strategy will generate an asset of gender-sensitive actions and gender-responsive policies, to be mainstreamed within the project activities. Apart from generating efficient and effective results, this will ensure the ownership of project results across diverse users, communities and social groups. Additionally, the successes and failures of this approach will provide both benchmark and lessons learnt for future interventions in the region for gender mainstreaming through the Nexus approach; contribute to the conversation on gender inequality and social difference, and how these can be addressed by generating environmental and social co-benefits through Nexus project; and lastly, pioneer a much-needed pan-Mediterranean gender inclusive Nexus approach towards water-energy-food security.

A.5 RISK. ELABORATE ON INDICATED RISKS, INCLUDING CLIMATE CHANGE, POTENTIAL SOCIAL AND ENVIRONMENTAL RISKS THAT MIGHT PREVENT THE PROJECT OBJECTIVES FROM BEING ACHIEVED, AND, IF POSSIBLE, THE PROPOSED MEASURES THAT ADDRESS THESE RISKS AT THE TIME OF PROJECT IMPLEMENTATION. (TABLE FORMAT ACCEPTABLE):

Table 7: Risks for Child Project 2.2

Risk	Level of risk	Mitigation measures
Lack of Political Support	Moderate	The Project is and will be further embedded in regional and national processes, while recognition of the need for actual application of integrated approaches is increasing. However, challenges due to possible changes in the political and administrative personnel of government institutions, are recognized. Government officials and representatives will be guiding and steering the implementation of national activities and will be in charge of overseeing all major decision points while the project design foresees external experts facilitating the work of national experts. Benefits of applying Nexus approaches and engaging in activities including related to development of investment portfolios, implemented by the project partners will provide the needed enabling elements for meeting possible challenges, while the project

Risk	Level of risk	Mitigation measures
		focus countries are among regional pioneers on promoting Nexus approaches.
Political instability	High	<p>As stated in the MedProgramme Framework Document, “some southern and eastern Mediterranean countries are going through a period of political volatility and social unrest that might negatively affect the Program’s full implementation”. In addition, there are periods of political instability in the countries of South East Europe, especially during elections. In view of this, Child Project 2.2 will be implemented only in those countries where conditions are considered stable and/or rapidly improving. It has to be fully appreciated that the deteriorated social conditions and migratory fluxes caused by economic, environmental, or political factors affecting parts of the coastal regions object of the project, call for urgent support from the international community, support of which the project represents a meaningful signal.</p> <p>This risk can’t be tackled by the Project. Should there be developments in a country that prevent or hinder project implementation, the project’s Steering Committee will have the authority to adopt contingency measures including re-directing the focus to other parts of the Mediterranean where political conditions are more stable.</p>
Climate Change and Variability	Moderate	<p>Future climatic scenarios indicate the Mediterranean region as one of the most affected by climate change and variability, whose signs are already being felt particularly in the Southern and Eastern Mediterranean. Improving the resilience of coastal populations and ecosystems to climatic impacts –increased frequency, duration and intensity of droughts, sea level rise, increased evaporation– through improved integration is in fact a key objective of the MedProgramme, and Child Project 2.2 is expected to contribute substantially in this regard. It is not expected that climate change will have an impact on the Child Project’s execution. Nevertheless, climate change might be contributing to the instability of the region and to the migratory fluxes. Therefore, the project’s Steering Committee will have the authority to adopt contingency measures including changes in project activities and sites, to manage the potential adverse effects of unanticipated events.</p>
Scarce coordination and synergies among the different institutions involved at national level.	Moderate	<p>Inadequate coordination among the different institutions involved at national level is an existing issue (lack of integration is inherent in the classic approaches for the management of natural resources and its level varies across different countries) manifested by the sectoral planning and management. However, the Project itself aims to contribute towards increased levels of integrated management. The usage or establishment of inter-institutional bodies to form the steering committees of the Nexus Dialogues is part of the project activities and is meant to manage the level of this risk.</p>
Changes in, including restructuring of, government bodies.	Moderate / Low	<p>Changes in government bodies may cause delays that will have an impact in the implementation of the activities among which the most important will be the development of the Nexus Assessments as well as the development of Strategies/Action Plans. It is unlikely that the re-organization of the administration in terms of mandates and personnel will be so extensive to make the re-establishment of communication of the Project with the responsible institutions impossible.</p> <p>There is a number of existing conditions that are expected to mitigate adverse effects:</p>

Risk	Level of risk	Mitigation measures
		<ul style="list-style-type: none"> • There are good networks and established contacts among the Executing Agency (EA) and the Executing Partner (EP) with a wide range of institutions, organizations and their staff within countries and at regional level. • There is proven ability of both the EA and the EP to work within the regional environment and cope effectively with changes and uncertainty, including on-course adjustment of activities and application of corrective measures.
Strategies/Roadmaps are not developed / adopted	Low	<p>The development and more so, the adoption of the strategic documents planned under this project is a political sensitive decision dependent on the following:</p> <ul style="list-style-type: none"> • Political will; • Adequate capacity of representatives of Ministries involved in the Project; • Inter-ministerial coordination. <p>All the above can be influenced by the project -but not secured- through the successful implementation of the activities including these related to communication and outreach.</p>
No or limited access to and availability of reliable and accurate data/ information	Moderate	<p>It is assumed that the countries will be willingly sharing the necessary information and data for the preparation of the technical studies, the background documents for the consultation meetings as well as for the preparation of the Nexus assessments and strategic documents.</p> <p>In case a related issue arises, the EP will work with the EA to secure information provision through the official channels of the Barcelona Convention.</p> <p>Further the EP will:</p> <ul style="list-style-type: none"> • Identify at the early stage information requirements and possible information gaps. • Work closely with the country counterparts and key stakeholders for obtaining data. • Utilize national/local expert(s) per country. • Utilize the networks of the EP. <p>It is further assumed that a minimum amount of information and data for the development of the technical studies are available.</p>

A.6. INSTITUTIONAL ARRANGEMENT AND COORDINATION. DESCRIBE THE INSTITUTIONAL ARRANGEMENT FOR PROJECT IMPLEMENTATION. ELABORATE ON THE PLANNED COORDINATION WITH OTHER RELEVANT GEF-FINANCED PROJECTS AND OTHER INITIATIVES.

The organizational structure for the coordination and management of the Child Project 2.2 is illustrated in Figure 3.

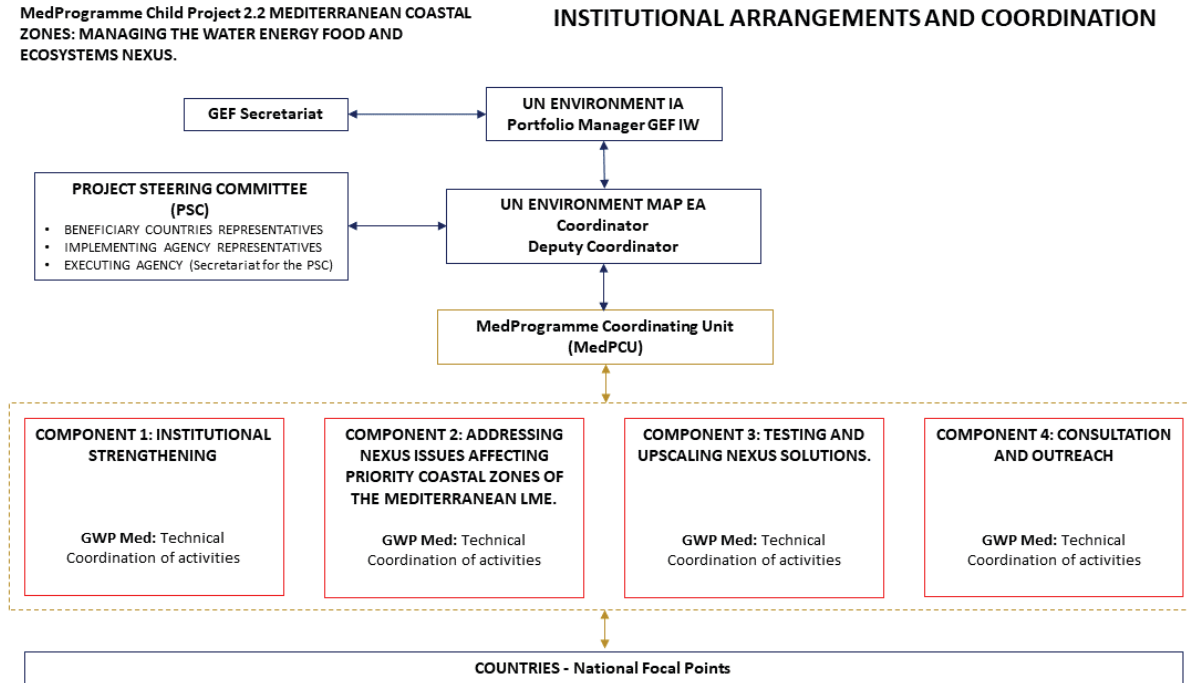


Figure 3 Institution Arrangements and Coordination of Child Project 2.2

Implementing Agency (IA): The GEF Units in the Ecosystems Division of UN Environment will serve as Implementing Agency (IA) for Child Project 2.2. The IA will be responsible for overall supervision of the project and will oversee its progress through the monitoring and evaluation of activities and through progress reports. The IA will report on the project implementation progress to the GEF and will take part in the Project Steering Committee (PSC). The IA will provide guidance and oversight of project execution by the Executing Agency (EA) including through the review and approval of work plans, budget allocations and budget revisions proposed by the Executing Agency.

Project Steering Committee (PSC): The PSC will be established and will carry out the function of a Project Board. The PSC will consist of: 1) beneficiary countries, the IA and the Executing Agency (EA) representatives; and 2) the MedProgramme Coordinating Unit (MedPCU) acting as Secretariat for the PSC. These are the Members of the PSC. Countries will be represented at the PSC at a technical, decision making level, e.g. national focal points. Following the model of the PPG MedProgramme Regional Consultation Meetings, the PSC meetings will bring together International Water stakeholders, with parallel technical working sessions combined with plenary discussion and approval of workplans to maximize transparency and joint working across the two Focal Areas.

It is anticipated that to ensure an efficient use of the resources, PSC of different Child Projects of the MedProgramme will be organized back to back. These meetings will dedicate one session to inform the countries about the progress made by the entire MedProgramme followed by several sessions dedicated to specific decisions to be made by the countries for each Child Project.

The Executing Partners (EP) will intervene at the PSC to present the progress made and support the Secretariat for the PSC by providing background information on substantive and technical issues, as well as on modification to the Project Document and its annexes presented to the PSC by the MedPCU. The role of the PSC is to:

- Oversee the project;
- Provide overall guidance and ensure coordination among all parties;
- Provide overall supervision for project implementation;
- Approve the annual work plan and budget;
- Oversee the implementation of corrective actions;
- Enhance synergy between the project and other ongoing initiatives related to the GEF International Waters Focal Area;
- Ensure full coordination of the project with the entire MedProgramme.

Additional stakeholder representatives from private sector, academia, CSOs, NGOs, etc. can be invited to join the PSC during the project execution as observers. At all times, the PSC and its activities will comply with the policies, conditions and regulations of the UN and the GEF.

Executing Agency (EA): The UN Environment/Mediterranean Action Plan (UN Environment/MAP) will serve as the Executing Agency (EA) for the project. The EA will report on the project implementation progress to the IA (including those activities executed by the Executing Partners). The EA will organize the PSC and host the MedPCU which will act as Secretariat to the PSC. The EA will be responsible for, inter alia, the following required activities to achieve the project objectives, outputs and outcomes:

- Establishing, hosting and supervising the MedProgramme Coordinating Unit (MedPCU);
- Acting as Secretariat for the Project Steering Committee (PSC);
- Ensuring that the project is executed according to the agreed work plan and budget;
- Review and submit required reporting obligations to the IA, including quarterly expenditure reports and annual Project Implementation report (PIR);
- Ensuring all procurement is done in compliance with Agency standards;
- Communicating with and disseminating information to the Executing Partners (EP) and other stakeholders.

The EA will ensure that all activities, including procurement of goods and services, are carried out in strict compliance with the rules and procedures of UN Environment and GEF. The EA will be responsible for the establishment, adequate staffing and uninterrupted functioning, throughout the project's life span, of the MedProgramme Coordinating Unit (MedPCU).

MedProgramme Coordinating Unit (MedPCU): The MedPCU will be established, hosted and supervised by UN Environment/MAP. The MedPCU will ensure coordination across the entire MedProgramme and the consistent execution of the seven Child Projects implemented by UN Environment and executed by UN Environment/MAP, as well as the Child Project implemented by EBRD. In terms of MedProgramme coordination, the MedPCU will provide management functions to the Child Projects implemented by UN Environment and executed by UN Environment/MAP and EBRD. The Unit will be responsible for, inter alia, the following tasks:

- Provide project and financial management including producing periodic monitoring reports, legal instruments and procurement;
- Ensure programmatic coordination;
- Ensure visibility of the MedProgramme
- Support technical staff and activities

Execution at National Level: The Beneficiaries Countries will designate a National Project Focal Point (NPPF) during the inception phase. The NPPF will act as the liaising person between the government, the EA and EP. The NPPF will be fully involved in the selection of the national consultants and experts which will support the execution of activities on ground under Components 1 and 2 of the Project. The NPPF will also facilitate collaboration with other country offices, as well as the MedProgramme Coordinating Unit (MedPCU). Moreover, special attention will be given in all countries to overcoming fragmentation across sectors in decision making related to project's goals and activities.

Executing Partner (EP): Global Water Partnership – Mediterranean (GWP Med) will execute activities of the project that fall within its core areas of expertise. GWP Med has been identified among (sub) regional institutions, UN and non-governmental organizations, on the basis of its mandates and broadly recognized roles and comparative advantages of in thematic areas of work relevant to the Child Project 2.2 and MedProgramme. Based on these criteria, the EA will establish:

- Project Cooperation Agreement (PCA) with the GWP Med for the execution of components 1, 2, 3 and 4 of Child Project 2.2.

These arrangements will be established with full consideration of the applicable UN Environment and GEF principles and procedures, including cost-efficiency and effectiveness.

Please refer to Annex H - Project Implementation Arrangements for further details on the specific roles and tasks of the MedPCU and the Executing Partners.

Additional Information not well elaborated at PIF Stage:

A.7 BENEFITS. DESCRIBE THE SOCIOECONOMIC BENEFITS TO BE DELIVERED BY THE PROJECT AT THE NATIONAL AND LOCAL LEVELS. HOW DO THESE BENEFITS TRANSLATE IN SUPPORTING THE ACHIEVEMENT OF GLOBAL ENVIRONMENT BENEFITS (GEF TRUST FUND) OR ADAPTATION BENEFITS (LDCE/SCCF)?

The project will promote mechanisms to identify – at the national/local level - existing and/or potential conflicts among competitive water uses and users, and introduce methodologies based on trade-offs analysis and cross-sectoral and inter-ministerial dialogue to resolve/avoid conflicts at the water Nexus, with special focus on preserving the integrity of ecosystem services. By doing so, the project will accrue both national/local and global benefits:

- (i) Introducing ways for balancing competitive water uses -integrating circular economy approaches - while preserving ecosystem functioning along the Mediterranean coastal areas will be key for ensuring socio-economic and environmental sustainability at both the local and the national levels, and also for improving overall water security, considered a global benefit;
- (ii) The global benefits deriving from the protection and restoration along the Mediterranean coasts of the health of freshwater and shallow marine ecosystems, and hence of the whole Mediterranean LME, will depend, amongst others, on the equitable allocation of available freshwater resources. The principle of “equitable allocation of water resources”, implying the full appreciation and respect of the needs of the ecosystems in terms of water quantity and quality, is at the core of the proposed Nexus approach.

A.8 KNOWLEDGE MANAGEMENT. ELABORATE ON THE KNOWLEDGE MANAGEMENT APPROACH FOR THE PROJECT, INCLUDING, IF ANY, PLANS FOR THE PROJECT TO LEARN FROM OTHER RELEVANT PROJECTS AND INITIATIVES (E.G. PARTICIPATE IN TRAININGS, CONFERENCES, STAKEHOLDER EXCHANGES, VIRTUAL NETWORKS, PROJECT TWINNING) AND PLANS FOR THE PROJECT TO ASSESS AND DOCUMENT IN A USER-FRIENDLY FORM (E.G. LESSONS LEARNED BRIEFS, ENGAGING WEBSITES, GUIDEBOOKS BASED ON EXPERIENCE) AND SHARE THESE EXPERIENCES AND EXPERTISE (E.G. PARTICIPATE IN COMMUNITY OF PRACTICES, ORGANIZE SEMINARS, TRAININGS AND CONFERENCES) WITH RELEVANT STAKEHOLDERS.

Child Project 2.2 will be managed under the umbrella of the MedProgramme, which is composed of eight Child Projects addressing the GEF focal areas of International Waters, Chemicals and Waste, and Biodiversity. Effective knowledge management (KM) is a core leveraging mechanism of the MedProgramme to achieve up scaling of approaches, policies and technologies promoted by the Programme at multiple scales. The Knowledge Management Strategy (Annex O) will be implemented under Child Project 4.1 and will support the KM activities of all Child Projects, maximizing their effectiveness in providing opportunities for south-south learning, fostering intergovernmental cooperation, using monitoring and evaluation (M&E) tools and geospatial services, applying best practices and developing portfolio-wide training and communication strategies.

A centralized system coordinated by the MedProgramme Coordination Unit (Med PCU) is designed to capture, digest and share the vast amount of information and knowledge generated across the MedProgramme portfolio with its intended audiences and stakeholders. Each Child Project participates in the common knowledge management (KM) strategy in order to maximize efficiency, ensure good governance of the portfolio and achieve greater impact at the different functional levels identified (portfolio level, general public level and policy- and decision-making level).

The full KM Strategy of the MedProgramme is annexed to each Child Project document for transparency and ease of reference.

While specific needs related to the diverse outputs of the individual projects will be analyzed on a case-by-case basis, all Child Projects are expected to contribute to the overall MedProgramme KM activities as described in the following text (included in the project documents of each of the Child Projects).

KM Platform

A web-based knowledge hub comprised of a data and information management system (with both public and restricted access) and a combination of visualization tools to serve the portfolio's needs will be implemented by the MedPCU in close consultation with all Child Projects. The integrated platform will host: (1) a project management/coordination tool; (2) a public portal including sub-webpages for each Child Project; (3) visualization tool(s) to display digitized representation of data through GIS and other suitable means; and (4) a database for raw/primary data.

Child Project 2.2 is expected to contribute to each of these components as follows:

- Upon initiation of the MedProgramme, every Child Project will receive specific training on how to use the project management tool selected by the Med PCU. Features powered by this tool include (but are not limited to): automated reporting, task monitoring, calendars, live editing, Gantt-Charts, time tracking, encrypted security, backups, file management and cloud repository, integration with other products, role-based access control, mobile apps, email integrations, and discussion boards. Project managers (and designated project collaborators) are expected to use the tool to facilitate communication and information exchange throughout the MedProgramme, promote knowledge sharing and peer-to-peer learning, ensure tracking and monitoring of progress, and meet their reporting requirements for the Med PCU.
- The outward-facing portal will be populated with key information showcasing progress towards impact and the contribution of the MedProgramme to global and regional environmental goals. In addition to the umbrella portal, each Child Project will have dedicated sub-pages for their specific projects. The Child Projects are expected to provide regular information (in different multimedia formats) to generate content for their respective project sub-pages and the overall programme portal. The Med PCU will be responsible for curating the information provided and packaging them for the intended audiences.
- One or more visualization tools will be used to display information generated by each project. Different types of data (be them quantitative, normative or qualitative) are best visualized through a variety of ways, such as GIS, story maps, map dashboards, infographics, trend line charts, etc. Child Project 2.2 will be prompted to submit their inputs on a rolling basis to make sure that every result/achievement is captured through one or more of these tools.
- A shared data model/protocol will be agreed at the beginning of the MedProgramme to ensure that projects will compile relevant data with a standardized approach and enable a harmonized data entry system. Issues related to open data, ownership, quality and review of data will be addressed in this exercise; a mapping of voluntary standards will help to evaluate feasible options. Raw/primary data will be stored in a database with flexible restricted/public access.

Milestone Events

Annual Stocktaking Meetings

All project partners are expected to attend, and meaningfully participate in, the Annual Stocktaking Meetings of the MedProgramme. These are major regional events organized by the Med PCU in cooperation with all Child Projects and country representatives and will take place on a rotation basis in different project countries. The meeting will involve: all Child Projects and Governments of the participating countries, the MedProgramme's implementing and executing agencies, the GEF Secretariat and Independent Office of Evaluation (IOE), Convention Secretariats, the UN Environment Global Program of Action (GPA), as well as major regional and global NGOs, representatives of those Mediterranean countries not participating in the MedProgramme, bilateral and multi-lateral donors, IFIs, the UfM, other regional intergovernmental organizations (Sahara and Sahel Observatory, etc.), and major private sector coastal area actors, water users, tourism associations and the shipping industry. Representatives of faith-based leaders, women's organizations, youth organizations, fashion/art/sport testimonials, media specialists, among other relevant groups will also be invited to participate in these events, following a dedicated stakeholders' analysis.

These meetings aim to establish synergistic interactions among Child Projects, and with other relevant initiatives and stakeholders, including with all other Mediterranean countries not participating in the MedProgramme. The Annual Stocktaking Meetings will provide an opportunity to all Child Projects to showcase their implementation advancement, progress towards impacts and problems encountered, and to engage with a broad audience of peers and stakeholders sharing similar objectives within the overarching goal of achieving environmental security in the Mediterranean Basin. The Annual Stocktaking Meetings will be an occasion for face-to-face knowledge exchanges, south-south and north-south

learning, and promotion of the broader adoption of MedProgramme approaches and solutions. The participation of regional and global media will raise public awareness across the Mediterranean countries and beyond. The design, objectives and architecture of the Annual Stocktaking Meetings will be defined during the first year of MedProgramme operation and approved at the Child Project 4.1 Steering Committee level. Child Projects will be informed about modalities for their contributions in detail. The first Annual Stocktaking Meeting will be held during the second year of MedProgramme execution.

GEF events

The MedProgramme will be featured in all relevant GEF events and activities involving the four focal areas addressed by the Programme (International Waters, Chemical and Waste, Biodiversity and Climate Change). For the IW focal area see “Synergies with IW:LEARN”.

Global events

Experiences and lessons learned from the MedProgramme will be of relevance for a number of global processes shaping policies related to the sustainable management of natural resources in coastal areas. Participation in selected global and regional events, as well as in significant ongoing awareness raising campaigns, will be evaluated by the Med PCU according to relevance and impact criteria. Child Projects will contribute to these events in different forms, ranging from physical attendance, production of specific products, content and multimedia material to be packaged in suitable products.

Launching/Closing events of the MedProgramme

The design and practical details of these events will be planned during the inception phase of the MedProgramme. Considering the staggered initiation timeframes of the different Child Projects, a launching event of the MedProgramme could be organized in the form of a press conference to coincide with the kick-off of the Support Child Project 4.1. Basic communications material about the objectives of the MedProgramme (such as visual identity, slogan, mission statement, description of Child Projects, informative brochure, short promo video, basic online pages, etc.) should be prepared prior to the launching event. Project managers will be timely informed about practical details of these events and modalities for contribution.

Sharing knowledge and building capacity

One of the objectives of the MedProgramme is to improve the capacity of key regional stakeholders and build socio-economic resilience of impacted communities. To this end, a series of knowledge exchanges will take place at different levels taking inspiration and practical lessons learned from the GEF Partnership (reflecting the wealth of experience and examples from projects and programs around the world) and other relevant Organizations involved. At the portfolio level, the MedPCU will capacitate Child Project teams with knowledge and training that can help them to deliver better project results and achieve greater impact. The identification of topics and modalities of exchange (face-to-face, virtual meetings, Communities of Practice, Expert visits, Study Tours, manuals, among others) will be defined at the beginning of the Programme implementation. Preliminary topics could include:

- Gender mainstreaming and stakeholders’ engagement;
- Scientific communication: bridging the gap between scientists/technical practitioners and media specialists;
- Lessons learned from the MedPartnership and the ClimVar and ICZM projects.

It is expected that these knowledge exchanges will further empower project stakeholders, enhance cooperation, strengthen the institutions they represent and ultimately influence policies and norms for better management of natural resources in coastal areas.

Additionally, Child Projects will participate in learning exchanges by twinning with other relevant GEF IW projects as facilitated by the GEF IW:LEARN Project (see more below). Moreover, the MedPCU will support specific capacity building activities foreseen by each Child Project by taking stock and amplifying results through the programme-wide outreach.

Communication, outreach and awareness raising

MedProgramme identity

In terms of visibility, the MedProgramme will be presented in a holistic and coherent way (i.e. clear vision statement and positioning, visual identity, logo design, etc.) showing consistency and integration across the portfolio. At the same time, each Child Project will be granted individual identities within the overall MedProgramme-branding in order to promote specific activities and benefit from ad hoc services. This will entail the design of consistent logos for each Child Project, creation of sub-websites within the MedProgramme web-portal, organization of tailor-made trainings, preparation of specific publications, social media services, among others. To this end, the MedPCU will develop, in close consultation with project managers of all Child Projects, a proposal and, once adopted, all Child Projects are encouraged to use it consistently.

Newsletters (Med Bulletin)

Periodic MedProgramme Bulletins will be published (every six months or on a quarterly basis) to showcase progress of the Programme as a whole and of individual Child Projects, including highlights of results, success stories and project events, and relevant global, regional and national relevant meetings and events. It will be one of the primary tools for tracking achievement of targets and milestones for all Child Projects, based upon the corresponding results frameworks. Bulletins will feature a “journalistic” style making the content appealing for a wide range of audiences. Therefore, all Child Projects are expected to contribute to these Bulletins with different types of inputs in order to document their activities and progress, such as high-quality pictures, articles, statistics, quotes, interviews, footage, among others. The Med PCU will inform all Child Projects about the format of these bulletins and the corresponding timelines for submission.

Storytelling for advocacy

A number of traditional storytelling instruments will be blended with innovative and creative approaches to increase dissemination and advocacy efforts. Particular emphasis will be given to the preparation of high-quality short movies and animations, graphic novels, documentaries, podcasts/radio programmes, infographics, digital interactive stories/articles/interviews, microblogging, e-books, art exhibits, among others. The Med PCU will inform Child Projects about the type of multimedia material that will be necessary to collect for the preparation of these products.

Translations of key communications outputs will be carried out in English, French and Arabic to ensure ample dissemination in the participating countries. Specific translations in other national languages will be considered in light of budget constraints and upon due evaluation of stakeholders’ needs.

Social Media

Facebook, Instagram, YouTube and Twitter are four social media tools suggested for use by the MedProgramme. Development of timely and appropriate content and material to populate these channels is indispensable to achieve the desired impact. Child Projects will be prompted to contribute with relevant and ad-hoc information, pictures, statistics and other data to enrich the social media campaign.

The use of hashtags will be coordinated with the GEF IAs and EAs and project and country representatives of the Programme in support also of other related initiatives and campaigns. The registration on the above-mentioned channels (or a selection of them) will take place at the beginning of the Programme and content population will start as soon as data and information from the projects becomes available.

Engagement with media and testimonials

To maximize impact of the MedProgramme and share its findings and results with the widest possible audience, the Med PCU aims to reach out to a different number of media outlets and journalists with a view to establish long-lasting collaborations. To this end, Child Projects will be asked to facilitate contacts with national and local media of the countries where the activities are implemented (for instance, by providing the Med PCU with a list of relevant contacts). A series of direct interactions with communications specialists, media experts and social media influencers is foreseen by the KM Strategy throughout the duration of the Programme to increase mutual understanding and flow of information.

The Med PCU also aims to reach out to renowned personalities from different realms (such as art, sports, entertainment or fashion) to act as ambassadors for the MedProgramme and raise awareness about the main environmental challenges

(and solutions) in the coastal areas of the Mediterranean. The Child Projects will be prompted to suggest names, and facilitate contacts when possible, of suitable and potential “goodwill ambassadors” of relevance in the region.

Synergies with the GEF IW:LEARN and LME:LEARN Projects

The MedProgramme will closely collaborate with the GEF International Waters Learning and Resource Exchange Network (IW:LEARN) Project1 to facilitate uptake of lessons learned and knowledge exchange from/to the MedProgramme portfolio.

Cooperation in the following activities will be particularly addressed:

- Participation to the GEF International Waters Conferences (landmark biannual events of the IW portfolio). The first MedProgramme contribution is expected for the 10th edition of the IWC in 2020.
- Production of Experience Notes (short case studies) produced by Child Projects to showcase worthy results and disseminated through IW:LEARN channels and the MedProgramme KM platform. The format of Experience Notes is standard (<https://iwlearn.net/documents/experience-notes>),
- Participation to IW:LEARN Twinning with other GEF relevant projects and programs.
- Contribution to IW:LEARN.net with specific content (i.e. data visualization).
- Contribution to social media, news, events, etc.
- Participation to GEF Communities of Practice (CoPs) on IW, CW, when relevant.

Strengthening the Science-Policy Interface (SPI) and Influencing Decision-Making.

Replication Atlases

A number of highly informative National Replication Atlases, translated in relevant languages, will be produced to stimulate replication of successful practices demonstrated by the Programme and encourage regional and global dialogue. Broader adoption and replication of the successful policies, practices and technologies implemented under the Programme will be promoted through these means, highlighting areas and situations where replication of the Programme’s demonstrations should preferentially occur. Relevant results of Child Projects will be featured in the Atlases and the MedPCU will inform about the participatory process to collect and present the inputs.

Technical reports and scientific publications

The MedPCU will ensure that relevant technical reports and scientific peer-reviewed publications are prepared by the various Child Projects providing technical information about the achievements of the Programme.

Specific guidance on how to concretely contribute (format, frequency, purpose, etc.) to each of the aforementioned activities will be provided during the initial phase of the Programme as a result of targeted consultations carried out by the Med PCU.

Specific synergies with Child Project 2.2 regarding knowledge management

Child Project 2.2 has the overall objective of “Balancing competing water uses in priority coastal areas through water, food, energy and ecosystems integrated governance, to enhance environmental security and sharing of benefits”, featuring five main outcomes. In selected priority coastal areas, a large effort is dedicated to unveiling the interlinkages among the Nexus sectors with a view to integrate strategies and management options and identify solutions, as means to fostering water-food-energy security, reducing land based nutrient pollution and other pressures, protecting coastal habitats and biodiversity, and strengthening climate change resilience. The portfolio-wide architecture developed for the Knowledge Management of the MedProgramme will support these efforts to amplify the project results and maximize their impact at all functional levels identified (portfolio, general public and policy/decision-making).

Future sustainability in the Mediterranean region will depend on the proper management of natural resources based on a Nexus (space/water/food/energy/ecosystem) approach and the integrated coastal zone management (ICZM) principles, thus allowing integration between environmental protection with spatial planning and economic development. The active participation and empowerment of all stakeholders concerned is key to unravel the interconnected challenges faced in

coastal areas, hence capacity building and awareness raising are fundamental ingredients to shape responsible societies. The stakeholders' analysis foreseen at the beginning of the project (for the whole project as well as the ad-hoc ones to be prepared prior each Nexus Policy Dialogue) will be very important to target KM beneficiaries/providers, provide adequate information and facilitate active involvement in the project activities.

Preliminarily, the following activities will be coordinated with, and benefit from, the overall KM strategy:

- Organization of Regional Roundtables, preparation of a Regional Study and usage of a Nexus Atlas in the Mediterranean (prepared by the European Commission's Joint Research Centre (JRC), the Union for the Mediterranean (UfM) and the Global Water Partnership - Mediterranean (GWP-Med) to foster enhanced knowledge, capacities and raise awareness of institutions and stakeholders on the Water-Energy-Food-Ecosystem Nexus approach, IWRM in a source-to-sea context, ICZM as means for sustainable natural resources management hence improved management of the Mediterranean LME as well as sustainable growth. The Regional Roundtables are very relevant at all levels of the KM strategy, in terms of peer-to-peer learning within the MedProgramme portfolio, showcasing cooperation in action at the GEF level, and of knowledge sharing with all relevant audiences and stakeholders about the progress made. The results of these meetings, the Regional Study and the Nexus Atlas will be featured and documented through all relevant means implemented by the KM strategy (such as MedProgramme newsletters, National Atlas, Experience Notes, videos, articles, infographics, social media posts, among others).
- Water-food-energy-ecosystems Nexus multi-stakeholders consultation meetings and assessments in coastal areas in the three project countries. The consultations and assessments will produce a precious wealth of knowledge that will be appropriately digested and shared with the intended stakeholders throughout the project life. The KM Strategy will support the dissemination of new data and information generated by these activities and main results will be translated in actionable recommendations which will directly support national priorities.
- Stakeholders engagement contribute in successful project implementation and sustaining of results. These activities will be closely coordinated with Child Project 4.1 which executes both, the overall Knowledge Management Strategy and the Gender Mainstreaming Strategy of the MedProgramme.

Child Project 2.2 works in close synergy with Child Project 2.1 under Component 2 of the MedProgramme “Enhancing Sustainability and Climate Resilience in the Coastal Zone”, whose purpose is to assist countries, coastal zone managers and populations to adapt to evolving climatic conditions threatening sustained freshwater supply, and to introduce land use policies and development practices respectful of the intrinsic vulnerabilities, gender equality, natural and cultural functions, freshwater-seawater interactions, and geological processes characterizing the diverse Mediterranean coastal zones. Specific actions to emphasize results at the Component level will be addressed by the MedProgramme KM strategy and both, Child Projects 2.1 and 2.2 will be requested to contribute and provide inputs to this end.

B. Description of the consistency of the project with:

B.1 CONSISTENCY WITH NATIONAL PRIORITIES. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL STRATEGIES AND PLANS OR REPORTS AND ASSESSMENTS UNDER RELEVANT CONVENTIONS SUCH AS NAPAS, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPS, PRSPs, NPFE, BURS, INDCs, ETC.:

The project will adhere to the priorities set forth by the countries in their national strategies and action plans for the implementation of the provisions of the Barcelona Convention and ICZM Protocol, will implement SAP-MED and NAPs priority actions, and address issues of transboundary concern identified by the TDA and agreed upon by the countries. A synopsis of the priorities and gaps related to coastal zone management and coastal aquifers of each project country is provided in section 2b: Baseline Scenario in Project Countries.

C. DESCRIBE THE BUDGETED M & E PLAN:

Project execution performance will be monitored through the following standard GEF M&E activities. The associated M&E budget and work plan is provided in Annex G-M&E Budget and Work Plan.

Project start:

A Project Inception Workshop will be held within the first 8 months of project start, with participation of those with assigned roles in the project organization structure. The Inception Workshop is crucial to building ownership for the project results and to plan the annual work plans for the first 2 project years. It is anticipated that the Inception Workshop will also be the de facto first meeting of the Project Steering Committee.

The Inception Workshop will address a number of key issues including:

1. Assisting all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UN Environment, MAP and MedPCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms.
2. Based on the Project Results Framework and the International Waters GEF Tracking Tool, the Annual Work Plans for the first two years will be finalized. Indicators, targets and their means of verification will be reviewed, revised (as needed) and agreed, and assumptions and risks will be re-checked.
3. A detailed overview of reporting, monitoring and evaluation (M&E) requirements will be provided. The Monitoring and Evaluation work plan budget will be agreed and scheduled.
4. Financial reporting procedures and obligations will be discussed.

Project governance meetings will be planned and scheduled, and the overall project governance mechanisms will be reviewed and further fine-tuned, giving particular attention to cost-efficiency, enhanced stakeholder ownership, and the continuity of efforts towards SAP implementation beyond the project life span. Roles and responsibilities of all project organization structures will be clarified, and a meeting/reporting calendar will be elaborated.

Together with the GEF approved Project Document, the Inception Workshop Report will constitute a key reference document for the Project and will be prepared and shared with participants to clarify and formalize various agreements and plans decided during the meeting.

Annually:

1. Annual Project Review/Project Implementation Report (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (1 July to 30 June). The APR/PIR combines both UN Environment and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);
- Lesson learned/good practice;
- Annual Work Programme (AWP) and other expenditure reports;
- Risk and adaptive management; and
- GEF International Waters Tracking Tool indicators.

The text that follows presents the approach to be followed for the Mid Term Evaluation (MTE) and Terminal Evaluation (TE) of Child Project 2.2. In application of the cost efficiency and synergistic principles of the GEF Programmatic Approach, the Child Projects of Component 2 of the Programme will be reviewed/evaluated jointly. This Component is dedicated to ICZM, IWRM, coastal aquifers, Climate Change Adaptation and the Water-Food-Energy and Ecosystem Nexus. For this reason, the Child Project 2.2 will be evaluated together with the Child Project 2.1 and the SCCF Project. Each of the Child Projects will contribute with a specific budget to both the joint MTE and TE. Consequently, a total collective budget of 290,000 USD is allocated for this purpose.

Mid-term of project cycle:

In-line with UN Environment Evaluation Policy and the GEF's Monitoring and Evaluation Policy the project will be subject to a Terminal Evaluation and, additionally, a Mid-Term Review will be commissioned and launched by the Project Manager before the project reaches its mid-point. Based on the conclusion of the Mid-Term Review, the Evaluation Office will determine, whether an independent Mid Term Evaluation (MTE) is required at the mid-point of project implementation. If the decision is to proceed with an independent Mid-Term Evaluation, this will assess the progress made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; it will highlight issues requiring decisions and actions, and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the Mid-Term Evaluation will be decided after consultation between the parties. The Terms of Reference for this Mid-Term Evaluation will be prepared by UN Environment Information in the GEF International Waters Tracking Tool will also be updated during the mid-term evaluation cycle.

End of Project:

The Evaluation Office will be responsible for the Terminal Evaluation (TE) and will liaise with the Task Manager and Executing Agency(ies) throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF, executing partners and other stakeholders. The direct costs of the evaluation will be charged against the project evaluation budget. The Terminal Evaluation will be initiated no earlier than six months prior to the operational completion of project activities and, if a follow-on phase of the project is envisaged, should be completed prior to the submission of the follow-on proposal. Terminal Evaluations must be initiated no later than six months after operational completion.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized and further reviewed by the GEF Independent Evaluation Office upon submission. The evaluation report will be publically disclosed and may be followed by a recommendation compliance process.

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies⁴⁰ and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address

⁴⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

LIST OF ANNEXES CHILD PROJECT 2.2

- **Annex A** Project Results Framework CP2.2
- **Annex B** GEF Secretariat Review Sheet CP2.2
- **Annex C** status of implementation of PPG CP2.2
- **Annex D** calendar of expected reflows CP2.2
- **Annex E** Consultants to be hired CP2.2
- **Annex F1** Detailed GEF budget template CP2.2
- **Annex F2** Detailed GEF co-financing template CP2.2
- **Annex G** M&E Plan and Budget CP2.2
- **Annex H** Project Implementation Arrangements CP2.2
- **Annex I** Key Deliverables and Benchmarks CP2.2
- **Annex J** OFP Endorsement Letter MedProgramme
- **Annex K1** CO-FINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS CP2.2
- **Annex K2** CO-FINANCING COMMITMENT LETTERS FROM COUNTRIES CP2.2
- **Annex L** ACRONYMS AND ABBREVIATIONS CP 2.2
- **Annex M** Project Implementation Timetable CP2.2
- **Annex N** Gender Assessment and Action Plan CP2.2
- **Annex O** MedProgramme Knowledge Management Strategy
- **Annex P** MedProgramme Gender Mainstreaming Strategy
- **Annex Q** Reports of the stakeholder consultations for CP2.2
- **Annex R** Rapid Nexus Assessment CP2.2
- **Annex S** The Baseline Scenario in the Project Countries for CP2.2
- **Annex T** Complete list of Stakeholders for CP2.2
- **Annex U** Figures Tables and Text Boxes for the GEF CEO ER CP2.2

GEF 7 TAXONOMY

Annex C

Please identify the taxonomic information required in Part I, Item G by ticking the most relevant keywords/ topics/themes that best describe the project.

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input type="checkbox"/> Large corporations	
		<input type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input checked="" type="checkbox"/> Beneficiaries		
	<input checked="" type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input checked="" type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input checked="" type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input type="checkbox"/> Information Dissemination	
		<input type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input type="checkbox"/> Education	
		<input checked="" type="checkbox"/> Public Campaigns	
		<input type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		

Level 1	Level 2	Level 3	Level 4
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input type="checkbox"/> Indicators to Measure Change	
	<input type="checkbox"/> Innovation		
	<input checked="" type="checkbox"/> Knowledge and Learning		
		<input checked="" type="checkbox"/> Knowledge Management	
		<input checked="" type="checkbox"/> Innovation	
		<input checked="" type="checkbox"/> Capacity Development	
		<input type="checkbox"/> Learning	
	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality			
	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input checked="" type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input checked="" type="checkbox"/> Sex-disaggregated indicators	
		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input checked="" type="checkbox"/> Access and control over natural resources	
		<input checked="" type="checkbox"/> Participation and leadership	
		<input checked="" type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input checked="" type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (¹ Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Saharan Africa	
			<input type="checkbox"/> Resilience (climate and shocks)

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework
			<input type="checkbox"/> Transport and Mobility
			<input type="checkbox"/> Buildings
			<input type="checkbox"/> Municipal waste management
			<input type="checkbox"/> Green space
			<input type="checkbox"/> Urban Biodiversity
			<input type="checkbox"/> Urban Food Systems
			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input type="checkbox"/> Biodiversity		
		<input type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input type="checkbox"/> Community Based Natural Resource Management
		<input type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Tourism
			<input type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
		<input type="checkbox"/> Forest	<input type="checkbox"/> REDD/REDD+
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo
			<input type="checkbox"/> Drylands
	<input type="checkbox"/> Land Degradation		
		<input type="checkbox"/> Sustainable Land Management	
			<input type="checkbox"/> Restoration and Rehabilitation of Degraded Lands

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Ecosystem Approach
			<input type="checkbox"/> Integrated and Cross-sectoral approach
			<input type="checkbox"/> Community-Based NRM
			<input type="checkbox"/> Sustainable Livelihoods
			<input type="checkbox"/> Income Generating Activities
			<input type="checkbox"/> Sustainable Agriculture
			<input type="checkbox"/> Sustainable Pasture Management
			<input type="checkbox"/> Sustainable Forest/Woodland Management
			<input type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input type="checkbox"/> Land Degradation Neutrality	
			<input type="checkbox"/> Land Productivity
			<input type="checkbox"/> Land Cover and Land cover change
			<input type="checkbox"/> Carbon stocks above or below ground
		<input type="checkbox"/> Food Security	
	<input checked="" type="checkbox"/> International Waters		
		<input type="checkbox"/> Ship	
		<input checked="" type="checkbox"/> Coastal	
		<input checked="" type="checkbox"/> Freshwater	
			<input checked="" type="checkbox"/> Aquifer
			<input checked="" type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS : Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		<input checked="" type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input checked="" type="checkbox"/> Large Marine Ecosystems	
		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	
		<input type="checkbox"/> Ozone	
		<input type="checkbox"/> Persistent Organic Pollutants	
		<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
		<input type="checkbox"/> Sound Management of chemicals and Waste	
		<input type="checkbox"/> Waste Management	
			<input type="checkbox"/> Hazardous Waste Management
			<input type="checkbox"/> Industrial Waste
			<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Emissions	
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity

Level 1	Level 2	Level 3	Level 4
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution
		<input type="checkbox"/> Climate Finance (Rio Markers)	<input type="checkbox"/> Paris Agreement <input type="checkbox"/> Sustainable Development Goals <input type="checkbox"/> Climate Change Mitigation 1 <input type="checkbox"/> Climate Change Mitigation 2 <input type="checkbox"/> Climate Change Adaptation 1 <input type="checkbox"/> Climate Change Adaptation 2

			Expected		Achieved		
			Expected		Achieved		
			Hectares (4.1+4.2+4.3+4.4)				
			Expected		Achieved		
			Hectares				
Indicator 4.3	Area of landscapes under sustainable land management in production systems						
Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided						
Core Indicator 5	Area of marine habitat under improved practices to benefit biodiversity					<i>(Hect</i>	
			Third party certification(s):				
			PIF stage	Endorseme	MTR	TE	
			Third party certification(s):				
			PIF stage	Endorseme	MTR	TE	

			Entered		Entered	
			Entered		Entered	
			Hectares			
Indicator 6.3	Energy saved					
Indicator 6.4	Increase in installed renewable energy capacity per technology					
Core Indicator 7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management					
		<i>Mediterranean LM</i>				
		<i>Mediterranean LM</i>				

		PIF stage	Endorsemen	MTR	TE	
		Expected		Achieved		
POPs type		Expected		Achieved		
		Metric Tons				
		Number of Countries				
		Number				
		Technology				
Core Indicator 10	Reduction, avoidance of emissions of POPs to air from point and non-point sources					<i>(Gr</i>
Indicator 10.3	Number of countries with legislation and policy implemented to control chemicals and waste					

					MTR	TE

Instructions for unlocking/locking the Worksheet to allow adding rows in tables if necessary:

Go to File> Select Options > Select Quick Access Toolbar > Under Choose Command from, select All Commands> Scroll down until you find the Lock Icon > Click Add> Click Ok. You will then find your Lock icon installed atop your screen:

When you click on the icon, it would either lock or unlock the template.

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document or provide reference to the page in the project document where the framework could be found).

MEDITERRANEAN SEA PROGRAMME: ENHANCING ENVIRONMENTAL SECURITY					
MedProgramme Objective	To accelerate the implementation of agreed upon priority actions to reduce the major transboundary environmental stresses affecting the Mediterranean Sea and its coastal areas while strengthening climate resilience and water security, and improving the health and livelihoods of coastal populations				
MedProgramme Component 2 - Enhancing Sustainability and Climate Resilience in the Coastal Zone					
Child Project 2.2: Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus					
Project Objective	Objective level Indicators (units)	Baseline	End of Project Targets	Means of Verification	Assumptions & Risks
Balancing of competing water uses in priority coastal areas through water, food, energy and ecosystems integrated governance, to enhance environmental security and sharing of benefits.	Number of countries, which include water-food-energy nexus related provisions in coastal management plans/strategies (#).	Most countries don't follow an integrated approach for coastal management including identifying and addressing interlinkages/trade-offs among the water-food-energy nexus sectors and the environment, and lack strategic documents reflecting related action as means to address land-based pressures to the Mediterranean LME.	At least two (2) countries include water-food-energy nexus related considerations in coastal management plans/strategies.	- Nexus Assessments including solutions for addressing priority management issues and - related strategic documents.	Sustained cooperation with the Nexus related Ministries and political support through-out the project implementation.
<u>Component 1: Institutional Strengthening</u>					
Outcome 1 (Program Outcome 6)	Outcome Indicators (units)	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions
Enhanced regional and National capacities on the use of the nexus approach	1.1 Number of government officials and decision makers engaging in the Nexus Regional Roundtables (#).	Interlinkages among water, food and energy sectors and the environment are not taken fully into account for the management	Three (3) Nexus Regional Roundtables – with each event targeting 50 participants including at	- Regional Roundtables reports including agendas, list of	Stakeholders are interested in participating in

to address land-based issues.	<p>1.2 Number of government technical decision makers capacitated through Nexus Trainings (#).</p> <p>1.3. Gender ratio in capacity building events and trainings (%-%)</p>	<p>of the rivers, aquifers and coasts (upstream) as well as for the Mediterranean Large Marine Ecosystem (downstream).</p> <p>Awareness and understanding of national and regional institutions and key stakeholders regarding Nexus approach, issues and their addressing is limited.</p>	<p>least 10 government officials and decision makers – for the countries to build capacity and discuss options on adopting the Nexus approach for integrated resources management in the Mediterranean.</p> <p>Three (3) training events – with each event targeting 15 participants including least three technical decision makers – for technical staff of national and local administrations and for key stakeholders on the introduction and implementation of the nexus approach.</p> <p>All capacity building events are gender balanced (50%-50% ratio)</p>	<p>participants and conclusions.</p> <p>- Training event reports and materials.</p> <p>- Post-event evaluation feedback.</p>	<p>the Roundtables and trainings.</p> <p>Participants in the events represent key stakeholders, relevant national government bodies, and local administrators as well as wider public.</p>
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Component 2: Addressing nexus issues affecting priority coastal zones of the Mediterranean LME

Outcome 2 (Program Outcome 5)	Outcome indicator (units)	Baseline	Targets	Means of verification	Assumptions
Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.	2.1 Number of priority areas with Nexus inter-institutional bodies steering the development of Nexus assessments and strategic documents (#).	There are no existing bodies coordinating the water/land/energy and ecosystems management towards balanced water use and environmental protection.	New or existing inter-institutional bodies steer the development of assessments and strategic documents in three (3) priority areas.	Meeting reports	The Nexus sectors ministries agree to participate and actively contribute and steer the Policy Dialogue and outputs

					(Assessments, Strategy/Action Plan). Each of the Nexus ministries accepts that issues of its direct responsibility be discussed in and related action steered by an interinstitutional body.
	2.2 Number of Nexus Assessments developed supporting Nexus Dialogues (#). 2.3. Number of Policy Dialogues implemented in priority areas (#)	Water-land-energy-ecosystems nexus interlinkages and interactions are not considered in an integrated way for coastal zone resources management.	One (1) Nexus Assessment developed, and One (1) Policy Dialogue implemented in each of the three (3) priority areas (total 3 Policy Dialogues).	Assessment reports. Policy Dialogue Meetings reports.	- There is adequate baseline data available to develop comprehensive Nexus assessments. - National and Regional authorities make this data available to the project. - Stakeholders and authorities actively participate in the multi-stakeholders meetings.
	2.3 Number of Nexus strategies /action plans in priority coastal areas	There are no strategic documents fostering integrated management of the resources under the Nexus	Three (3) Nexus Strategies or Nexus	Nexus Strategies or Nexus Action	Nexus ministries agree to have an inter-

	developed, possibly as part of other strategic documents for coastal areas (#).	sectors, addressing related issues towards sustainable natural resources management.	Action Plans are developed.	Plans, stand alone or part of ICZM Strategies and Plans.	institutional (Nexus) strategy or action plan and contribute in its development. Nexus sectoral ministries agree to have a Nexus strategy or action plan as part of the respective sectoral strategy or plan (in the case that the Nexus strategy or action plan is part of a sectoral strategy or plan).
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Component 3: Testing and upscaling Nexus solutions

Outcome 3 (Program Outcome 6)	Outcome Indicators (units)	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions
Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs.	3.1. Number of Nexus demonstration activities implemented (#). 3.2. Number of Nexus established approaches assessed for their efficiency and feasibility for replication and upscaling (#).	Solutions, both structural or non-structural, that balance Nexus resources use in response to identified issues have low recognition as part of the suite of measures included in strategic documents for coastal and marine zone management.	Three (3) Nexus demonstration activities testing Nexus solutions to address water-food-energy-ecosystems related management issues. Four (4) established Nexus approaches assessed for their efficiency and feasibility for replication and upscaling as Nexus solutions.	- Demonstration activities' final reports - Evidences in case of technical applications.	Nexus authorities and key stakeholders engage in sharing previously applied Nexus interventions as well as testing new Nexus applications.

Outcome 4 (Program Outcome 6)	Outcome Indicators (units)	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions
Priority nexus interventions agreed upon including relevant mechanisms and arrangements.	4.1 Number of interventions and actions identified and facilitated for financing (#).	Economic benefits of interventions to balance Nexus resources use have low recognition, hence financing of related interventions is difficult to leverage.	Three (3) project fiches for priority interventions and/or investments submitted for consideration to governments and potential finance promoters.	Project fiches.	Relevant authorities, key stakeholders and development partners actively participate and meaningfully contribute to the identification of interventions and to developing the tools and documentation to secure their financing.
<u>Component 4: Consultation and outreach</u>					
Outcome 5 (Program Outcome 6)	Outcome Indicators (units)	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions
The medium and long-term sustainability of results ensured by engaging the relevant stakeholders.	5.1 Stakeholders Engagement and Gender Mainstreaming Strategy (SEGMS) developed including: Public Participation and Stakeholders Involvement Strategy; Information Communication and Outreach Strategy (ICOS); Gender Mainstreaming strategy (Y/N).	Diverse level of stakeholder involvement in the preparation of Nexus sectoral strategies. Low level of information about interlinkages, among water, food and energy sectors affecting the management of the rivers, aquifers, coasts and the Mediterranean Large Marine Ecosystem as well as about the related issues and solutions.	One (1) SEGMS for the Mediterranean developed including description of actions in each of the priority areas for intervention.	The SEGMS and associated activity reports and products.	The SEGMS engages major stakeholders, relevant national government bodies, and local administrators as well as public opinion makers.

	5.2 Number of actions prepared for the implementation of the Strategy (#).				
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ANNEX B: GEF SECRETARIAT REVIEW SHEET

1. No specific comments on the activities, outputs and outcome of Child Project 2.2 were made by the STAP at PFD stage
2. No specific comments on the activities, outputs and outcome of Child Project 2.2 were made by the GEF Council at PFD stage

3. REVIEW SHEET 1

Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystems NEXUS

GEF Secretariat Review for Full Sized Project

Basic Information

GEF ID

9685

Countries

Regional

Project Title

Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystems NEXUS

GEF Agency(ies)

UNEP

Agency ID**GEF Focal Area(s)**

International Waters

Program Manager**[PIF](#)****[CEO Endorsement](#)****Project Design and Financing****1. If there are any changes from that presented in the PIF, have justifications been provided?**

Secretariat Comment at CEO Endorsement

SH (24.4.19): Yes

Response to Secretariat comments

2. Is the project structure/ design appropriate to achieve the expected outcomes and outputs?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Please address the below points:

1) Both Rio Markers have values "0" for adaptation and mitigation in the portal. Please explain the logic behind the selection of these values and consider changing the CCA RIO indicator values away from "0". Reason being that climate adaptation and resilience forms part the project objectives.

- 2) In the portal entry fields, please populate the "Executing Partner Type".
- 3) Indicator 11: Please populate indicator 11. It is understood that the # might only be a rough estimate at this stage.
- 4) Please explain how optimal coordination at the country level and across CPs is secured? E.g. will there be overlap in the use of country platforms/institutional structures across the CPs (e.g. IMCs under CP 2.1 and *inter-institutional bodies* CP 2.2)? When possible, the project/program should utilize opportunities to enhance coordination. Further, and as pointed out in other CP reviews, securing representation of Ministry of Finance, Planning etc. as part of country platforms should be considered a priority.
- 5) 1.1.2: Dissemination, usage and enrichment of knowledge Nexus material in the form of the JRC/GWP-Med/UfM Nexus Atlas: please elaborate on the activity description. It is not clear what activities will be conducted?
- 6) In order to further enhance the uptake of cost efficient natural infrastructure solutions and lessons learnt, please incorporate text stating that the project at inception stage establish will contact the WWF/ICPDR Dyna project titled "Danube River Basin Hydromorphology and River Restoration (DYNA)". (GEF ID: 9801 contact person: Isabel Filiberto).
- 7) Please explain the steps taken by the project towards evaluating the need for, and potentially securing, the financial sustainability of new inter-institutional bodies (acting as SCPDs during the project) following project closure?
- 8) Under the heading "Select what role civil society will play in the project:": please select relevant category.
- 9) Under the heading "Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?": In the associated figure, please check (under outcome 3) and make sure all relevant information is included.
- 10) There needs to be a clearer story line across the component 3 intro section and associated outcomes and activities sections. Some of the changes needed: the scope needs to be better articulated (starting from the intro), e.g. why small scale tech applications and not fewer and larger type nexus investments? Why will this approach have a significant impact within the scope of the project and what are the apparent linkages to the other project components? Also, text should be added making clear what GWPs competitive advantage is and that GWP will leverage an existing baseline (possibly adding additional co-finance during implementation) and with the core-aim of making the necessary linkages to the Nexus Assessments in priority areas.

Response to Secretariat comments

UNEP (10-6-19)

- 1) Both Rio Markers move away from values "0" to reflect that climate adaptation and resilience is a major part the project objectives (TO BE DONE by Yegor during the re-submission)
- 2) Executing Partner type updated in the portal (TO BE DONE by Yegor during the re-submission)
- 3) An estimation of the number of beneficiaries disaggregate by gender has been used to populate indicator #11 of the GEF7 Core Indicator Worksheet CP2.1. Please note that the figures are based on a proportional criterion for coastal population applied to national statistics.
- 4) Text has been added at **pages 30-31** of the GEF CEO ER to explain how coordination bodies will be created and coordinated among the different Cps including promoting the involvement of involve key line ministries the institutions which has responsibility of planning and finance in each country.
- 5) Text has been added at **page 28** of the GEF CEO ER to explain the type of activities that will be executed

6) Text has been added at **page 34** of the GEF CEO ER to confirm that a contact will establish WWF/ICPDR Dyna project titled "Danube River Basin Hydromorphology and River Restoration (DYNA)" with the aim to further enhance the uptake of cost-efficient natural infrastructure solutions and associated lessons learnt

7) Text in a foot note has been added at **page 31** of the GEF CEO ER to explain the financial sustainability of new inter-institutional bodies

8) YEGOR to be done during resubmission

9) The Project includes a gender assessment and Action Plan specifically developed for this project (attached as Annex P). This document includes specific gender actions designed for CP2.2. Moreover, CP2.2 as all the Child Projects of the MedProgramme, will be also aligned to the MedProgramme Gender Mainstreaming Strategy attached as Annex R. (YEGOR to include Annex P and R during resubmission and please check if the comment of Steffen refers to some detail in the submission portal)

10) The description of Component 3: Testing and upscaling Nexus solutions has been restructured to build a clear storyline for the component. New text and a table have been provided to support this description at **pages 33-34-35-36 and 37 of the GEF CEO ER.**

3. Is the financing adequate and does the project demonstrate a cost-effective approach to meet the project objective?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Please see comments in box 2.

Response to Secretariat comments

UNEP (10-6-19)

Comment addressed within box 2 Both Rio Markers move away from values "0" to reflect that climate adaptation and resilience is a major part the project objectives

4. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk response measures? (e.g., measures to enhance climate resilience)

Secretariat Comment at CEO Endorsement

SH(24.4.19): Yes

Response to Secretariat comments

NA

5. Is co-financing confirmed and evidence provided?

Secretariat Comment at CEO Endorsement

SH(24.4.19): Yes, however, please explain the reason for the substantial drop in projected co-finance from council approval to CEO End stage of the project.

Response to Secretariat comments

UNEP (10-6-19)

In the period between the PFD and the project document development it was realised that the available funds could support activities in a smaller number of countries than originally assessed. The smaller number of project beneficiary countries resulted in a decreased co-financing figure. Please also refer with the replied provided to the comment #10 in box 2 about possibly adding additional co-finance during the project implementation.

6. Are relevant tracking tools completed?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Yes

Response to Secretariat comments

NA

7. Only for Non-Grant Instrument: Has a reflow calendar been presented?

Secretariat Comment at CEO Endorsement

NA

Response to Secretariat comments

NA

8. Is the project coordinated with other related initiatives and national/regional plans in the country or in the region?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Yes.

Response to Secretariat comments

NA

9. Does the project include a budgeted M&E Plan that monitors and measures results with indicators and targets?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Yes

Response to Secretariat comments

NA

10. Does the project have descriptions of a knowledge management plan?

Secretariat Comment at CEO Endorsement

SH (24.4.19): Yes

Response to Secretariat comments

NA

Agency Responses

11. Has the Agency adequately responded to comments at the PIF stage from:

GEFSEC

Secretariat Comment at CEO Endorsement

SH(24.4.19): Yes

Response to Secretariat comments

NA

STAP

Secretariat Comment at CEO Endorsement

SH(24.4.19): ANNEX B should contain the responses to project reviews (including responses to comments from GEF council and STAP at work program inclusion). Please include responses to STAP comments.

Response to Secretariat comments

Annex B has been added to the submission package.

Kindly note that no specific comments on the activities, outputs and outcome of Child Project 2.1 were made by the STAP at PFD stage.

GEF Council

Secretariat Comment at CEO Endorsement

SH(24.4.19): ANNEX B should contain the responses to project reviews (including responses to comments from GEF council and STAP at work program inclusion). Please include responses to comments from the GEF council.

Response to Secretariat comments

Annex B has been added to the submission package.

Kindly note that no specific comments on the activities, outputs and outcome of Child Project 2.1 were made by the STAP at PFD stage.

Convention Secretariat

Secretariat Comment at CEO Endorsement

NA

Response to Secretariat comments

NA

Recommendation

12. Is CEO endorsement recommended?

Secretariat Comment at CEO Endorsement

SH(24.4.19): Please address comments and resubmit.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF:			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF/CBIT Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
International Consultants - 1 Technical and 1 Project Preparation Experts + 1 Knowledge Management and 1 Gender Specialists.	34,000	34,000	
Travels to support the preparation of the Child Project 2.2.	1,000		850
Sub-Contracts with GWP-Med to support the preparation of the 4 components of Child Project 2.2.	115,000	102,172	12,828
Contractual Services		150	
Total	150,000	136,322	13,678

¹ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E - Child Project 2.2: Deliverables and costing of PCU technical support and consultants to be hired

<i>Position Titles</i>	<i>\$ / Person Month, Est Person Month</i>	<i>Tasks to Be Performed / Deliverables</i>	<i>Related workplan activity</i>
PCU Technical support			
International Waters			
P4 MedProgramme Coordinator	17,900 / 5	<ul style="list-style-type: none"> • Oversees the technical execution and develop technical products for Child Projects 2.2 • Directs the organization of the MedProgramme’s Annual Stocktaking Meetings, ensuring that the technical contribution of Child Project 2.2 is enriching the meeting as well as aligned with the other Child Projects of the Programme. • Directs review of relevant documents and reports; identifies priorities, problems and issues to be addressed and proposes corrective actions; liaises with relevant parties; identifies and initiates follow-up actions. • Directs the preparation of Child Project 2.2’s specific technical documents for the organization of the MedProgramme’s Annual Stocktaking Meetings, ensuring that they are organized in a coordinated manner to efficiently serve the Contracting Parties, implementing agencies, executing agencies and stakeholders. • Directs review of relevant Child Project 2.2’s specific technical documents and reports; identifies priorities, problems and issues to be addressed and proposes corrective actions; liaises with relevant parties; identifies and initiates follow-up actions. • Contributes to the preparation of projects documentation/investments fiches for priority interventions • Contributes to preparation of a Stakeholders Engagement Strategy. • Contributes to the producing materials for awareness raising campaigns for Child Project 2.2 • Participates in dissemination and awareness raising activities at the regional and global levels campaigns for Child Project 2.2 	Cross-cutting (all Child Project 2.2 workplan activities)
Consultants			

International Waters			
Regional consultants IW	7,300 / 17	<ul style="list-style-type: none"> • Researches, analyzes and presents information gathered from Child Project 2.2 • Prepares various written outputs, e.g. draft background papers, analysis, sections of reports and studies, inputs to publications, GEF Experience Notes, summaries for policy makers, etc., related to Child project 2.2. • Assists with the organization of the MedProgramme’s Annual Stocktaking Meetings, helping to ensure that Child project 2.2 is properly contributing and benefitting from the meeting • Provides technical contributions related to Child Project 2.2 for the Steering Committees, including the preparation of background and working documents and drafting of meeting reports, etc. • Undertakes survey initiatives; designs data collection tools; reviews, analyzes and interprets responses, identifies problems/issues and prepares conclusions for Child project 2.2 • Contributes to the organization of Regional Roundtables on nexus. • Contributes to the organization of Regional Trainings on nexus. • Contributes to the development of Nexus Strategies or Action Plans 	Cross-cutting (all Child Project 2.2 workplan activities)
Regional consultant Knowledge Management	6,700 / 6	<ul style="list-style-type: none"> • Liaises with the Executing Partners (EPs) of Child Project 2.2 in order to collect, analyze, harmonize, package and share data and information generated by the Project and support the achievement of related objectives. • Provides technical advice and improve capacity of the Child Project 2.2 team to address specific needs and effectively manage knowledge at the Project and Programme levels. • Prepares an Action Plan (including timeline and budget) for the duration of the Child Project 2.2 and supports the execution of both KM Strategy and Action Plan; • Facilitates MedProgramme contribution of Child Project 2.2 to IW:LEARN activities (including participation to the International Waters Conferences and twinnings, preparation of Experience Notes, among others) and other GEF relevant initiatives and events, particularly related to the focal areas of International Waters • Supports the communications of Child Project 2.2 and outreach components of the KM Strategy. • Develop Knowledge Management analysis for Child Project 2.2 as relevant. 	Cross-cutting (all Child Project 2.2 workplan activities)

Regional consultant Gender Expert	6,700 / 5	<ul style="list-style-type: none"> • Designs social factors and gender-focused survey questionnaire for selected sites, and hold capacity-building workshops to make training for regional Nexus Dialogue accessible and inclusive. • Develops gender-responsive training modules for institutional personnel and bodies, and define gender-responsive inputs for Nexus Assessments and Strategic Documents • Assists in developing gender-responsive elements for pilot-testing in the Nexus Demonstration Activities. • Informs the overarching Stakeholders Engagement and Gender Mainstreaming Strategy that the Specialist will develop at the outset on Nexus issues, gender relations and socioeconomic dynamics • Collaborates with the KM expert to consolidate gender-relevant information, data and research generated through project activities. • Provides guidance to the EPs of Child Project 2.2 for the execution of the Project’s Gender Mainstreaming Action Plan • Monitors the execution of the Project’s Gender Mainstreaming Action Plan and provide corrective measure where needed it. • Contributes to the design of gender balanced trainings, meetings, events and publications for Child Project 2.2. • Develop gender assessments and analysis for Child Project 2.2 as relevant. 	Cross-cutting (all Child Project 2.2 workplan activities)
Justification for travels		<p>The consultants may be required to travel to the countries and or premises of the executing partners to discuss execution of the activities and programmatic issues related to the implementation of International Waters’ activities, Knowledge Management and Gender mainstreaming Strategies. Moreover, the consultants may be also required to participate and contribute to the MedProgramme Steering Committees, Annual Stocktaking Meetings and other meetings and events as relevant.</p>	

Project No: GEF ID 9685

Project Name: Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem NEXUS

Project Short Name: CP 2.2 - MedProgramme

Programmatic Approach: Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security (GEF ID 9607)

Implementing Agency: UN Environment

Executing Agency: UN Environment Mediterranean Action Plan (MAP)

Sources of Co-financing /Project Component	Co-Financing per Component						Co-Financing per Year					
	COMPONENT 1	COMPONENT 2	COMPONENT 2	COMPONENT 2	SUPPORT TO PROJECT EXECUTION	Total	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	Total
	US\$	US\$	US\$	US\$	US\$	US\$	US\$	US\$	US\$	US\$	US\$	US\$
In cash co-financing												
GWP Med	250,000	250,000	250,000	250,000	-	1,000,000	-	250,000	250,000	250,000	250,000	1,000,000
	-	-	-	-	-	-	-	-	-	-	-	-
	250,000	250,000	250,000	250,000	-	1,000,000	-	250,000	250,000	250,000	250,000	1,000,000
In kind co-financing												
Labanon	-	-	-	-	-	730,000	-	182,500	182,500	182,500	182,500	730,000
Morocco	1,950,000	1,820,000	1,430,000	1,300,000	-	6,500,000	-	1,625,000	1,625,000	1,625,000	1,625,000	6,500,000
UN Environment/MAP	-	-	-	-	-	79,871	-	19,968	19,968	19,968	19,968	79,871
GWP Med	750,000	750,000	750,000	750,000	-	3,000,000	-	750,000	750,000	750,000	750,000	3,000,000
							-	-	-	-	-	-
	2,700,000	2,570,000	2,180,000	2,050,000	809,871	10,309,871	-	2,577,468	2,577,468	2,577,468	2,577,468	10,309,871
TOTAL COSTS	2,950,000	2,820,000	2,430,000	2,300,000	809,871	11,309,871	-	2,827,468	2,827,468	2,827,468	2,827,468	11,309,871
	Cash Co-Financing:											1,000,000
	In kind Co-Financing:											10,309,871
	TOTAL Co Fin:											11,309,871

ANNEX G: MONITORING AND EVALUATION PLAN AND BUDGET CP2.2

M&E activity	Purpose	Responsible	Budget (US\$)	Time-frame
Inception workshop and Annual Stocktaking meetings	Full 5-year workplans, budgets, procurement plans etc. will be confirmed. Inception report to be finalized as key project document.	GWP Med MedPCU	20,000 for 1 Inception workshop and 20,000 for 4 Annual Stocktaking meetings (total 100,000)	Inception workshop within 8 months of project start. Annual Stocktaking meetings once a year starting from the 2 nd year of execution.
Project Steering Committee	Annual review of project activities, outputs and intended outcomes; and detailed annual implementation and budget planning The first year's SC meeting is also the Inception Workshop where the	GWP Med MedPCU	125,000 for 5 meetings	At least annually Additional component-specific coordination/ advisory meetings will also be held to support preparation of recommendations to PSC.
Travel for project monitoring	Monitoring and support to the technical activities under Components 1 and 2)	GWP Med, EA, MedPCU and regional consultants	Included in component budgets	1-4 missions per year, depending on needs e.g. to unlock bottlenecks or support partners
Midterm Review	Reviews progress and draws lessons on execution issues and impact of project activities to midterm. Proposes corrective actions as required.	IA- Consultant	50,000	At the midterm of the project
Terminal report	Reviews effectiveness against implementation plan Highlights technical outputs Identifies lessons learned and likely design approaches for future projects, assesses likelihood of achieving design outcomes	GWP Med EA	Included in component budgets	At the end of project implementation
Independent Terminal evaluation	Reviews effectiveness, efficiency and timeliness of project implementation, coordination mechanisms and outputs	UNEP Evaluation Office	55,000	At end of project implementation

	Identifies lessons learned and likely remedial actions for future projects Highlights technical achievements and assesses against prevailing benchmarks			
Total indicative Monitoring & Evaluation cost			330,000	

ANNEX H: PROJECT IMPLEMENTATION ARRANGEMENTS

The institutional arrangements as described in the CEO Endorsement Request (section A.6) are further detailed in this annex, which provides information on the roles of the MedPCU and the Executing Partners.

MedProgramme Coordinating Unit (MedPCU):

The detailed list of services to be provided by the MedPCU are as follows:

Child Project 2.2 management services:

- Manage the flow of information from the field and produce periodic monitoring reports, namely quarterly financial expenditure reports; annual expenditure forecasts and procurement plans; half-yearly narrative reports of progress including the annual Project Implementation Review;
- Initiate, validate, sign and implement legal instruments with all bilateral partners including executing partners and countries where appropriate;
- Organize travel and payment of DSA for staff and consultants as needed;
- Coordinate and support the project activities of GWP Med (Component 1, 2, 3 and 4);
- Organize the meetings of the Project Steering Committee (PSC) and serve as its Secretariat;
- Ensure the Project governance and oversight of the financial resources from the GEF investment and the co-financing delivered by the Project stakeholders.

Programmatic coordination:

- Ensure that the execution of the entire MedProgramme is aligned and integrated with the priorities of the Contracting Parties to the Barcelona Convention, its 2016-2021 Mid-Term Strategy and biennial Programmes of Work;
- Ensure that the execution of the MedProgramme Gender and Knowledge Management Strategies is consistent across the entire Programme.
- Establish a mechanism to monitor and evaluate progress towards the objectives of the MedProgramme as a whole.

MedProgramme Visibility:

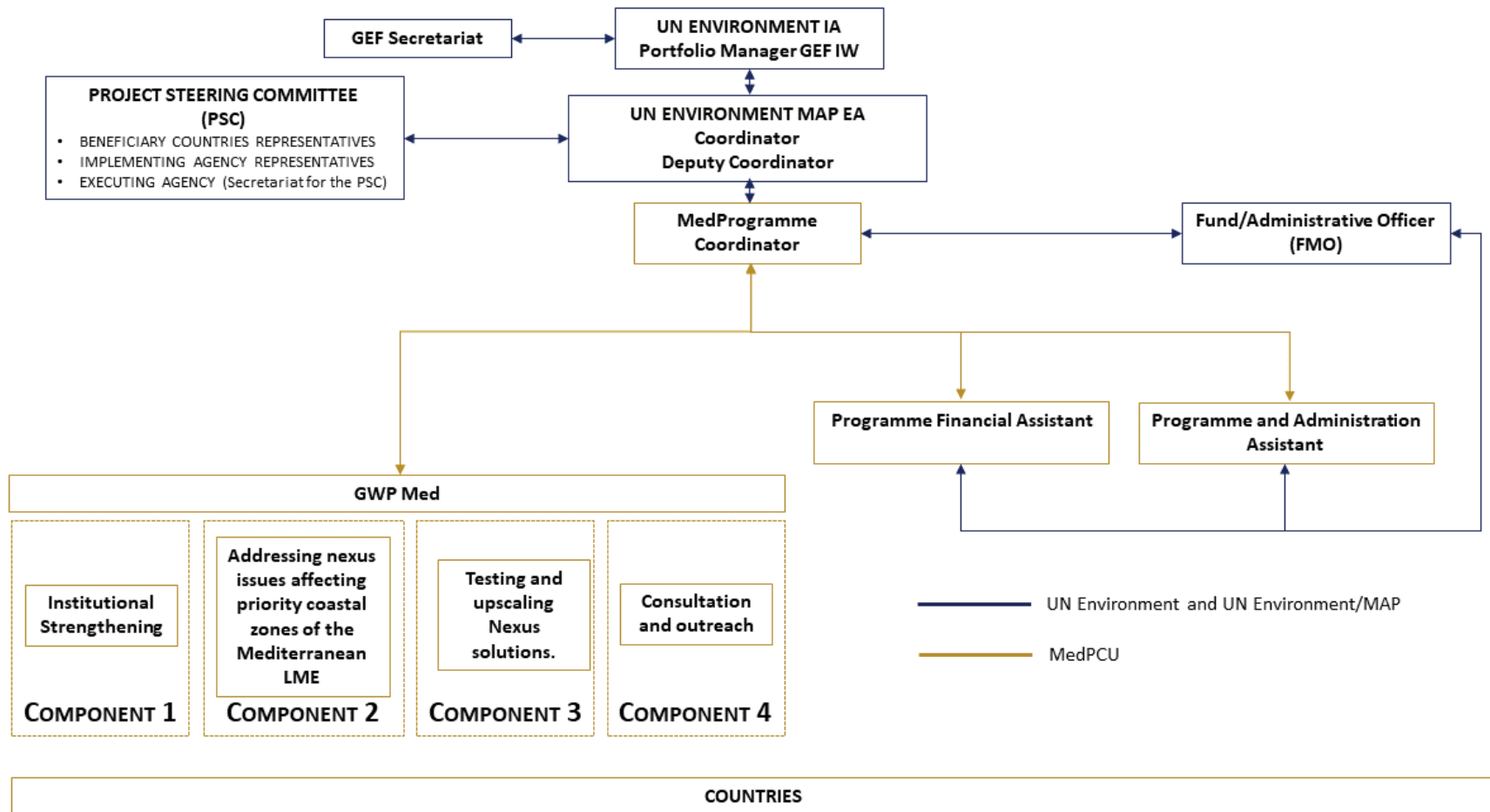
- Represent the MedProgramme in global events and initiatives.
- Ensure that the Programme Annual Stocktaking Meeting is organized in a coordinated manner to efficiently serve the countries, IA, EA and stakeholders;

- Share the Project achievements, products/outputs with the Project and MedProgramme’s stakeholders;

The proposed staffing arrangements for the PCU are provide in figure 1:

MEDPROGRAMME COORDINATING UNIT (MEDPCU) ORGANIGRAM

MedProgramme Child Project 2.2 MEDITERRANEAN COASTAL ZONES: MANAGING THE WATER ENERGY FOOD AND ECOSYSTEMS NEXUS



It is anticipated that the MedPCU will be staffed with the following core positions:

- MedProgramme Coordinator (P4)
- Programme Officer CW (P3)
- Programme Financial Assistant (G5)
- Programme and Administration Assistant (G5)

In addition to this, the MedPCU operations will be supported during specific periods of the lifespan of the Child Project 1.2, by one Gender Specialist, one Knowledge Management Specialist and by a regional expert on International Waters, to be engaged through out-sourced contracts. The MedPCU will be established and hosted by UN Environment/MAP in Athens, Greece, following the successful model of the MedPartnership Project.

Executing Partners (EP): The EP will execute activities of the project that fall within their core areas of expertise.

Executing Partner (EP): Global Water Partnership – Mediterranean (GWP Med) will execute activities of the project that fall within its core areas of expertise. GWP Med has been identified among (sub) regional institutions, UN and non-governmental organizations, on the basis of its mandates and broadly recognized roles and comparative advantages of in thematic areas of work relevant to the Child Project 2.2 and MedProgramme. Based on these criteria, the EA will establish a cooperation agreement with the GWP Med. These arrangements will be established with full consideration of the applicable UN Environment and GEF principles and procedures, including cost-efficiency and effectiveness.

The responsibilities and roles of each of GWP Med is described in the current document and linked to specific actions, outcome and outputs. GWP Med will be the Executing Partner for the national and regional activities foreseen under Component 1, 2, 3, and 4 of the project. The EP will report on the project implementation progress to the IA and EA and will take part in and contribute to the PSC. The main roles of GWP Med are to:

- Provide technical advice and engage with the countries for all aspects of the execution of activities under the relevant Components of the Child Project 2.2;
- Provide staff time and expertise in guiding their respective project activities;
- Supervise experts hired to ensure on time, high-quality deliverables;
- Manage the flow of financial resources earmarked for the implementation of activities;
- Review technical and substantive inputs by partners and countries on workplans etc.;

- Support the MedPCU and provide inputs for the preparation of the Child Project 2.2 workplans, budgets, reports and other documents as relevant;
- Review the technical quality of the Child Project 2.2 outputs in coordination with the MedPCU;
- Assist the MedPCU in the preparation of the annual monitoring and reporting reports (APR/PIR);
- Assist the MedPCU in the preparation of the substantive inputs for the PSC.

In addition, GWP Med will also meet periodically with the MedPCU to: 1) discuss emerging issues and challenges in order to prepare timely contingency plans and measures; 2) update the MedPCU and the other Executing Partners of the MedProgramme on the progress made in the execution of their respective activities; 3) to prepare the working and information documents for the PSC and key events of the Project and the MedProgramme; and 5) to ensure effective coordination during the execution of the activities.

ANNEX I: KEY DELIVERABLES AND BENCHMARKS

Component/Outcome/Outputs	Activities	Deliverables	Benchmarks
Component 1: Institutional Strengthening			
Outcome 1: Enhanced regional and National capacities on the use of the nexus approach to address land-based issues.			
Output 1.1: Regional Dialogue and Capacity Building on Nexus assessment and approach.	1.1.1 Preparation of a Mediterranean Nexus Study.	<ul style="list-style-type: none"> • Mediterranean Nexus Study. 	<ul style="list-style-type: none"> • Table of contents. • Literature review of institutional settings and relevant policy documents.
	1.1.2 Dissemination, usage and enrichment of knowledge Nexus material in the form of the JRC/GWP-Med/UfM Nexus Atlas.	<ul style="list-style-type: none"> • Nexus Atlas. 	<ul style="list-style-type: none"> • Baseline established in the Mediterranean Nexus Study.
	1.1.3 Organization of Regional Roundtables.	<ul style="list-style-type: none"> • Reports of the three (3) Regional Roundtables. • Statistics on participation including numbers of men and women engaged in the roundtables. 	<ul style="list-style-type: none"> • Agendas for the roundtables. • Stakeholder mapping for identification of potential participants.
	1.1.4 Organization of Nexus Trainings.	<ul style="list-style-type: none"> • Reports of the three (3) regional trainings. • Statistics on participation including numbers of men and women trained. 	<ul style="list-style-type: none"> • Syllabus for the trainings. • Stakeholder mapping for identification of suitable candidates for training.
Component 2: Addressing nexus issues affecting the Mediterranean LME.			
Outcome 2: Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.			

Component/Outcome/Outputs	Activities	Deliverables	Benchmarks
Output 2.1: New, or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents.	2.1.1 Facilitation of the work of existing or establishment of inter-institutional bodies to function as Steering Committees of the Nexus Dialogues.	<ul style="list-style-type: none"> • Reports of the three (3) meetings of the Steering Committees, including advise and decisions with respect to the Nexus assessments and strategic documents. • Statistics on the composition of the Steering Committees, including numbers of men and women participating. 	<ul style="list-style-type: none"> • Documentation of government's decision on the composition and duties of the Steering Committee.
Output 2.2: Water-energy-food-ecosystems Nexus Assessments and multi-stakeholders consultation dialogues in priority coastal areas.	2.2.1 Development of a Stakeholders Analysis.	<ul style="list-style-type: none"> • Stakeholders Analysis document. • Reports of the consultation workshops (each consultation workshop to be organized back-to-back with the first consultation event of each Nexus Dialogue process). • Statistics on representation of men and women in stakeholder workshops. 	<ul style="list-style-type: none"> • Mapping of stakeholder groups and their competences, stakes and perceptions regarding natural resources management. • Agendas of the consultation workshops. • Table of contents of the Stakeholders Analysis document.

Component/Outcome/Outputs	Activities	Deliverables	Benchmarks
	2.2.2 Development of Nexus Assessments including stakeholder consultations.	<ul style="list-style-type: none"> • Three (3) Nexus assessment reports including scoping level (Phase I) as well as in depth assessment and quantification of selected nexus linkages (Phase II). • Reports of the series of multi-stakeholder consultations. • Statistics on representation of men and women in stakeholder consultations. 	<ul style="list-style-type: none"> • Desk studies on natural resources management and economic sectors in the priority areas. • Governance analysis. • Data collection. • Technical studies on specific issues. • Table of contents of the Nexus assessment reports.
Output 2.3: Nexus strategies/action plans for priority coastal areas, possibly as part of other strategic documents for coastal areas.	2.3.1 Development of Nexus Strategies or Action Plans,.	<ul style="list-style-type: none"> • Three (3) Nexus Strategies or Action Plans stand-alone or as part of existing strategic documents. • Reports of the consultations undertaken to finalize the strategies or action plans (Nexus Dialogues Steering Committee meetings and Nexus Policy Dialogue events). 	<ul style="list-style-type: none"> • Table of contents of the Nexus Strategies or Action Plans.
Component 3: Testing and upscaling Nexus solutions			
Outcome 3: Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs.			

Component/Outcome/Outputs	Activities	Deliverables	Benchmarks
Output 3.1: Nexus demonstration activities.	3.1.1 Identification of traditional or novel nexus solutions.	<ul style="list-style-type: none"> Report on selected Nexus solutions and sites. 	<ul style="list-style-type: none"> Applications identified in the Nexus Atlas. Criteria for identification of potential applications/sites.
	3.1.2. Assessment of replication potential and feasibility of already applied Nexus solutions.	<ul style="list-style-type: none"> Analysis of at least one (1) and up to four (4) applications/cases, assessing efficiency, benefits and feasibility for replication and upscaling. 	<ul style="list-style-type: none"> Partnerships/agreements with research institutions and/or organizations and/or the private sector documenting commitment to undertake research and analyses.
	3.1.3. Testing of novel applications and assessment of their replication potential and feasibility.	<ul style="list-style-type: none"> Report(s) detailing technical aspects of nexus solutions tested on the ground, strengthened capacities of local stakeholders. Statistics on representation of men and women in demonstration projects. Analysis of the two (2) demonstrations, assessing efficiency, benefits and feasibility for replication and upscaling 	<ul style="list-style-type: none"> Concept note with details on technical solutions to be tested, local stakeholders to be engaged and trained, and links with employment opportunities. Partnerships/agreements with research institutions and/or organizations and/or the private sector documenting commitment to work for the implementation of the demonstration activity.
Outcome 4: Priority nexus interventions agreed upon including relevant mechanisms and arrangements.			

Component/Outcome/Outputs	Activities	Deliverables	Benchmarks
Output 4.1: Identified interventions, including potential sources of funding.	4.1.1 Preparation of projects documentation/investments fiches for priority interventions and/or necessary investments.	<ul style="list-style-type: none"> • Project proposals/ investment fiches for three (3) priority local Nexus interventions and/or investments. 	<ul style="list-style-type: none"> • Reports of the Nexus Dialogues. • Evidence of engagement with financing partners and the private sector.
Component 4: Consultation and outreach			
Outcome 5: The medium and long-term sustainability of results ensured by engaging the relevant stakeholders.			
Output 5.1: A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.	5.1.1 Preparation of a Stakeholders Engagement Strategy.	<ul style="list-style-type: none"> • Stakeholders Engagement Strategy. 	<ul style="list-style-type: none"> • Consultation with MedPCU on consistency with MedProgramme KM Strategy and Gender Mainstreaming Strategy.

ANNEX J OFP ENDORSEMENT LETTER MEDPROGRAMME



REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT

Adress: Rr.Norbert Jokl, Tirana, Albania, www.moe.gov.al

June 23, 2016

To: Ms. Brennan Van Dyke, Executive Coordinator
United Nation Environment Programme
Gigiri, P.O. Box 30552-00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Program (Med Programme)

In my capacity as GEF Operational Focal Point for Albania, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nation Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPo, etc).

The total financing¹ being requested for the child projects under this Program is US\$ 47,390,000 inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

Trust Fund	Agency	Focal Area	Programmin g of Funds	Amount (in US\$)			
				GEF Project Financing	Expected PPG	Agency Fee	Total
GEFTF	UNEP	International Waters	(as applicable)	20,500,000	700,000	1,845,000	23,045,000
GEFTF	EBRD	International Waters	(as applicable)	5,000,000	200,000	450,000	5,650,000
GEFTF	UNEP	Chemical and Waste	POPS and Mercury	11,750,000	300,000	1,057,500	13,107,500
GEFTF	EBRD	Chemical and Waste	POPS	3,750,000		337,500	4,087,500

¹ "Total financing" refers to funding from the GEFTF, LDCF, and/or SCCF.

GEFTF	UNEP	Biodiversity (Lybia)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

Sincerely,



Mr. Pellumb Abeshi
 General Director of Environment,
 GEF OFP, Albania

Copy to: Convention Focal Point for Stockholm (PoPs)

Convention Focal Point for Minamata

الجمهورية الجزائرية الديمقراطية الشعبية

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

وزارة البيئة والطاقة المتجددة

Ministry of Environment and Renewable Energies

REF: 09/0FP-GEF-ALG/MEER/2017

Algiers, November, 16th 2017

To: Ms. Kelly West, Executive Coordinator
United Nation Environment Programme
Gigiri, P.O. Box 30552-00100 Nairobi, Kenya.

Subject: Endorsement for Mediterranean Sea Program (Med Programme)

In my capacity as GEF Operational Focal Point for ALGERIA, I confirm that the above Program proposal is in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nation Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partner (UNIDO, IUCN, UNESCO, EIB and WWF MedPo, etc).

The total financing' being requested for the child projects under this Program is **US\$ 47,390,000** inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes **US\$ 1,500,000** of Biodiversity STAR earmarked by Libya.

Trust Fund	Agency	Focal Area	Programming Funds	Amount (in US\$)			
				GEF Project Financing	Expected PPG	Agency Fee	Total
GEFTF	UNEP	International Waters	(as applicable)	20,500,000	700,000	1,845,000	23,045,000
GEFTF	EBRD	International Waters	(as applicable)	5,000,000	200,000	450,000	5,650,000
GEFTF	UNEP	Chemical and Waste	POPS and Mercury	11,750,000	300,000	1,057,500	13,107,500
GEFTF	EBRD	Chemical and Waste	POPS	3,750,000		337,500	4,087,500
GEFTF	UNEP	Biodiversity (Lybia)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

Sincerely,
Mr Karim BABA
GEF Operational Focal Point

Copy to: General Secretariat (Ministry of Environment and Renewable Energies),
GEF Political Focal Point (Ministry of Foreign Affairs),
Stockholm (POPs) Convention Focal Point.



BOSNIA AND HERZEGOVINA
MINISTRY OF FOREIGN TRADE AND
ECONOMIC RELATIONS

No: 06-3-50-1976- 3/16
Sarajevo, 22 July 2016

To: Ms- Brenan Van Dyke, Executive coordinator
United Nations Environment Programme
Gigiri, P.O Box 30552 – 00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Political Focal Point for Bosnia and Herzegovina, I confirm that the above Program proposal is in accordance with my government's national priorities and our commitment to the relevant global environmental conventions.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc.).

The MedProgramme follows the successful implementation of the "MedPartnership" and "ClimVar & ICZM" GEF funded projects in Bosnia and Herzegovina. Among other successful activities, the development of a PCB inventory and disposal of PCB in Bosnia and Herzegovina, has been one of the most relevant achievements of the above mentioned projects during the period 2009 and 2015.

The total financing¹ being requested for the child projects under this Program is US\$ 47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program.

Kindly note that by endorsing the MedProgramme Bosnia and Herzegovina is not committing co-financing to the Programme at this stage.

Sincerely,



Copy to: Convention Focal Point for Stockholm (POPs)

¹ "Total financing" refers to funding from the GEFTE, LDCF, and/or SCCF.



GEF Unit
 <gefunitegypt@gmail.com
 >
 07/06/2016 02:59 PM

To Shelley.Farrington@unepmap.gr, hoda.elturk@unepmap.gr,
 Lorenzo.Galbiati@unepmap.gr,
 cc "ceo.eeaa@eeaa.cloud.gov.eg"
 <ceo.eeaa@eeaa.cloud.gov.eg>
 bcc

Subject MedProgramme

Dear All,

Hope this email find you well, As agreed with Eng. Abou Elseoud, kindly find below the signed endorsement letter for the MedProgramme.

Best regards

Hoda

Gef unit director at EEAA

*Arab Republic of Egypt
 Cabinet of Ministers
 Ministry Of environment
 Egyptian Environmental Affairs Agency*

جمهورية مصر العربية
 رئاسة مجلس الوزراء
 وزارة البيئة
 جهاز شؤون البيئة
 4/7/2016

To: Ms. Brennan Van Dyke, Executive Coordinator
 United Nations Environment Programme
 Gigiri, P.O. Box 30552 - 00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Egypt, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc.).

The total financing¹ being requested for the child projects under this Program is US\$47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programming is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

Trust Fund	Agency	Focal Area	Programmin g of Funds	Amount (in US\$)			Total
				GEF Project Financing	Expected PPG	Agency Fee	
GEFTF	UNEP	International Waters	(as applicable)	20,500,000	700,000	1,845,000	21,045,000
GEFTF	EBRD	International Waters	(as applicable)	5,000,000	200,000	450,000	5,650,000
GEFTF	UNEP	Chemical and Waste	POPs and Mercury	11,750,000	500,000	1,037,500	13,307,500
GEFTF	EBRD	Chemical and Waste	POPs	3,750,000		377,500	4,087,500
GEFTF	UNEP	Biodiversity (Libya)		1,776,147		123,853	1,900,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

Sincerely,
Ahmed A. Elseoud
 Eng. Ahmed Abou Elseoud
 Chief Executive Officer
 GEF National Focal Point

¹Total financing refers to funding from the GEF, EIB, EBRD, and the MCF.

3- طريق مصر حلوان الزراعي - خلف فندق سوفيتل العادي - القاهرة الرقم البريدي: 11728 ت: 25256452 فاكس: 25256490
 30, Misr Helwan El-Zyrai Rd., Maadi - Cairo Egypt. P.O. 11728 Tel.: 25256452 - Fax: 25256490

--

GEF Unit / Egypt

Mobile: +2- 0122- 3352319

Fax: +2- 02 -25256454

Pl. Consider the Environment before printing this email



REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

Beirut, 11-07-2016
Our Ref: 3513/B

THE MINISTER

Ms. Brennan Van Dyke
Executive Coordinator
United Nations Environment Programme
Gigiri, P.O. Box 30552 - 00100
Nairobi, Kenya

Dear Ms. Van Dyke,

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Lebanon, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD and co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc.).

The total financing being requested for the child projects under this Program is US\$47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

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GEFTF	UNEP	Biodiversity (Lybia)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

Sincerely yours,

Mohamad Al Mashmouk
Minister of Environment

Cc: - Registrar
- Convention Focal Point for Stockholm (POPs),
- Convention Focal Point for Minamata



التاريخ: 28.06.2016

الموافق: _____

الرقم الإشاري: _____

To: Ms. Brennan Van Dyke, Executive Coordinator
United Nations Environment Programme
Gigiri, P.O. Box 30552 - 00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Libya, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc.).

The total financing¹ being requested for the child projects under this Program is US\$47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s).

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				GEF Project Financing	Expected PPG	Agency Fee	Total
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GEFTF	UNEP	Biodiversity (Libya)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

I consent to the utilization of Libya's allocations in GEF-6 as defined in the System for Transparent Allocation of Resources (STAR). For projects outside the STAR, I am endorsing funding from the focal area envelopes.

Sincerely,

Dr. Mustafa Soliman
Operational and Political Focal Point

Copy to: Convention Focal Point for Stockholm (POPs)
Convention Focal Point for Minamata



¹ "Total financing" refers to funding from the GEFTF, LDCF, and/or SCCF.



MONTENEGRO

MINISTRY OF SUSTAINABLE DEVELOPMENT
AND TOURISM



A DECADE
OF INDEPENDENCE
A MILLENIUM
OF CIVILIZATION
MONTENEGRO
2016



Moje Montenegro: Live forever!

Podgorica, June 27th 2016

Ref/No: MM-66/33

To: Ms. Brennan Van Dyke, Executive Coordinator
United Nations Environment Programme
Gigiri, P.O. Box 30552- 00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Montenegro, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc).

The total financing¹ being requested for the child projects under this Program is US\$ 47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

¹ "Total financing" refers to funding from the GEFTF, LDCF, and/or SCCF.



MONTENEGRO

MINISTRY OF SUSTAINABLE DEVELOPMENT
AND TOURISM



A DECADE
OF INDEPENDENCE
10th Anniversary
of Montenegro
MONTENEGRO
2016



Moje Montenegro živi zauvijek

Trust Fund	Agency	Focal Area	Programming of Funds	Amount (in US\$)			
				GEF Project Financing	Expected PPG	Agency Fee	Total
GEFTF	UNEP	International Waters	(as applicable)	20,500,000	700,000	1,845,000	23,045,000
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GEFTF	UNEP	Biodiversity (Lybia)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000



Sincerely,

Marija Vukcevic
Ms. Marija Vukcevic

Operational Focal Point

Director General for EU Integration and International Cooperation
Ministry of Sustainable Development and Tourism

Copy to: Convention Focal Point for Stockholm (POPs)
Convention Focal Point for Minamata

IV proleterske brigade broj 19, 81000 Podgorica
Tel: (+382) 20 446 362; (+382) 20 446 225; Fax: (+382) 20 446 215
Web: www.mrt.gov.me



Ministère délégué auprès du Ministre de l'Energie,
des Mines, de l'Eau et de l'Environnement,
chargé de l'Environnement

الوزارة المنتدبة لدى وزير الطاقة والمعادن
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24 JUN 2016

To: Ms Brennan Van Duke,
Executive Coordinator,
United Nations Environment Programme
Gigiri, P.O.Box 30552-00100 Nairobi, Kenya

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Morocco, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPo, etc.)

The total financing from the GEFTF, LDCF, and/or SCCF being requested for the child projects under this Program is US\$ 47 390 000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

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GEFTF	EBRD	International Waters	(as applicable)	5 000 000	200 000	450 000	5 650 000
GEFTF	UNEP	Chemical and Waste	POPs and Mercury	11 750 000	300 000	1 057 500	13 107 500
GEFTF	EBRD	Chemical and Waste	POPS	3 750 000		337 500	4 087 500
GEFTF	UNEP	Biodiversity (Lybia)		1 376 147		123 853	1 500 000
Total Financing				42 376 147	1 200 000	3 813 853	47 390 000

Sincerely,

GEF Operational Focal Point

Le Directeur du Partenariat de la
Communication et de la Coopération

Mohamed BENAHIA

Copy to: Convention Focal point for Stockholm (POPs)
Convention Focal point for Minamata

REPUBLIC OF TUNISIA—
**MINISTRY OF ENVIRONMENT
AND SUSTAINABLE DEVELOPMENT**
—

Tunis, 27/06/2016

**To: Ms. Brennan Van Dyke, Executive Coordinator
United Nations Environment Programme
Gigiri, P.O. Box 30522 – 00100 Nairobi, Kenya**

Subject: Endorsement for Mediterranean Sea Programme (MedProgramme)

In my capacity as GEF Operational Focal Point for Tunisia, I confirm that the above Program proposal is (a) in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environment Programme. If approved, the proposal will be prepared and executed through UNEP/MAP, EBRD with co-executing partners (UNIDO, IUCN, UNESCO, EIB and WWF MedPO, etc.).

The total financing¹ being requested for the child projects under this Program is US\$47,390,000, inclusive of GEF financing for the child projects, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The funding breakdown requested for this regional Programme is detailed in the table below including the GEF Agencies that will implement the project(s). The below table also includes US\$ 1,500,000 of Biodiversity STAR earmarked by Libya.

Trust Fund	Agency	Focal Area	Programmin g of Funds	Amount (in US\$)			
				GEF Project Financing	Expected PPG	Agency Fee	Total
GEFTF	UNEP	International Waters	(as applicable)	20,500,000	700,000	1,845,000	23,045,000
GEFTF	EBRD	International Waters	(as applicable)	5,000,000	200,000	450,000	5,650,000
GEFTF	UNEP	Chemical and Waste	POPS and Mercury	11,750,000	300,000	1,057,500	13,107,500
GEFTF	EBRD	Chemical and Waste	POPS	3,750,000		337,500	4,087,500
GEFTF	UNEP	Biodiversity (Lybia)		1,376,147		123,853	1,500,000
Total Financing				42,376,147	1,200,000	3,813,853	47,390,000

Sincerely,
Sabyia Bnouni

GEF Operational Focal Point

¹ "Total financing" refers to funding from the GEFTF, LDCF, and/or SCCE.

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**ANNEX K1 CO-FINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS
CP2.2**



Mediterranean Action Plan Coordinating Unit
Barcelona Convention Secretariat



Date: 5 February 2019

Subject: In-kind contribution to the GEF ID 9685 project "Mediterranean coastal zones: Managing the Water Energy Food and Ecosystems Nexus." – Child Project 2.2 of the MedProgramme.

In my capacity as Coordinator of the Barcelona Convention Secretariat, Coordinating Unit for the Mediterranean Action Plan (UN Environment/MAP), I wish to confirm that UN Environment/MAP will coordinate the execution of the child project of the MedProgramme "Mediterranean coastal zones: Managing the Water Energy Food and Ecosystems Nexus" which will contribute to the balancing of competing water uses in priority coastal areas through water, food, energy and ecosystems integrated governance (NEXUS), to enhance environmental security and sharing of benefits in a number of freshwater basins in the Mediterranean LME.

I am hereby pleased to confirm that UN Environment/MAP will support the project with an in-kind contribution of 79,871 USD which will be allocated over the 60 months of the project duration starting from its approval by the GEF Secretariat. The in-kind contribution will be allocated as follows:

- 74,871 USD: Staff time in support of the project (Management of the Barcelona Convention Secretariat, Coordinating Unit for the Mediterranean Action Plan, Administration/Fund Management Officer, Human Resources Officer and Administrative Staff);
- 5,000 USD: In-kind contribution for Sundry and communication costs.

Yours sincerely,

Gaetano Leone
Coordinator

GEF Coordination Office
United Nations Environment Programme (UNEP)
United Nations Avenue
P O Box 30552-00100



Global Water Partnership Mediterranean
c/o MIO-ECSDE
Kyrristou 12, 10556 Athens
T: 210-3247490, -3247267, F: 210-3317127
E-mail: secretariat@gwpmmed.org, Web: www.gwpmmed.org

Mr. Gaetano Leone
Coordinator
United National Environment Programme
Barcelona Convention Secretariat
Coordinating Unit for the Mediterranean Action Plan
Vassileos Konstantinou 38
Athens 11635
Greece

Athens, 10 January 2019

Subject: Co-financing for the GEF MedProgramme Child Project 2.2 'Mediterranean coastal zones: Managing the Water Energy Food and Ecosystems Nexus'

Dear Mr. Leone

I wish to reiterate GWP-Med's interest in and support to the GEF MedProgramme including its Child Project 2.2 'Mediterranean coastal zones: Managing the Water Energy Food and Ecosystems Nexus', which will contribute to the Barcelona Convention objectives.

I'm please to inform you that GWP-Med will support the Project activities, over its implementation time, with an in cash or kind contribution of 4,000,000 USD with resources from GWP-Med related action lines and core funding as well as associated co-financing, through alignment and integration of such activities with the Project's objectives. It is expected that the cash co-financing will represent 25% (1,000,000 USD) of the total commitment and in kind co-financing would cover for the remaining 75% (3,000,000 USD). Effort will be made to increase the co-financing balance towards a higher in-cash share.

Looking forward to our close collaboration for the success of the Project.

Yours Sincerely

A handwritten signature in blue ink, appearing to be "Vangelis Constantianos".

Vangelis Constantianos
Executive Secretary

ANNEX K2 CO-FINANCING COMMITMENT LETTERS FROM COUNTRIES CP2.2



REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

Beirut, 1/3/2019
Our ref: 385.B.2019..

The Minister

Ms. Naoko Ishii
Chief Executive Officer and Chairperson
Global Environment Facility (GEF)
1899 Pennsylvania Ave NW, Washington, DC 20006, USA.

Subject: Co-financing contribution from Lebanon for Child Project 2.2 of the MedProgramme

Dear Ms. Ishii,

The Ministry of Environment welcomes the forthcoming collaboration between the Government of Lebanon and the GEF in the "Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security" (GEF ID 9607).

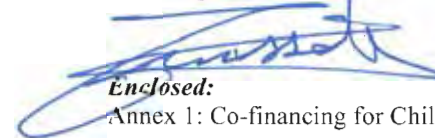
We reiterate our commitment to joining forces with the GEF to reduce environmental stress on the Mediterranean Sea through the diverse activities foreseen in the multi-focal area MedProgramme, including those that will be undertaken in Lebanon in support of Child Project 2.2.

In line with GEF's policy on co-financing, the Government of Lebanon, through the Ministry of Energy and Water, will contribute to the successful implementation of this Child Project through an in-kind contribution, estimated at USD 730,000.

We look forward to working together with the GEF on these important new activities in the Mediterranean.

Yours sincerely,

Minister of Environment
Fady Jreissati
GEF Operational Focal Point



Enclosed:
Annex 1: Co-financing for Child Project 2.2



c.c: Mr. Gaetano Leone - Coordinator of the UN Environment Mediterranean Action Plan-Barcelona Convention Secretariat.
Lebanese Ministry of Energy and water
Ministry of Environment: Service of Natural Resources.
Ministry of Environment: Registry-Department of Public Relations and External Affairs.
Ministry of Environment: Service of Urban Environment-Department of Urban Environmental Protection..



Annex 1

Details on co-financing for the MedProgramme to be provided by the Lebanese Ministry of Energy and Water (MEW)

A. Child Project 2.2(2) "Addressing Nexus issues affecting the Mediterranean LME"

Grant co-financing

1. Grant (cash) co-financing

	Description of proposed contributing activity	Funding source	Implementation period	Estimated total co-financing contribution (2019 – 2024) (USD)
1.	-	-	-	0
			Total:	0

In-kind co-financing

2. In-kind co-financing (staff time and institutional support to be provided by the Ministry of Energy and Water - MEW)

	Type of support	Description	Estimated yearly co-financing contribution (USD)	Estimated total co-financing contribution (2019 – 2024) (USD)
1.	MEW Staff Time	Technical and Administrative Support from MEW Staff and experts	138,000	690,000
2.	Institutional support	Meeting spaces, logistics, transportation, utilities and others	8,000	40,000
			Total:	730,000



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To Madame Naoko Ishii
CEO and Chairperson of Global Environment Facility

Subject: Co-financing commitment from the Kingdom of Morocco for Child Projects 1.1 and 2.2 of the Mediterranean Sea Programme: Enhancing Environmental Security" (GEF ID9607)

Dear Ms. Ishii,

The Secretariat of State in Charge of Sustainable Development welcomes the forthcoming collaboration between the Kingdom of Morocco and the GEF in the context of the "Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security". We reiterate our commitment to joining forces with the GEF to reduce environmental stress on the Mediterranean Sea through the diverse activities foreseen in the multi-focal area MedProgramme, including those that will be undertaken in Morocco in support of Child Projects 1.1 and 2.2. In keeping with the GEF's policy on co-financing, the Kingdom of Morocco will contribute to the successful implementation of these Child Projects through a combination of in-kind institutional support and complementary initiatives.

Co-financing for Child Project 1.1

Child Project 1.1 is primarily devoted to the reduction of pollution from POPs and mercury, with a complementary regional action to update the transboundary diagnostic analysis (TDA) for the Mediterranean Sea. The pollution reduction measures for this project – which include actions for both disposal and prevention – will be implemented in a two-phase process, with final decisions on the national activities for each phase to be taken by the Project Steering Committee at the appropriate stage of implementation.

The national activities identified for Morocco during the project preparation phase include the potential inventory and disposal of 32 tons of POPs wastes, the potential disposal of 2 tons of metallic mercury and pilot actions to prevent the future consumption of certain POPs and the generation of new POPs wastes. Morocco will also participate in the regional activity on the update of the TDA and in efforts intended to improve the integration and sharing of monitoring and research data across the region. The Kingdom of Morocco will support these activities through Coordination, facilitation of issuance of permits and access to sites, provision of information, supervision, safeguarding of equipment, possible centralization/transport, potential assistance with repackaging (i.e., provision of equipment and staff, etc.), and sharing of monitoring data, relevant socioeconomic information to update the baseline situation.

Furthermore, the pollution prevention activities of Child Project 1.1 will build upon and benefit from an important set of initiatives implemented by the Kingdom of Morocco, including the private sector, to support the sound management and safe disposal of harmful chemicals and wastes. These initiatives include among others the National Solid Waste Program (PNDM); the Updated National Implementation Plans (NIPs) for Stockholm Convention and the National MedPol Programme.

The value of all related support and complementary initiatives is estimated at USD 8 million, which represents the in-kind co-financing contribution of the Kingdom of Morocco to Child Project 1.1.

We would like also, in context of the Child Project 1.1 to take this opportunity to request that the execution by UNEP/MAP through MED POL of national activities of Morocco on POPs and Mercury as well as the update of the Transboundary Diagnostic Analysis for the Mediterranean Sea be conducted in full coordination with our Ministry and competent authorities. Morocco is one of the Contracting Parties to the Barcelona Convention, and as such we have benefitted from a longstanding and successful collaboration with UNEP/MAP and MED POL. This institutional arrangement provides a strong regional framework for the successful completion of the Child Project, as well as the technical knowledge, guidance and capacity to successfully execute the Project, as agreed, in the framework of the Barcelona Convention Protocols for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities and of the Programme of Work on the Mediterranean Action Plan. We are confident that this approach would be most effective to execute Child Project 1.1 of the MedProgramme and to support Morocco in efforts to achieve the Child Project's ambitious objective.

Co-financing for Child Project 2.2

Child Project 2.2 will foster water, food and energy security and the reduction of land-based nutrient pollution and other pressures, through the adoption of the water-food-energy-ecosystems nexus approach. The interventions in Morocco foreseen in this project include demonstration activities to build capacity and to test the effectiveness of the nexus approach in the relevant institutional settings, which will then feed into the development of a nexus strategy and action plan for a priority coastal area in the country. The Kingdom of Morocco will support these activities through the time of its staff, the provision of relevant data, coordination with relevant institutions and Ministries and logistic support.

Furthermore, a number of complementary initiatives in Morocco will produce knowledge and tools that can contribute to the activities of Child Project 2.2, including the Nexus Regional Dialogues (NRD) with UpM and Arab Countries League (2019-2022), The national agricultural plan (Plan Maroc Vert), Project on Promotion of Energy Efficiency in Agriculture in Morocco (2016-2020) with GIZ, ongoing project case studies "The Role of the Water-Energy-Food Nexus in Implementing the SDGs in Morocco" with cooperation of Texas University, National Rural Wastewater Programme (PNAR), National Project addressing integrated water resources management, agricultural practices, ecosystem services and the sectorial activities for implementing the Action Plans Of Sustainable Development in Water, energy and Agriculture.

The value of all related support and complementary initiatives is estimated at USD 6.5 million, which represents the in-kind co-financing contribution of the Kingdom of Morocco to Child Project 2.2.

We look forward to working together with the GEF on these important new activities in the Mediterranean.

Yours sincerely,

The GEF Operational Focal Point

Directeur du Partenariat, de la
Communication et de la Coopération

Rachid FIRADI

ANNEX L: ACRONYMS AND ABBREVIATIONS

ADA	Agency for Agricultural Development of Morocco
ADA	Austrian Development Agency
ADEREE	National Agency for the Development of Renewable Energy and Energy Efficiency
AMEE	Agence Marocaine pour l'Efficacité Energétique
ANRE	Agence Nationale de Régulation de l'Electricité
APR	Annual Project Review
ASM	Annual Stocktaking Meeting
AWP	Annual Work Programme
BAU	Business As Usual
BD	Biodiversity
BDL	Banque du Liban
BiH	Bosnia and Herzegovina
CBIT	Capacity-building Initiative for Transparency
CBO	Community-Based Organization
CC	Climate Change
CCCU	Climate Change Coordination Unit
CEO	Chief Executive Officer
CIE	Inter-ministerial Water Commission
CIFME	Centre d'Information et de Formation aux Métiers de l'Eau
ClimVar & ICZM	Integration of climatic variability and change into national strategies to implement the ICZM Protocol in the Mediterranean
CO ₂ eq	Carbon Dioxide Equivalent
CoP	Community of Practice
COP	Conference of the Parties
CP	Child Project
CSEC	High Council for Water and Climate
CSO	Civil Society Organization
CW	Chemicals & Waste
DFW	Fisheries and Wildlife Department
DP	Developmental Partners
DPA	Provincial Directorates of Agriculture
DSA	Daily Subsistence Allowance
DSS	Decision Support System
EA	Executing Agency
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EDL	Electricité Du Liban
EIB	European Investment Bank
ERE	Energy Regulatory Entity

ESDF	European Sustainable Development Fund
ESCWA	United Nations Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FINWACC	Mediterranean Sea Finance for Water Systems and Clean Coasts
FYROM	Former Yugoslav Republic of Macedonia
GCF	Green Climate Fund
GDP	Gross Domestic Product
GDWA	General Directorate of Water Administration
GEF	Global Environment Facility
GEF TF	Global Environment Facility Trust Fund
GETF	Global Environment & Technology Foundation
GIS	Geographic Information System
GIZ	German Corporation for International Cooperation
GW	Gigawatt
GWP-Med	Global Water Partnership - Mediterranean
ha	Hectare
IA	Implementing Agency
IAP	Integrated Approach Pilot
ICOS	Information Communication and Outreach Strategy
ICT	Information and Communications Technology
ICZM	Integrated Coastal Zone Management
IDAL	Investment Development Authority of Lebanon
IEA	International Energy Agency
IFI	International Financing Institution
IGSEWE	Institute of Geological Science Energy, Water and Environment
IHP	International Hydrological Programme
IMAP	Integrated Monitoring and Assessment Programme
IMF	Integrative Methodological Framework
INDC	Intended Nationally Determined Contribution
INRA	The National Agronomic Research Institute
IO	Information Officer
IOE	Independent Office of Evaluation
IPCC	Intergovernmental Panel on Climate Change
IPH	Institute of Public Health
ISARD	Inter-Sectoral Strategy for Agriculture and Rural Development
IW	International Waters
IWC	International Waters Conference
IW:LEARN	International Waters Learning and Resource Exchange Network
IWRM	Integrated Water Resources Management
JRC	European Commission's Joint Research Centre

KM	Knowledge Management
LARI	The Lebanese Agriculture Research Institute
LBS	Land Based Sources
LCEC	Lebanese Centre for Energy Conservation
LDCF	Least Developed Country Fund
LME	Large Marine Ecosystem
LNOAD	Lebanese National Observatory for Agricultural Development
M&E	Monitoring and Evaluation
MAP	Mediterranean Action Plan
MAR	Managed Aquifer Recharge
MASEN	Moroccan Agency for Sustainable Energy
MAVA	MAVA Fondation pour la Nature
MDCE	Ministère Délégué Chargé de l'Eau
MEA	Multilateral Environmental Agreement
MedPartnership	Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem
MedPCU	MedProgramme Coordinating Unit
MedProgramme	Mediterranean Sea Programme
MED EUWI	Mediterranean Component of the EU Water Initiative
MEMWE	Ministry of Energy, Mining, Water and Environment
MENA	Middle East and North Africa
MEW	Ministry of Energy and Water
MIE	Ministry of Infrastructure and Energy
MJ	Megajoule
MND	National Meteorology Directorate
MOA	Ministry of Agriculture
MOE	Ministry of Environment
MOEW	Ministry of Energy and Water
MTE	Mid-Term Evaluation
Mtoe	Millions of tonnes of oil equivalent
MW	Megawatts
NAP	National Action Plan
NCWR	Non-Conventional Water Resources
NDC	Nationally Determined Contribution
NEA	National Environmental Agency
NEEAP	National Energy Efficiency Action Plan
NEEREA	National Energy Efficiency and Renewable Energy Action
NGO	Non-Governmental Organization
NLC	National Licensing Centre
NREAP	National Renewable Energy Action Plan 2016-2020
NRESO	National Regulator for the Electricity Sector Organisation
NTC	National Territory Council

NWSS	National Water Sector Strategy
OECD	Organization for Economic Cooperation and Development
ONE	Office National de l'Électricité
ONEE	Office National de l'Électricité et de l'Eau potable
ONEP	Office National de l'Eau Potable
ONSSA	National Office for Food Safety
OPS	Overall Performance Studies
ORMVA	Regional Offices of Agricultural Development
PAA	Programme and Administration Assistant
PAP/RAC	Priority Actions Programme - Regional Action Center
PB	Plan Bleu – Regional Activity Center
PDAIRE	Integrated Master Plan for Water Resources Management
PFA	Programme Financial Assistant
PFD	Programme Framework Document
PIF	Project Identification Form
PIM	Project Implementation Manuals
PIR	Project Implementation Report
Plan Bleu	Plan Bleu Regional Activity Centre
PLGE	Local Water Management Plans
PM	Programme Manager
PMC	Project Management Cost
PMV	Plan Maroc Vert
PNE	National Water Plan
PNL	National Coastal Plan
PO	Programme Officer
PPG	Project Preparation Grant
PPSIS	Public Participation and Stakeholders Involvement Strategy
PRIMA	Partnership for Research and Innovation in the Mediterranean Area
PSC	Project Steering Committee
RAC	Regional Activity Centre
RBA	River Basin Agency
RBC	River Basin Council
RCP	Representative Concentration Pathways
REA	Regional Environmental Agency
RES	Renewable Energy Sources
SAP-BIO	Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean
SAP-MED	Strategic Action Programme to address Pollution from Land-Based Activities
SCCF	Special Climate Change Fund
SCPD	Steering Committee of the Policy Dialogues
SCP/RAC	Sustainable Consumption and Production Regional Activity Centre

SDATL	National Physical Master Plan of the Lebanese Territory
SDG	Sustainable Development Goal
SEGMS	Stakeholders Engagement and Gender Mainstreaming Strategy
SGP	Small Grants Programme
Sida	Swedish International Development Cooperation Agency
SIE	Société d'Investissements Énergétiques
SMART	Specific, Measurable, Achievable, Relevant and Time-bound
SME	Small and Medium-sized Enterprise
SPA/RAC	Specially Protected Areas Regional Activity Centre
STAR	System for Transparent Allocation of Resources
TA	Technical Assistance
TDA	Transboundary Diagnostic Assessment
TDA-MED	Transboundary Diagnostic Analysis for the Mediterranean
TE	Terminal Evaluation
TWh	Terawatt Hours
UfM	Union for the Mediterranean
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UN Environment	United Nations Environment Programme
UNEP	United Nations Environment Programme
UNEP-GRID	UNEP Global Resource Information Database
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
WUA	Water Users' Associations
WWF Med PO	WWF Mediterranean Programme Office

Annex M: Project Implementation Timetable

Component	Outcome	Output	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
			S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
Component 1: Institutional Strengthening.	Outcome 1: Enhanced regional and National capacities on the use of the nexus approach to address land-based issues.	Output 1.1: Regional Dialogue and Capacity Building on Nexus assessment and approach.										
Component 2: Addressing nexus issues affecting the Mediterranean LME.	Outcome 2: Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.	Output 2.1: New, or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents.										
		Output 2.2: Water-energy-food-ecosystems Nexus Assessments and multi-stakeholders consultation dialogues in priority coastal areas.										
		Output 2.3: Nexus strategies/action plans for priority coastal areas, possibly as part of other strategic documents for coastal areas.										
Component 3: Testing and upscaling Nexus solutions.	Outcome 3: Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs.	Output 3.1: Nexus demonstration activities.										
	Outcome 4: Priority nexus interventions	Output 4.1: Identified interventions,										

Component	Outcome	Output	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
			S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
	agreed upon including relevant mechanisms and arrangements.	including potential sources of funding.										
Component 4: Consultation and outreach.	Outcome 5: The medium and long-term sustainability of results ensured by engaging the relevant stakeholders.	Output 5.1: A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.										

ANNEX N: Gender Assessment and Action Plan

Child Project 2.2: Mediterranean Coastal Zones: Managing the Water-Energy-Food and Ecosystems Nexus

Prepared by: DEBASMITA BORAL
Gender Consultant, UN Environment
Mediterranean Action Plan (MAP)

1. Introduction

This Gender Assessment has been prepared as an input for the design of the GEF-funded ‘Mediterranean Coastal Zones: Managing the Water-Energy-Food and Ecosystems Nexus’ project, (also referred to as the Child Project 2.2 of the MedProgramme). This project is being envisioned under the aegis of the Mediterranean Sea Programme (MedProgramme), a comprehensive and powerful response to the environmental and social challenges faced in the region. Comprising of regional components in tandem with national activities, this project will involve three of the nine¹ MedProgramme beneficiary countries: Albania, Lebanon and Morocco.

For the broader context of the Child Project 2.2, it is important to understand the vision, breadth and capacity of the MedProgramme. The MedProgramme is the third step of 20 years of cooperation between UN Environment/MAP and GEF in the Mediterranean region. It builds upon the foundation created by both the successful implementation of previous GEF projects and the legal framework provided by the Barcelona Convention and its protocols. The Programme encompasses a series of interconnected projects (Child Projects or CP²) based on an overarching vision for change: ‘A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse, contributing to sustainable development for the benefit of present and future generations’. Through the joining of forces of three GEF focal areas and of numerous partners³ including UN agencies, development banks, MAP Regional Activity Centers (RACs), NGOs and others, under the leadership of UN Environment/MAP, the MedProgramme is expected to achieve large-scale impacts in improving livelihood and health of coastal populations, water security, and sustainability of marine and coastal ecosystem services. The Programme is, at once, a pioneering effort to generate dialogue, cooperation, and also for taking action on a regional scale for greater gender equality; and will, therefore, strategically contribute to the sustainable development efforts and address gender gaps in the Mediterranean basin.

Child Project 2.2’s focus on the water-energy-food (WEF) and ecosystems nexus is an extension of the current research and praxis in the integrated resource management discourse, yet it also marks a significant departure.⁴ Indeed, integrated resource management and decision-making have long attempted to rupture segmented planning, however, the WEF and ecosystems nexus approach seeks to further these efforts by: addressing externalities across multiple sectors; encouraging system efficiency and coordination; considering (and mainstreaming) resilience and vulnerability opportunities of different socio-ecological structures; optimizing trade-offs and cross-sectoral impacts; and, maximizing efficacy of developmental interventions towards achieving the Sustainable Development Goals (SDGs) and Agenda 2030. Child Project 2.2’s priorities reiterate the discussions held at the 24th Conference of the Parties (COP 24 – 2018) organized by the United Nations Framework Convention on Climate Change (UNFCCC) in Katowice, Poland – climate action and the operationalization of the Paris Agreement, too, cannot shy away from the interlinkages and considerations of the WEF nexus and require policy coherence in such a direction for greater effectiveness and sustainability.

2. Contextualizing CP 2.2 and Gender Actions in the Mediterranean

¹ The nine MedProgramme countries are: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco, and Tunisia.

² At the time of its approval in 2016, the MedProgramme comprised of seven Child Projects. Subsequently, UN Environment/MAP developed a Mediterranean-focused climate change adaptation project, for financing through the Special Climate Change Fund (SCCF). It was agreed by the UN Environment/MAP, UN Environment and the GEF that this SCCF project would be managed, for all intents and purposes, as an additional Child Project of the MedProgramme. Hence, the number of Child Projects now stands at eight.

³ GEF Lead Agency: UN Environment. Other GEF Agencies: European Bank for Reconstruction and Development (EBRD). Executing Partners: UNEP/MAP, European Investment Bank (EIB), UNESCO International Hydrological Program (IHP), Global Water Partnership (GWP) Med, World Wildlife Fund (WWF), MEDPOL, UNIDO, and IUCN.

⁴ Leck, H., Conway, D., Bradshaw, M., & Rees, J. “Tracing the Water – Energy – Food Nexus: Description, Theory and Practice” in *Geography Compass*, (Vol. 9, Issue 8). 2015.

Gender relations in the Mediterranean region are a kaleidoscope⁵ of overlapping social, economic and cultural roles, spread across a diverse multitude of countries and communities. The European Mediterranean countries exhibit certain social patterns and gender norms, distinctive in facets from the Middle East and North Africa (MENA) Mediterranean countries, for example. Additionally, the varying political situations in the region also determine how women and men are able to access and leverage sustainable development opportunities to be able to cope with water, food and energy insecurities, as well as reduction of ecosystem goods and services.

As Child Project 2.2 has a streamlined focus on three Mediterranean countries, the various disparities as well as commonalities in gender relations and the socioeconomic situation of the region and among the countries require highlighting. Labour market dynamics, for example, exhibit a significant gender gap and is a regional issue: women's employment rates and labour force participation, as a general trend, are lower, along with an existing gender wage gap. Since economic capital and financial stability are among the important determinants of coping capacities to external shocks (in this case, water, energy and food insecurity), women (and other marginalized groups, including ethnic minorities) are more likely to be vulnerable.

The 'double disadvantage' of the situation should also be reckoned with: due to lack of viable economic capital or socioeconomic rights, vulnerable groups are often excluded from, and limited by their lack of representation and agency, in water and sanitation policies, energy access and interventions, and food as well as agriculture-related decision-making – increasing the possibilities of exposure to the threats looming in the Mediterranean region. Further, in Albania, Lebanon and Morocco, coupled with barriers to the labour market and employment opportunities, women face difficulties in garnering meaningful participation within civil society and political spheres. Decision-making power within the household and the polity is limited by the patrilineal organization of society and gender-based customs, reducing women's capacities to engage in the public sphere and gear development opportunities to safeguard their interests. In recent years, however, more women have been capitalizing on opportunities presented by pluralistic interpretations of traditional gender norms, and entering both the work force and the public space as compared to previous trends. That being said, the gains achieved through social change in this region may not keep pace with the risks and threats arising from the lack of: water, food and energy security; integrated resource management policies and management of trade-offs and externalities; implementation of common environmental protocols and prohibitive laws; in the backdrop of climate change, loss of ecosystem goods and services and environmental degradation in the region. The burdens of emerging health risks and shocks resulting from these paucities, thus, may fall on the vulnerable groups. Given this predicament a WEF nexus perspective can define long-term and target-driven efforts, monitored by an evidence-based system, to increase policy coherence in managing water, energy and food insecurities.

The Child Project 2.2, thus, is timely. By prioritizing institutional strengthening (Component 1) and consultation and outreach (Component 4), the project will incrementally build up technical and policy capacities to identify, frame and address nexus issues both at the national and regional level, while involving a wide array of stakeholders and encouraging inclusive policy coherence to highlight socioeconomic and gender issues. Through Component 2 (addressing nexus issues affecting priority coastal zones of the Mediterranean LME) and Component 4 (testing and scaling up nexus solutions), the project will coordinate a pioneering, pan-Mediterranean effort towards establishing governmental bodies to steer the development of nexus assessments; conducting multi-stakeholder consultation dialogues; piloting demonstration activities; incubating private sector and other financial impetus towards these interventions; and, collating (as well as managing) the knowledge and information generated throughout the project cycle.

Given the project's above focus, a gender lens is both necessary and relevant for the project to execute the Mediterranean Basin's pioneering WEF and ecosystem nexus policymaking and project intervention successfully. Efforts will be made to incorporate the dimension of gender in a holistic manner in the project's activities: by investing in policymaking competencies on how to mainstream gender-responsive

⁵ See [this report](#) by the Union for the Mediterranean (UfM) regarding an action plan towards investing in gender equality in the region.

actions and engage an array of stakeholders in the nexus approach; by creating both impetus and incentive towards gender-responsive nexus solutions; and, by highlighting gender and socioeconomic aspects within the overall nexus framing.

In this manner, the project can ensure both environmental and social co-benefits through its results framework, optimal achievement of its objectives, capitalize on a unique opportunity to implement gender-responsive nexus policies, as well as proactive compliance with GEF, GWP-Med and UN Environment gender mainstreaming mandates, described in detail in the next section.

3. Gender Mainstreaming at the GEF, GWP-Med and UN Environment

Employing a strong mandate of operationalizing gender equality actions and promoting women's empowerment as well as contributing to the international conversation on gender mainstreaming, the GEF, GWP-Med and UN Environment have prioritized delivering inclusive and gender-responsive results, and mitigation solutions towards environmental issues, pollution risks, chemical hazards, and ecosystems degradation.

Having launched its initial gender policy in 2011, the GEF approved a reinforced policy in November 2017⁶ at the 53rd Council Meeting, shifting the focus from a 'gender-aware, do no harm' approach to a 'gender-responsive, do good' approach. This requires robust standards in the design, implementation and evaluation of GEF sponsored activities, and introducing measures that will allow the GEF, over time, to better leverage strategic opportunities to address gender gaps critical to the achievement of global environment benefits through project funding.⁷ In 2018, the *GEF-7 Programming Directions*, prepared by the Secretariat at Stockholm further clarified the GEF's evolving and progressive gender strategy since 2011 – by providing gender action points tailored for each GEF focal area.⁸ The GEF's recognition of the novelty that nexus problems and solutions⁹ represent are highlighted through its investment and/or coordination with innovative knowledge platforms (such as NEXUS, IW:LEARN, IIASA)¹⁰ and **project funding towards agencies adopting the nexus perspective**.

GWP-Med – specific examples of gender policy, gender advocacy?

UN Environment recognizes the role of gender equality as a 'driver of sustainable environment development'¹¹, particularly to enhance environmental security and climate resilience; to assuage the stresses on natural resources and dependent communities; and, to preserve the health of large marine ecosystems (like the Mediterranean Basin) which provide vital environmental and economic services to coastal populaces. Overall, the organization focuses on the increased visibility and capacity of vulnerable groups in sustainable development policy- and decision-making. To that end, the agency has published a lessons-learned report¹², through gender case study compilation, on issues homologous with the overall MedProgramme agenda: gender integration in marine and coastal pollution, coastal disaster risk reduction and climate change adaptation, coastal developmental planning and urban issues, and advocacy for gender-inclusive marine ecosystem management and research.

Thus, in keeping with the policies, actions and prerogatives of the GEF, GWP-Med and UN Environment, the imperative of this Gender Assessment is the inclusion of more gender-responsive elements throughout this propitious project. Alongside, the development of a dedicated Gender Action Plan in the preparation stage (with clear timelines, responsible parties, indicators and budgetary allocations to be refined in the implementation phase) based on the Assessment, will ensure that the project generates gender-equitable

⁶ See here for the latest [GEF Gender Mainstreaming guide \(EN\)](#). GEF. (2017) (publication)

⁷ "A new Policy on Gender Equality for the GEF". [GEF official website](#). (2017) (news update)

⁸ GEF-7 Replenishment – Programming Directions. Meeting Report from the 4th meeting held at Stockholm, Sweden for the Seventh Replenishment of the GEF Trust Fund, in April 2018.

⁹ See here for the latest update on nexus policies by the GEF. [GEF website](#). (2019)

¹⁰ See here for [NEXUS](#), [IW:LEARN](#) and [IIASA](#).

¹¹ *Gender Equality and the Environment: Policy and Strategy*. UN Environment. (2015)

¹² *Regional Seas Reports and Studies No. 207* (forthcoming). Marine and Coastal Ecosystems Unit. UN Environment. (2018)

and -accessible benefits, promotes greater gender equality, and the empowerment of vulnerable gender demographics in context-specific locales.

4. Methodology

The Gender Assessment has *four* methodological building blocks:

- A.** A comprehensive desk-review of existing literature was conducted on gender, WEF nexus, water energy and food security, and national priorities as well as planning relating to these issues in Albania, Lebanon and Morocco (and, more generally, in the Mediterranean region). The literature review revealed useful data and research on the interlinkages between WEF nexus, especially from a security perspective; the gender dimensions necessary for framing WEF and ecosystem problems and solutions; and current status of policy and implementation capacities. However, these thematic areas are not triangulated in mainstream research, and there exists lacunae of data and information sources on Mediterranean-specific gender-based and socioeconomic enquiry into these topics. Thus, a *socioeconomic and gender indicators and baseline* (Section 5) was derived from national aggregate statistics (from United Nations Development Programme – UNDP, World Economic Forum – WEF, Oxford Poverty and Human Development Institute – OPHI, International Labour Organization – ILO, and, the World Bank) to identify the potential impacts on different vulnerable groups and demographics, in view of the increasing water scarcity, threats to food security and energy poverty (defined as the absence of adequate modern energy services to meet basic household needs such as cooking and lighting, and the lack of basic energy for essential services such as health care, schooling and income generation), in the backdrop of losses faced in ecosystem services and goods.
- B.** Gender-responsive entry points towards the nexus approach have been expounded upon in Section 6. This section locates specific gender considerations and actions for the project outcomes, and presents normative information to gear the same towards better socioeconomic and environmental co-benefits.
- C.** Section 7 explores the policy environment in the three countries participating in Child Project 2.2, and presents a potential list of gender stakeholders, relevant for the project activities and collaborations during the project cycle.
- D.** Section 9 presents the Gender Action Plan, laying out specific action points mainstreamed within this GEF proposal’s results framework, corresponding actions, indicators, timelines, responsible parties, and budget allocations, to address the gender issues identified by the preceding Assessment.

5. Mainstreaming Entry Points, Gender Baseline and Socioeconomic Issues in the CP 2.2 Beneficiary Countries

The three Mediterranean countries participating in the CP 2.2 face different developmental challenges and socioeconomic disparities. Adopting the current perspective from development research, this Assessment has the following point of departure: poverty, labour force status and economic stability, marginalization, and gender inequities are threat multipliers when issues of water scarcity, energy poverty, food insecurity and overall lack of coordinated policy response arise. These also combine to determine coping capacities of vulnerable groups, undermine existing competencies and disturb (often) the fragile political consensus on resources, as well as generate income shocks and livelihood loss for marginalized demographic groups.¹³ Table I explores these nuances in detail by showing the potential of moving from a gender-blind

¹³ There is an evolving consensus among economists and social scientists attesting to the different ways certain social groups are caught in poverty traps, which are generated by a range of external shocks, despite the presence of development aid or climate finance. Climate change, environmental degradation, energy poverty, food insecurity, water scarcity, land mismanagement and other such potent issues do not need to affect the poorer and vulnerable groups in their vicinity to multiply threats, nor are these groups naturally vulnerable (such a position is based on polemics and conjecture – poorer households, especially led by women, to maintain steadier levels of food security are an example). Instead, mounting evidence shows that it is rather these threat multipliers and combination of the above factors which stall the progress, often reversing the clock, for the marginalized poor – both in rural and urban areas.

paradigm to a gender-mainstreamed one¹⁴, and why gender can add another important dimension to the WEF and ecosystem nexus approach.

TABLE I: WATER-ENERGY-FOOD and ECOSYSTEM NEXUS – WHY ADD GENDER?

GENDER BLIND	GENDER MAINSTREAMED	RELEVANCE
<p>The water-energy-food nexus is a cross-sectoral approach to address the challenges of climate change, poverty and inequality, in which each system (water, agriculture and energy) is analyzed through their intersection with each other. This is beneficial for farmers, manufacturers, water users, policymakers, agricultural and energy cooperation¹⁵</p>	<ul style="list-style-type: none"> Gender and socio-ecological considerations are a prerequisite of WEF and ecosystem nexus approach – the social groups which the WEF nexus approach could potentially benefit overlap with issues of gender, class, ethnicity and geopolitical location 	<p>The WEF and ecosystem nexus is a productive discourse and methodology in academic research, science-policy dialogues, and development agendas.¹⁶ Further, the nexus approach has strong dialogue value in raising awareness and understanding, and spurring appropriation and action, catering to the architecture of Agenda 2030 and the SDGs.¹⁷ However, as Grenade et al. point out, while the nexus provides a robust framework for interdisciplinary study, research remains focused on synergies and trade-offs in resource ‘security’ and fails to adequately acknowledge the environment as the set of natural processes underpinning the nexus, particularly interactions among water, energy, and food, in the backdrop of the socio-ecological systems these are a part of.¹⁸ Early analysts have also reiterated the sidelining of gender and socioeconomic perspectives in nexus problem identification and solutions, especially in light of blanket categories such as ‘farmers’ or ‘water users’, which fail to highlight the disparities arising from gender, socioeconomic positioning, class, caste and ethnicity in a given context.</p> <p>The current baseline of research and action on sociological and gender perspectives on WEF nexus and concomitant policies is nascent. However, given the conceptualization of interlinkages and synergies the WEF nexus vocabulary envisions, gender mainstreaming can be easily incorporated as a dimension within nexus policy and solutions. For example, in a recent intervention by the Commonwealth Scientific and Industrial Research Organization (CSIRO) with the International Centre for Integrated Mountain Development (ICIMOD) addressed the water-gender-livelihoods nexus in the Koshi Basin, Nepal.¹⁹ It disentangled the different climate impacts on water availability, affecting both household and agricultural water use. The basin-wide assessment combined scientific, social, ecological and economics perspectives, revealing that since Nepalese women in rural areas bear the</p>

¹⁴ The MedProgramme’s overall Gender Mainstreaming Strategy (GMS) 2019 – 2024 consists of three targets: (1) address Gender-blind hurdles with gender-differentiated impacts; (2) mitigate gender-specific barriers and discriminatory norms; and, (3) scale up gender-sensitive policies and deliver gender-responsive outcomes. The first target is relevant here as often issues of chemicals and waste, pollution risks and health hazards, and social costs of wastewater and sanitation mismanagement are deemed to affect the general populace. However, as feminist ecological studies have shown, such a gender-blind approach only leads to sub-optimal achievement of project objectives, as the different needs and perspective of vulnerable and/or marginalised groups are not adequately represented. Yet, at the same time, gender-blind policies and project goals can be easily made into gender-responsive ones, without requiring a complete overhaul of existing structures – this requires gender mainstreaming action points incorporated after in-depth studies of the context as well as stakeholder consultations.

¹⁵ *Gender in a changing world*. Commonwealth Scientific and Industrial Research Organization (CSIRO).

¹⁶ Grenade, R., House-Peters, L., Scott, C. A., Thapa, B., Mills-Novoa, M., Gerlak, A., & Verbist, K. “The nexus: reconsidering environmental security and adaptive capacity” in *Environmental Change Assessments* (Vol. 21). (2016)

¹⁷ Cudennec, C., Liu, J., Qi, J., Yang, H., Zheng, C., Gain, A., Lawford, R., de Strasser, L., & Yillia, P. T. “Epistemological dimensions of the water-energy-food nexus approach” in *Hydrological Sciences Journal*. (2018)

¹⁸ Grenade, R., House-Peters, L., Scott, C. A., Thapa, B., Mills-Novoa, M., Gerlak, A., & Verbist, K. “The nexus: reconsidering environmental security and adaptive capacity” in *Environmental Change Assessments* (Vol. 21). (2016)

¹⁹ See more about the Koshi Basin Project here. ICIMOD. (2018)

GENDER BLIND	GENDER MAINSTREAMED	RELEVANCE
		burden of domestic water provision, as well as subsistence farming, the climate-induced water scarcity would simultaneously lead to livelihood-loss and increased economic burden.
WEF nexus policy and action can support communities and generate wider competencies among stakeholders, leading to improved outcomes in water, energy and food security	<ul style="list-style-type: none"> Water security, food security and energy access display duality: they are, at the same time, interconnected impediments to accessing sustainable development opportunities but also outcomes of the lack thereof - certain groups may be disadvantaged by the current baseline scenario to even access WEF policy and action Time poverty 	<p>Building on the previous point, assessing how different social groups are able to cope when water scarcity, food insecurity and energy poverty do inform the social condition, also reveal why sociological factors are of import in the conversation on WEF nexus policy and action.</p> <p>Demand-driven water scarcity in the Mediterranean – particularly MENA region – will affect both food systems and energy generation, according to World Bank model simulations.²⁰ The resulting water insecurity can be conjectured to escalate social tensions and fragility (particularly between refugee and host communities in Lebanon), and implicate women, who often have the main responsibility for domestic water provision. Further, food insecurity and energy poverty generated through water scarcity also will have gendered impacts. To assuage these gaps and ensure gender-equal representation, capacity building and technical assistance outputs have to focus on training female researchers and workers for this sector, as this would form the basis for inclusive growth and decision-making.</p> <p>Additionally, there remains the issue of time poverty. Women, and adolescent girls disproportionately shoulder the burden of unpaid care and domestic work.²¹ This leads to a phenomenon called ‘time poverty’, defined as a situation where a certain person’s time use is inflexible and determined by external factors, consumed by non-remunerative and non-productive tasks, perpetuating their absence from decision-making or governance structures and raising the opportunity costs for other profitable pursuits. Lack of financial capital and economic access also lessens the decision-making and bargaining power of individuals within the household – where men (often engaged in direct economic activities in the breadwinning roles) may prioritize other necessities.</p>

The following data profiles, keeping in context the gamut of issues outlined in Table I, thus borrow from UNDP’s Human Development Index (HDI), Gender Inequality Index (GII), and Gender Development Index (GDI). Additionally, they refer to the Global Gender Gap Index (GGGI) (WEF) and compiles national-level poverty statistics (conducted by national authorities of the three countries, as well as the World Bank, in some cases), labour force participation rates and status (primarily from ILO data), and traces the rural-urban dichotomy. These indices have differing methodologies, and are being employed, at the outset, as indicative (and *not* conclusive) measures of current levels of development, gender equality, and poverty and labor force participation.

²⁰ *The Water-Energy-Food Nexus in the Middle East and North Africa*. World Bank. (2018)

²¹ *Beyond Scarcity: Water Security in the Middle East and North Africa*. World Bank. (2018)

As Booyesen’s research²² shows, composite indices present both challenges and advantages. It should be noted that numerous fallacies have been identified in the methodologies employed in composite indexing. These indices are mainly quantitative, and present empirical and aggregate measures of complex development phenomena, making values apparently objective, at the cost of subjective nuances. Yet, these also remain invaluable as useful supplements to income-based development indicators, understanding relative degrees of development, simplifying complex measurement constructs as well as providing access to non-technical audiences. To balance this dichotomy, ranks should be given less precedence in certain indices and relevance notes have been included to contextualize the results.

TABLE II: HUMAN DEVELOPMENT INDEX (HDI)²³
(out of 188 countries – United Nations Development Program – UNDP, 2018)

Defining the HDI: This index measures and combines three basic dimensions of human development (long and healthy life, knowledge and decent standard of living) and provides an overall socioeconomic landscape of a country.

Relevance of the HDI: Since socioeconomic capital and security are crucial determinants of the invest in or escape out of water and food insecurity, energy poverty, and loss of livelihoods, this index indicates the average potential of the to consider and invest in different policy alternatives such as the WEF nexus, build up incremental competencies in their policy and executive personnel, and provide support towards devolved bodies.

Indicative, not conclusive: In line with Booyesen’s argument, the HDI should be treated as indicative, not conclusive. It provides an overview of relative degree of development in a particular country but remains a ‘synthetic indicator’. Recent research has shown the need to supplement the HDI with other indicators associated with economic and social cohesion, sound development strategies, and sustainability in growth models.²⁴

COUNTRY	RANK	RELEVANCE
Albania	68 th	With ‘high human development’, Albania’s capacity towards addressing nexus problems is pegged well. However, due to regional variation in poverty rates (high in the Kukës prefecture – 22% v. Gjirokastrë prefecture (<i>qarks</i>) – 8%, in particular ²⁵) in the country, environmental services and social co-benefits may not be equitably shared.
Lebanon	80 th	With ‘high human development’, Lebanon’s capacity to shift towards a nexus policy-making and action is pegged well. However, due to high concentration of income and wealth in the country ²⁶ and the spillover effects of the Syrian civil war, environmental services and social co-benefits may not be equitably shared. A World Bank report finds that despite high per capita water endowment as well as relatively high level of income, Lebanon is using more than two-thirds of its water resources, leading to overextraction and salination of groundwater aquifers, as well as grappling with an inadequate water supply network. ²⁷
Morocco	123 rd	With ‘medium human development’, Morocco’s readiness towards adopting nexus actions and solutions might be limited, wherein the government may prioritize other seemingly pressing developmental

²² Booyesen, F. “An Overview and Evaluation of Composite Indices of Development” in *Social Indicators Research*, (Vol. 59 No. 2). (2002)

²³ UNDP. (2018)

²⁴ Bilbao-Ubillos, J. “The Limits of Human Development Index” in *Sustainable Development*, (Vol. 21 No. 6). (2011)

²⁵ *Portraits of Poverty and Inequality in Albania*. INSTAT (Albanian Institute of Statistics) & World Bank. (2015)

²⁶ Assouad, L. “Rethinking the Lebanese Economic Miracle”. *WID*. (2017)

²⁷ *Lebanon: Country Water Sector Assistance Strategy (2012 – 2016)*. *World Bank*. (2012)

COUNTRY	RANK	RELEVANCE
		pursuits or continue segmented planning to strengthen particular sectors. Pronounced gender inequality in the country slows economic growth ²⁸ , environmental services and social co-benefits may not be equitably shared.

TABLE III: GENDER INEQUALITY INDEX (GII)²⁹
(out of 159 countries – UNDP, 2018)

Defining the GII: This index, showing inequality in achievement between men and women in three aspects (reproductive health, empowerment and labor market), provides a useful gender baseline in terms of health equity, economic capital and financial access, speaking to the gendered opportunities that men and women, on average, face in the countries. This baseline has been elaborated upon using existing gender studies literature on each country.

Relevance of the GII: This index provides a primary understanding of the different levels of achievements on basic development indicators between men and women. This displays useful features towards the gender status quo hypotheses, which could then be derived in the context of this project.

Indicative, not conclusive: In line with Booyen’s argument, the GII should be treated as indicative, not conclusive. Pernmayer finds that the functional form of the index could be unclear, particularly the inclusion of indicators of relative performance of women vis-à-vis men, along with absolute women-specific indicators.³⁰

COUNTRY	RANK	RELEVANCE
Albania	52 nd	Gender roles in Albania, particularly in the household setting, continue to be discriminatory despite several milestones being achieved towards gender equality in the past 25 years. A 2016 UNDP pilot research study ³¹ shows that the shift from traditional to equitable roles within the household has not been completed, despite the enactment of laws. Women bear the brunt of domestic responsibilities, exhibit telltale signs of time poverty and continue facing some barriers in labor market entry.
Lebanon	85 th	Lebanese women face the least gender disparity in the Arab world with their male counterparts. Despite this, discriminatory social codes, particularly the focus on intersectional civil and family laws, continue to impede women’s empowerment. ³² Although the gender gaps at higher levels of education are reversing, women continue to face entry barriers to the labor market as well as time poverty due to the predominance of unpaid care work.
Morocco	119 th	Political, social and economic capitals are not equitably distributed among Moroccan men and women. Without access to these vital resources, combined insecurities from food and water, as well as energy poverty, will only burden those at the lower echelons of society. Gender equity in labor force participation is one of the lowest in the world ³³ ,

²⁸ “Reducing gender inequality in Morocco can boost growth”. *IMF*. (2017)

²⁹ *UNDP*. (2018)

³⁰ Pernmayer, I. “A Critical Assessment of the UNDP’s Gender Inequality Index” in *Feminist Economics*, (Vol. 19 No. 2). (2013)

³¹ *Public Perceptions and Attitudes Towards Gender Equality in Albania*. UNDP. (2016)

³² *Lebanon: Country Gender Assessment*. *European Union*. (2015)

³³ *Morocco: Country Gender Assessment*. *World Bank*. (2015)

COUNTRY	RANK	RELEVANCE
		disadvantaging women further: women lag behind on economic capital needed to combat external shocks and risks.

TABLE IV: GENDER DEVELOPMENT INDEX (GDI)³⁴
 (grouped in 5 categories, 1: high equality to 5: low equality – UNDP, 2018)
& GLOBAL GENDER GAP INDEX (GGI)³⁵
 (out of 144 countries – World Economic Forum – WEF, 2017)

Defining the GDI & GGI: The GDI (UNDP) index shows the ratio of female to male HDI values. GDI expresses values in deviation, hence, in order to facilitate understanding GDI grouped categories have been used (as grouped by UNDP) to show the absolute deviation from gender parity in HDI values. This further reiterates the results of the HDI and GII (also by UNDP), and shows the real gender gap in human development achievements.

The GGI (WEF) benchmarks 144 countries on their progress towards gender parity on four thematic dimensions – economic participation and opportunity, educational attainment, health and survival, and political empowerment. The Index benchmarks national gender gaps on economic, political, education- and health-based criteria, and provides country rankings that allow for effective comparisons across regions and income groups, over time.

Relevance of the GDI & GII: Since the GDI and GGI use different methodologies, and are conducted by different agencies, this report does not suggest a causality between the two indices. However, a correlation is undeniable, and both indices pick up similar rates of gender disparity in the CP 2.2 countries.

Indicative, not conclusive: In line with Booyesen’s argument, the GDI & GII should be treated as indicative, not conclusive. Geake Dijkstra and Hanmer find that although gender-related development indices have increased attention towards ‘feminization of poverty and underdevelopment’, more robust data needs and indicators are required to create aggregate indices that are sensitive to contemporary trends in gendered privation, particularly with the categorization of ‘women’.³⁶

COUNTRY	GDI – GROUP	GGI – RANK	RELEVANCE
Albania	Medium-high equality	38 th	In Albania, certain differences in human development indicators, such as economic access, underpin men and women’s different incremental capacities to access resource management policy and dialogue. Given that power dynamics within the average Albanian household follows the breadwinner-caregiver model, the public sphere is wont to reflect such trends as well. However, medium-high equality also reflects a positive landscape of gender equality – indeed, the country has achieved several milestones towards catalyzing parity among the different genders. While it is a work-in-progress, this indicates that Albania is primed to capitalize on gender-responsive WEF

³⁴ UNDP. (2018)

³⁵ WEF. (2017)

³⁶ Geske Dijkstra, A. & Hanmer, L. C. “Measuring Socio-Economic Gender Inequality: Towards an Alternative to the UNDP Gender Index” in *Feminist Economics*, (Vol. 6, No. 2). (2000)

COUNTRY	GDI – GROUP	GGI – RANK	RELEVANCE
			nexus opportunities towards greater socio-ecological benefits.
Lebanon	Low equality	137 th	The GDI and GGI rankings demonstrate the need towards bolstering the gender equality discourse in Lebanese policymaking and environmental action. Gender gaps in income, health access and education have a directly proportional effect on public presence, negotiation skills and gendered access to decision making. However, riding the tide of change that WEF nexus framing promises, Lebanon could significantly improve its gender equality scores, by ensuring social and environmental co-benefits through policymaking and action.
Morocco	Low equality	136 th	Morocco reflects a similar situation to Lebanon. The GDI and GGI rankings demonstrate the need towards bolstering the gender equality discourse in Moroccan policymaking and environmental action. Gender gaps in income, health access and education have a directly proportional effect on public presence, negotiation skills and gendered access to decision making. However, riding the tide of change that WEF nexus framing promises, Morocco could significantly improve its gender equality scores, by ensuring social and environmental co-benefits through policymaking and action.

TABLE V: SOCIOECONOMIC FACTORS

Note: This table is compiled from various sources, and determines poverty levels (according to USAID income grouping), rural-urban divide and labor force participation parity in the CP 2.2 countries.

Poverty Level: Water, food and energy insecurities are threat multipliers or outcomes of poverty, hence this is an important indicator, corroborating the HDI ranking. To illustrate this, the Multidimensional Poverty Index has been used. OPHI and UNDP calculate the MPI, for measuring acute poverty in developing countries. It complements traditional income-based poverty measures by capturing the severe deprivations with regard to different indicators: education, health, and living standards. The index not only identifies those living in multidimensional poverty, but the extent (or intensity) of their poverty – as the nexus problems are, more often than not, both outcomes or repercussions of entrenchment of this type of poverty. The MPI can help the effective allocation of resources by making possible the targeting of those with the greatest intensity of poverty; it can help address some SDGs strategically and monitor impacts of policy intervention.³⁷

Rural/Urban Scenario: WEF and ecosystem nexus explicitly identifies agriculture as one of the sectors where nexus problems arise, while also being a perfect testing ground for

³⁷ See UNDP's [Technical Notes](#) (2016) for more.

nexus solutions. However, lack of development and investment in rural areas can often impede the adaptive capacities of vulnerable demographics or the readiness to implement nexus action. Similarly in urban poor areas, water infrastructure or energy technology may be inadequate, and combined with food security, these factors may pose as impediments to nexus dialogue and policymaking.

Labor force participation parity (% of working age population active)³⁸: In the Mediterranean, one of the prime sectors facing gender disparity is labor force participation parity. The region is plagued with high unemployment rates³⁹ (12.5% average), and this phenomenon remains a gendered one: women and youth are less likely to be employed than men, as a general trend. Additionally, the existing gap in labor force participation indicates that women possess less economic capital, and can often be limited by gendered (mostly unpaid care work) roles. This directly correlates to lessened participation in coastal economies and scarce or unstable livelihoods; lack of decision-making power both within the household and larger policy frameworks such as nexus dialogues; and, greater exposure to repercussions of water scarcity, food insecurity and energy poverty.

COUNTRY	POVERTY INDICES	RURAL-URBAN	LABOR FORCE PARTICIPATION <i>(The gender gap is calculated as the difference between women's and men's labor force participation rates – simply, the number of working age men and women employed in a country, ILO 2016)</i>
Albania	<p>1.2% below the National Poverty Line.⁴⁰</p> <p>The Multidimensional Poverty Index reveals that 7.2% of Albanians are precariously 'near' poverty.</p>	<p>Diber and Kukes qarks (prefectures) show lowest rates of urbanization, and related issues: fragmentation, population decline, <i>et al.</i> Tirana and Durres, on the other hand, have the highest level of urbanization and best performance on demographic and geographic indicators.⁴¹ Rural to urban migration is common, and often unbridled, leading to environmental complications as well as socioeconomic tussles.</p>	<p>39.3% female 60.7% male</p> <p>During the socialist rule, the government policy of full employment boosted female participation and, as a consequence employment rates were higher than the average figures of the OECD countries. Policies such as investment in childcare facilities and female education stimulated women to enter and remain in the labor market. The market economy disadvantaged women by providing unstable employment opportunities, although education outcomes and employment sectoral options have improved in recent decades, leading to the</p>

³⁸ *World Employment and Social Outlook: Trends for Women*. ILO. (2017)

³⁹ "Unemployment: The Mediterranean Effect", *World Bank*. (2012)

⁴⁰ *Regional disparities in Albania*. UNDP. (2010)

⁴¹ *Ibid.*

			widening of the gender gap in labor force participation. ⁴²
Lebanon	<p>30% below the Middle-Income-Country Poverty Line.⁴³</p> <p>Although GDP increase in Lebanon remains steady, the country faces the economic and social impact of the Syrian crisis. With the influx of 1.5 million refugees, Lebanon's public finances, service delivery, and the environment have been strained, increasing poverty headcount and unemployment.⁴⁴</p>	<p>Lebanon's population is 87% urban, concentrated particularly in Beirut. The dynamics of urban poor show a pan-Mediterranean attribute: job creation is low, youth unemployment is high, and the vulnerable groups are trapped within the informal sector. In the rural areas, different causes entrench poverty: social protection and government service delivery are limited in these remote and mountainous regions.</p>	<p>23.5% female 70.3% male</p> <p>Female labor force participation is low in Lebanon, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world. This is a significant loss as including women and enabling conditions to retain them in the workforce can potentially boost the growth rate of the Lebanese economy.⁴⁵ Recent studies, however, show that Lebanon is leading the growth rate of female participation in labor force in the MENA region.⁴⁶</p>
Morocco	<p>15.5% below the Lower-Middle-Income-Country Poverty Line.⁴⁷</p>	<p>3 million out of the 4 million poor live in rural areas⁴⁸</p> <p>The subjective</p>	<p>25% female 74.1% male</p> <p>Female labor force</p>

⁴² Garcia-Pereiro, T. "The Determinants of Female Employment in Albania". Open access on [ResearchGate](#). (2016)

⁴³ *Lebanon: Rapid Poverty Assessment*. [UNDP](#). (2016)

⁴⁴ *Lebanon: Economic Outlook*. [World Bank](#). (2017)

⁴⁵ Find more on Lebanon on the ERF [website](#).

⁴⁶ See this AN-NAHAR [coverage](#).

⁴⁷ The lower-middle-income country Poverty Line, as defined by the World Bank, stands at consumption below the standardized poverty line of \$3.10/day. World Bank. (2017)

⁴⁸ [Fair Observer](#). (2017)

	<p>In Morocco, there has been steady decline in poverty, though the underlying factors may be remittances, deceleration of population growth and macroeconomic stability. Inequalities between rich and poor are still abounding, and poverty essentially has a rural face in the country.</p> <p>The MPI also reveals that an additional 12.6% of Moroccans are dangerously 'near' poverty. Among the 15.5% poor, 5% are in 'severe' multidimensional poverty.</p>	<p>poverty rate has increased by 15% from 2004 figures in rural Morocco. Meanwhile, the urban poverty rate is half of the national average in 2001, and in 2014, stands at one-third.⁴⁹</p>	<p>participation is low in Morocco, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world.⁵⁰ However, Morocco is entering a period potential demographic dividend, with the number of working-age population, relative to below 15 and above 64 years, increasing. This could either signal a potential economic boom or an unemployment crisis, if economic activity is not encouraged and made inclusive for the marginalized.⁵¹</p>
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6. Gender Entry Points for CP 2.2 Components

Building on Table I, which showed why gender and socioeconomic conditions require mainstreaming in actions on water-energy-food and ecosystem nexus policymaking, action and service delivery, Table V provides a breakdown of the project components and posits gender mainstreaming considerations for each. These entry points have been suggested after reviewing the existing literature and data, and have the potential to shift the needle on the success garnered through the project objectives – from optimal to inclusive.

TABLE V: COMPONENT-SPECIFIC GENDER CONSIDERATIONS FOR CP 2.2

COMPONENT	GENDER MAINSTREAMING CONSIDERATIONS
<p>1: Institutional Strengthening</p> <p>4: Consultation and Outreach</p>	<p style="text-align: center;">BASELINE:</p> <p>The water-energy-food and ecosystems nexus approach has only recently gained traction as a methodology and discourse in academic, development and policy spheres. Water, energy and agricultural systems have been conventionally dealt with separately in governmental frameworks and investment planning. For example, the lack of WEF nexus framing allowed for highly subsidized energy supplies in urban areas (MENA countries), the World Bank found, to over-extract groundwater resources (through pumping). Further examples exist such as energy-intensive desalination and fossil fuel dependence.</p>

⁴⁹ World Bank. (2018)

⁵⁰ ILO. *Women in Business and Law*. (2014)

⁵¹ This IFAD report expounds on the factors affecting employment and gender in Morocco.

	<p style="text-align: center;">ALTERNATIVE SCENARIO:</p> <p>CP 2.2 can provide an in-depth and pioneering understanding of how men and women fare differently with the above issues in site-specific contexts, where subgroups (such as the urban poor or rural social groups) lie on the capacity spectrum to adopt nexus solutions, and which gender constraints and priorities could to be addressed through nexus actions. Tentatively, it will seek to address these issues through the entry point:</p> <ol style="list-style-type: none"> a. Vulnerable and marginalized demographics are often limited by the exclusion of their needs and perspectives from resource management strategies, and the lack of decision-making power and socioeconomic and political influence in the public sphere. b. Addressing the lacuna in the literature can also bolster updating of current mechanisms as well as future efforts in the region, by providing data-driven and normative information, and priming regional and national agencies to consider these parameters in the nexus policymaking. c. Gender-responsive information and gender-disaggregated data, deriving from primary field sources (from pilot surveys in selected target sites on nexus problem identification such as that of CSIRO in Nepal) and secondary sources, can help in fine-tuning existent policies, establish exposure scenarios for different genders and age-groups, formulate new regulations, streamline national and local action, and create a regional effort to address common issues to support vulnerable demographics. Involving vulnerable and marginalized groups, after identification through field surveys and consultations, in relevant nexus service delivery as stakeholders can increase the shelf life and ownership of the project outcomes.
<p>PROJECT ACTIVITIES⁵²</p>	<p><i>Outcome 1: Regional and national capacities on the use of the nexus approach to address land-based issues are enhanced</i></p> <p>Output 1.1: Dialogue and capacity-building on nexus assessment and approach</p> <ul style="list-style-type: none"> ✓ Dialogue and capacity building are key primers for concerted gender-mainstreaming action. CSOs, NGOs, labour rights groups, women’s organizations and grassroots groups could be trained on the finer nuances of the socioeconomic factors determining the efficacy and importance of nexus problem framing and solutions. They can, then, be involved to employ a bottom-up approach to include the identified stakeholders (relating to Component 4), as well as to generate inclusive policies. ✓ Additionally, gender-balanced technical groups, as a part of the institution strengthening process, have to be established for the project activities. This is because vulnerable groups are often excluded from, and limited by their lack of representation and agency in such decision-making bodies. <p><i>Outcome 5: Stakeholders engagement contribute in project implementation and sustaining of results</i></p> <p>Output 5.1: A Stakeholders Engagement and Gender Mainstreaming Strategy (SEGMS)</p> <ul style="list-style-type: none"> ✓ As mentioned previously, the dearth of knowledge, research and information on gender and social factors in the nexus domains has prevented effective policymaking and concerted efforts from governments. Thus, a dedicated SEGMS, can specifically address this.

⁵² Refer [to Annex X](#): Project Results Framework, [p.x-x](#) for detailed activity description. For the purposes of this Assessment, these activities are suggestive and will be fleshed out in alignment with project progression in later phases of the cycle.

	<p>✓ Additionally, within the SEGMS, awareness-raising activity could contribute better information access for vulnerable and susceptible groups. Women's information networks are often smaller than men's, presenting fewer opportunities for learning about nexus solutions. Spreading the information and data collected through accessible and effective delivery channels could aid in the uptake of these actions – women are likely to address the needs of their families, particularly children, and bring changes in consumption patterns.</p>
<p>2: Addressing nexus issues affecting priority coastal zones of the Mediterranean LME</p> <p>3: Testing and scaling-up nexus solutions</p>	<p style="text-align: center;">BASELINE:</p> <p>Building on the baseline presented for the earlier project components, it can be concluded that the nexus approach adopted by CP 2.2 will go into uncharted territory – that is, it will have the opportunity to uniquely build up nexus competencies nationally and regionally. The existent lacuna presently exhibits a paucity of concerted and coordinated effort to also incorporate a gender-responsive perspective, and also prevented the generation of Mediterranean-specific, gender-disaggregated information and data gaps, eclipsing the extent of the interlinked problems of these sectors.</p> <p style="text-align: center;">ALTERNATIVE SCENARIO:</p> <p>CP 2.2 will perform a unique function in developing nexus competencies by conducting assessments, multi-stakeholder consultation and dialogue, institutional strengthening, and preparing nexus strategies for system efficiency among water, energy and food as well as ecosystem sectors. It can affect regional status quo of gender equality, as well as national, through the nexus approach in the following ways:</p> <ol style="list-style-type: none"> a. Mainstreaming gender across the Albania, Lebanon and Morocco on these issues by providing a gender-informed nexus metric that addresses the issues from different levels: (i) welfare: material welfare and exposure determined through the basic provision of services such as potable water access; (ii) access: policy and management strategy negotiation roles and being able to incorporate inputs across stakeholders; (iii) conscientisation: building understanding of the differences between sex and gender roles, and how these affect outcomes; (iv) participation: encouraging grassroots involvement and engagement, ensuring mutual trust and ownership of both interventions and their outcomes. b. Providing a script for future interventions and policies through the successes and lessons learnt for the project, while also creating a foundation for nexus engagement through pan-beneficiary countries standardization of protocols and policymaking.
<p>PROJECT ACTIVITIES</p>	

Outcome 2: Interlinkages among nexus sectors identified and knowledge improved feeding in policymaking in priority Mediterranean coastal areas, through nexus assessments and policy dialogues

Output 2.1: New, or existing inter-institutional bodies convene and steer the development of nexus assessments and strategic documents

Output 2.2: Water-energy-food-ecosystems nexus assessments and multi-stakeholders consultation dialogues in priority coastal areas

Output 2.3: Nexus strategies/action plans in priority coastal areas are prepared, possibly as part of other strategic documents for coastal areas

- ✓ Using the above outputs, CP 2.2 can pioneer gender-responsive project steering and coordination, particularly ensuring that women are not only represented, but can also undertake meaningful and responsible roles in nexus problem identification, assessment and solutions.
- ✓ Further, it can ensure assessments and consultations dedicate resources towards identifying gender-specific issues that feed into the nexus perspective in the region
- ✓ Strategies and action plans to catalyze nexus-related action in priority coastal zones, building on outputs 2.1 and 2.2, must reflect gender-responsive interventions and take into account the gamut of socio-ecological dimensions identified through the assessments and consultations

Outcome 3: Technologies and approaches to address nexus trade-offs and achieve co-benefits are screened and tested towards scaling up interventions

Outcome 4: Mechanisms and arrangements to implement priority nexus interventions are agreed upon

Output 3.1: Nexus demonstration activities

Output 4.1: Interventions identified, including their financing by institutional and/or private development partners

- ✓ Building on the components 1 and 4 – wherein a participatory and informed approach is dedicated to bring the marginalized and vulnerable to the table – component 3 will work towards disseminating gender-responsive technologies and approaches within the overall nexus framework, and develop requisite systems to implement important interventions that are agreed upon and reflect gender concerns.

7. Policy Environment, Legal Tools and Institutions

This section takes stock of the policy environment and legal frameworks available for gender-responsive actions in the beneficiary countries, as well as a list of potential institutions towards collaboration on gender mainstreaming during the project cycle. Legal tools and enabling policies are crucial in ensuring gender inequality can be addressed through tangible and formal procedures. Additionally, the inclusion of local and national gender partners engenders capacity and technical knowledge towards future gender efforts while establishing ownership of both the project and the change narrative being implemented.

**TABLE VI: POLICY ENVIRONMENT,
LEGAL TOOLS & INSTITUTIONS**

This table, compiled from various sources, particularly UN Women and the Equal Futures Partnership, takes stock of international conventions, national laws and policies, and country-level stakeholders that can aid CP 2.2 in gender mainstreaming and narrowing socioeconomic gaps.

COUNTRY	POLICY TOOLS LEGAL INSTRUMENTS RELEVANT INSTITUTIONS	PROVISIONS
Albania	<p>1994 – CEDAW</p> <p>1998 (amended 2012) – Constitution of the Government of Albania</p> <p>2016 - 2020 – National Strategy and Action Plan on Gender Equality</p> <p>Institutions</p>	<p>Albania signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1994.</p> <p>Article 18 establishes that all are equal before the law. No one may be unjustly discriminated against for reasons such as gender, race, religion, ethnicity, language, and political, religious and philosophical belief.</p> <p>The Strategy and the Action Plan represent a commitment for 2016 – 2020, with concrete interventions towards economic empowerment of women and men, ensuring actual participation and engagement in political and public decision-making processes; reducing gender-based violence and domestic violence and strengthening the coordination and monitoring role of the national mechanism of gender equality.</p> <p>Ministry of Social Welfare and Youth (with contribution of the Inter-Agency Working Group) Ministry of Justice National Referral Mechanisms</p>

<p>Lebanon</p>	<p>1997 – CEDAW</p> <p>1936 – Constitution of the Government of Lebanon</p> <p>Women’s International League for Peace and Feminism (WILPF) – ABAAD Resource Centre of Gender Equality</p> <p>Institutions</p>	<p>Lebanon signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1997.</p> <p>The Lebanese legal system is primarily based on French Civil Code and Egyptian legal systems. Whilst there is no unified civil law in Lebanon, the Lebanese Constitution promulgated in 1926 articulates the principle of equality among all citizens (Articles 7 and 12).</p> <p>WILPF and ABAAD are leading national consultations to develop the first National Action Plan towards gender equality currently. The EU wrapped up its ‘Gender Equity and Empowerment of Women in Lebanon’ in early 2017, which has laid groundwork towards the adoption of a quota system for women in the country.</p> <p>National Commission for Lebanese Women</p>
<p>Tunisia</p>	<p>1985 – CEDAW</p> <p>2014 – Constitution of the Government of Tunisia</p> <p>2015 - 2018 – Gender Equality Promotion Program in Tunisia (EU-Tunisia)</p> <p>Institutions</p>	<p>Tunisia signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1985. However, in April 2014, Tunisia officially lifted key reservations on the CEDAW.</p> <p>The new constitution adopted in January 2014 includes strong protection for women’s rights: Article 21 confirms equality of rights and duties; Article 34 guarantees women’s representation in all elected bodies; and, Article 46 ensures protection of human rights.</p> <p>The financing agreement of the EU-Tunisia program was signed in April 2015. It aims to contribute to achieving gender equality in Tunisia by reducing inequalities at national, regional and local levels.</p> <p>The National Council of Peers for Equality and Equal Opportunities between Women and Men Ministry of Women, Family and Children</p>

8. Conclusion

This Gender Assessment has identified and expounded upon both explicit and implicit gender and socioeconomic issues that could be addressed through the project outcomes. The findings from the Assessment also form the basis for the Gender Action Plan (Section 9), which will specifically address these by mainstreaming actionable points in the Child Project 2.2 Results Framework, corresponding activities, indicators, timelines, responsible parties, and budget allocations. As gender equality gains priority in the GEF's, UN Environment's and the GWP-Med's portfolio, this project partakes in the international conversation on gender mainstreaming and gender-responsive planning in nutrient pollution mitigation, sanitation and wastewater policies, water stress and security, and sludge hazards. If implemented effectively, this project has the potential to become a good practice guide for gender mainstreaming guide in future interventions relating to WEF and ecosystem nexus, in the three beneficiary countries (Albania, Lebanon, and Morocco), regionally, as well as globally.

9. Gender Action Plan

CHILD PROJECT 2.2 OF THE MEDITERRANEAN SEA PROGRAMME: ENHANCING ENVIRONMENTAL SECURITY				
PROJECT OBJECTIVE:		BALANCING OF COMPETING WATER USES IN PRIORITY COASTAL AREAS THROUGH WATER, FOOD, ENERGY AND ECOSYSTEMS INTEGRATED GOVERNANCE TO ENHANCE ENVIRONMENTAL SECURITY AND SHARING OF BENEFITS		
COMPONENT 1: INSTITUTIONAL STRENGTHENING				
OUTCOME 1: REGIONAL AND NATIONAL CAPACITIES ON THE USE OF THE NEXUS APPROACH TO ADDRESS LAND-BASED ISSUES ARE ENHANCED				
Outputs	Gender Baseline	Alternative Scenario	Gender Action Points	Means of Verification (Evaluation of Gender Mainstreaming Progress)
<p>1.1 REGIONAL DIALOGUE AND CAPACITY BUILDING ON NEXUS ASSESSMENT AND APPROACH</p> <p>s</p>	<ul style="list-style-type: none"> Resource management decision-making often exclude women, leading to the exclusion of their needs and perspectives Knowledge and data gaps exist in understanding socioeconomic and gender dynamics, in the context of nexus in the beneficiary countries 	<ul style="list-style-type: none"> Ensure gender equitable-participation and train local stakeholders, especially women, to participate in these structures Generate relevant and reliable information and data regarding gender-specific and social factor-specific nexus pathways 	<ul style="list-style-type: none"> Engage short-term Gender / Social Development Consultant to design social factors and gender-focused survey questionnaire for selected sites, with a strong participatory and inclusive focus (\$30,000 inclusive for potential field visit) Make capacity-building workshops and training accessible, gender-equitable, with provisioning for a gender-responsive work environment that incorporates the particular needs of women 	<ul style="list-style-type: none"> ✓ Key Informant Interviews with researchers, NGOs, government personnel on current baseline studies of nexus linkages, and what gender concerns and socioeconomic factors are reflected in them ✓ Focus Group Discussions with NGOs working on gender rights, local gender equality lobbying groups, trade unions, workers' associations, decentralised government bodies to identify needs and interests of each demographic, as well as to map gender relations in site-specific contexts ✓ Minutes and reports from workshops and training showing gender distribution ✓ Gender Consultant's report on specific gender mainstreaming actions taken in the capacity-building activities

COMPONENT 2: ADDRESSING NEXUS ISSUES AFFECTING PRIORITY COASTAL ZONES OF THE MEDITERRANEAN LME

OUTCOME 2: INTERLINKAGES AMONG NEXUS SECTORS IDENTIFIED AND KNOWLEDGE IMPROVED FEEDING IN POLICY MAKING IN PRIORITY MEDITERRANEAN COASTAL AREAS THROUGH NEXUS ASSESSMENTS AND POLICY DIALOGUES

	Outputs	Gender Baseline	Alternative Scenario	Gender Action Points	Means of Verification (Evaluation of Gender Mainstreaming Progress)
2.1	NEW, OR EXISTING INTER-INSTITUTIONAL BODIES CONVEY AND STEER THE DEVELOPMENT OF NEXUS ASSESSMENTS AND STRATEGIC DOCUMENTS	<ul style="list-style-type: none"> Gender-responsive project steering towards nexus issues and policies do not exist in the beneficiary countries, as this is a new perspective 	<ul style="list-style-type: none"> Pursue gender mainstreaming actions through the wide and versatile platform developed through nexus framing and solutions, to better share environmental and social benefits 	<ul style="list-style-type: none"> Ensure gender-balance in the institutional bodies Gender consultant to conduct workshops catering to institutional personnel, highlighting gender and socioeconomic issues identified by assessments and consultations 	<ul style="list-style-type: none"> ✓ Steering committees and other institutional bodies should make membership public, showing 50-50 ✓ Workshop presentation, minutes
2.2	WATER-ENERGY-FOOD-ECOSYSTEMS NEXUS ASSESSMENTS AND MULTI-STAKEHOLDERS CONSULTATION DIALOGUES IN PRIORITY COASTAL AREAS	<ul style="list-style-type: none"> Assessments and stakeholder consultations, from a combined gender mainstreaming and nexus perspective have not been undertaken in the beneficiary countries 	<ul style="list-style-type: none"> Formulate strategic, tailored and appropriate assessments for nexus issues which also investigate gender concerns Conduct gender-responsive and stakeholder-friendly consultation dialogues (feeding into the SEGMS) 	<ul style="list-style-type: none"> Gender / Social Development Consultant to design social survey within nexus assessments, share results and communicate importance of these types of study 	<ul style="list-style-type: none"> ✓ Gender-responsive study reported within the broader targeted studies and surveys report ✓ Policy directives culled from the survey ✓ Gender-responsive monitoring within the overall Monitoring and Evaluation mechanism (\$5000 earmarked in the overall budget)

COMPONENT 3: TESTING AND SCALING UP NEXUS SOLUTIONS

OUTCOME 3: TECHNOLOGIES AND APPROACHES TO ADDRESS NEXUS TRADE-OFFS AND ACHIEVE CO-BENEFITS ARE SCREENED AND TESTED TOWARDS SCALING UP INTERVENTIONS

OUTCOME 4: MECHANISMS AND ARRANGEMENTS TO IMPLEMENT PRIORITY NEXUS INTERVENTIONS ARE AGREED UPON

Outputs		Gender Baseline	Alternative Scenario	Gender Action Points	Means of Verification (Evaluation of Gender Mainstreaming Progress)
3.1	NEXUS DEMONSTRATION ACTIVITIES	<ul style="list-style-type: none"> Gender-responsive demonstration activities or pilot projects are yet to gain traction in the beneficiary countries Public awareness-raising on these issues are virtually absent, leading to misconceptions and continuation of unsustainable practices 	<ul style="list-style-type: none"> Pilot small-scale gender and social dynamics study in suitable target site to pioneer gender-responsive targeted survey Incorporate a public awareness element, including gender dimensions of nexus approach, to generate awareness and consensus on the importance and relevance of this methodology 	<ul style="list-style-type: none"> Gender Consultant to assist in developing gender-responsive elements for pilot-testing/ demonstration activities Gender Consultant to coordinate with Communications and Outreach Consultant to share stories 	<ul style="list-style-type: none"> ✓ Gender elements in demonstration activities / piloting surveys ✓ Gender results from pilot activities ✓ Public awareness content generated
4.1	INTERVENTIONS IDENTIFIED, INCLUDING THEIR FINANCING BY INSTITUTIONAL AND/OR PRIVATE	<ul style="list-style-type: none"> – 3.1 – 	<ul style="list-style-type: none"> Encourage private sector engagement on gender-responsive nexus policy 	<ul style="list-style-type: none"> – 3.1 – 	<ul style="list-style-type: none"> ✓ – 3.1 –

COMPONENT 4: CONSULTATION AND OUTREACH

OUTCOME 5: STAKEHOLDERS ENGAGEMENT CONTRIBUTE IN PROJECT IMPLEMENTATION AND SUSTAINING OF RESULTS

	Outputs	Gender Baseline	Alternative Scenario	Gender Action Points	Means of Verification (Evaluation of Gender Mainstreaming Progress)
5.1	A STAKEHOLDERS ENGAGEMENT AND GENDER MAINSTREAMING STRATEGY (SEGMS)	<ul style="list-style-type: none"> • SEGMS on nexus issues have not been formulated in the beneficiary countries 	<ul style="list-style-type: none"> ○ Pioneer SEGMS in the beneficiary countries, also establishing a regional metric and global example in the process 	<ul style="list-style-type: none"> ➤ Gender Consultant develops SEGMS, which incorporates the suggested activities for the above components (in requisite order), delineates the gender and social development elements to be achieved through the overall project results framework (incorporating stakeholder consultations and feedback from key personnel) and sets forth a monitoring and evaluation plan for the same 	<ul style="list-style-type: none"> ✓ SEGMS, made publicly available on the internet ✓ Evaluation and lessons learnt report

KNOWLEDGE

Annex O

MANAGEMENT(KM)

STRATEGY

GEF/UN Environment
“Mediterranean Sea Programme (MedProgramme)
Enhancing Environmental Security”
(2019- 2024)



Mediterranean Action Plan
Barcelona Convention

*The strategy was developed in the framework of the
Project Preparation Grant (PPG) of the MedProgramme by Lucilla Minelli,
UN Environment/Mediterranean Action Plan (MAP) consultant.
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1. Overview and background

1.1 Purpose

The purpose of the present Knowledge Management (KM) strategy¹ is to offer a structured and integrated approach to leverage and systematically share knowledge assets generated by the Child Projects of the MedProgramme with the intended beneficiaries and audiences. In doing so, the strategy aims to maximize the MedProgramme's impact by: strengthening operational coherence; harnessing synergies and pooling resources, including time; inform policy makers and key stakeholders about the MedProgramme (its activities, needs, outputs, meetings, results, etc.) and of the benefits arising from the Programme interventions. It will also contribute to the objectives of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), the Minamata Convention on Mercury and the Stockholm Convention on Persistent Organic Pollutants by fostering a broader culture of learning, cooperation and environmental sustainability in the region.

1.2 Context

The present KM strategy is designed to support the implementation of the GEF/UN Environment “Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security” (2019- 2024)². The MedProgramme represents the first GEF programmatic multi-focal area initiative in the Mediterranean Sea aiming to operationalize priority actions to reduce major transboundary environmental stresses in its coastal areas while strengthening climate resilience and water security and improving the health and livelihoods of coastal populations. The MedProgramme is implemented in nine beneficiary countries sharing the Mediterranean basin: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia. Its eight Child Projects³ cut across four different Focal Areas of the Global Environment Facility (International Waters [IW], Biodiversity [BD], Chemicals and Waste [CW], and Climate Change [CC]) and involve a wide spectrum of developmental and societal sectors, ranging from banking institutions, the private sector, governmental and non-governmental bodies, industry, research, media, and various other organizations. It builds on the MedPartnership and ClimVar & ICZM⁴ GEF projects which have enriched the knowledge on the Mediterranean environment and unraveled the implications of climate change and variability; strengthened countries' mutual trust, cooperation and common purpose; consolidated the partnership among countries,

¹ The strategy is illustrated in relevant sections of MedProgramme Child Project 4.1. The full document is annexed to individual MedProgramme Child Project documents to provide a harmonized and consistent reference across the entire portfolio of interventions.

² GEF Lead Implementing Agency: UN Environment. Other GEF Implementing Agency: European Bank for Reconstruction and Development (EBRD). Leading Executing Agency: UN Environment/MAP. Executing partners: UNESCO International Hydrological Programme (IHP), European Investment Bank (EIB), Global Water Partnership – Mediterranean (GWP-Med), WWF Mediterranean Programme Office (WWF MedPO), IUCN, Priority Actions Programme Regional Activity Centre (PAP/RAC), Plan Bleu Regional Activity Centre (Plan Bleu), Specially Protected Areas Regional Activity Centre (SPA/RAC) and the Sustainable Consumption and Production Regional Activity Centre (SCP/RAC).

³ At the time of its approval in October 2016, the MedProgramme was comprised of seven Child Projects. Subsequently, a Mediterranean climate change adaptation project was developed by UN Environment/MAP for financing through the Special Climate Change Fund (SCCF). It was agreed by the UN Environment/MAP, UN Environment and the GEF Secretariat that this SCCF project would be managed for all intents and purposes as an additional Child Project of the MedProgramme. Hence the reference to eight Child Projects of the MedProgramme.

⁴ More info on MedPartnership, ClimVar and ICZM (Integration of climatic variability and change into national strategies to implement the ICZM Protocol in the Mediterranean) projects: <http://www.themedpartnership.org/>, <https://iwlearn.net/iw-projects/2600> and <https://iwlearn.net/iw-projects/3990>. Some partners to the MedPartnership developed a series of dedicated websites for their activities. For instance, PAP/RAC activities on MedPartnership can be found at: <https://pap-thecoastcentre.org/medpartnership> ; <https://pap-thecoastcentre.org/climvar/> and <https://pap-thecoastcentre.org/projects/>

UN bodies, civil society organizations, bilateral donors and the European Union (EU); and tested on the ground the feasibility and effectiveness of technical and policy instruments aimed at addressing major present and future threats to environmental sustainability and climate related impacts.

The Mediterranean countries have worked together with GEF IW support since the late 1990s to set priorities related to national, as well as transboundary environmental concerns (Transboundary diagnostic analysis [TDA] for the Mediterranean Sea⁵) and have jointly agreed on the interventions needed to address these priorities in two Strategic Action Programmes (SAPs): 1) The Strategic Action Programme to Address Pollution from Land-Based Activities (SAP-MED); and 2) the Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (SAP-BIO).

Following the formal adoption by the Barcelona Convention of the SAP-MED and SAP-BIO (2005 and 2003), the Mediterranean countries translated the SAP priorities into National Action Plans (NAPs), and benefited from international support in moving towards on the ground implementation. The MedPartnership project (2010-2015) supported countries in the initial implementation of the SAPs and of the newly developed Protocol on Integrated Coastal Zone Management (ICZM), which was adopted in 2011.

More recently, the 2015 – 2016 update of the NAPs associated with the SAP-MED has succeeded in creating additional momentum at local, national and regional levels, with a remarkable level of involvement and participation of all stakeholders. In each country, national and local authorities, the industrial sector and Non-governmental Organizations (NGOs) discussed priorities, possible actions and opportunities for investment thus making the NAPs a realistic initiative. These significant achievements, while not yet bringing about measurable changes in the levels of environmental stress or in degradation trends, have however created the indispensable foundation and the enabling conditions for initiating national actions targeting major causes of marine and coastal transboundary degradation. To confront the challenge of implementation, to execute the SAPs and to reinforce implementation of the NAPs thereby achieving concrete and lasting results, are the *raison d'être* of MedProgramme.

The Barcelona Convention provides the policy framework under which the MedProgramme will operate and the UN Environment Mediterranean Action Plan (MAP) system will ultimately carry forward the legacy of the outcomes of the MedProgramme's Child Projects, and in particular of its knowledge management mechanisms, approaches and tools. The MAP Regional Activity Centers (RACs) will play a crucial role in sustaining and amplifying these efforts. Moreover, regular reporting to the Meeting of Contracting Parties to the Barcelona Convention on the progress made by the MedProgramme will be ensured through the UN Environment/Mediterranean Action Plan-Barcelona Convention Secretariat.

⁵ Transboundary diagnostic analysis (TDA) for the Mediterranean Sea, UNEP/MAP, 2005 - <https://wedocs.unep.org/bitstream/handle/20.500.11822/598/medtda.pdf?sequence=2&isAllowed=y>

Box 1 The Barcelona Convention and the MAP system

The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (referred to as the Barcelona Convention) is a regional convention adopted in 1976 to prevent and abate pollution from ships, aircraft and land-based sources in the Mediterranean Sea. It is developed under the UN Environment Regional Seas Programme which was established in 1974 with the scope of coordinating activities aimed at the protection of the marine environment through a regional approach. The Mediterranean Action Plan (MAP) was the first UN Environment initiative to be developed under the Programme and became the model for other seas across the globe. Since 1975, MAP has provided the institutional framework for cooperation in addressing common challenges of marine environmental degradation adopted by the Mediterranean States and the European Union.

There are 22 Contracting Parties (Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, the European Union, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey) and they decide on MAP strategies, budget and programme of work in pursuit of MAP's goal at their Ministerial level meetings, held every two years. They appoint Focal Points to review the progress of work and ensure the implementation of recommendations at the national level. A rotating Bureau of six representatives of the Contracting Parties guides and advises the MAP Secretariat (located in Athens) in the interim period between the biannual meetings.

More information on the Coordinating Unit for the Mediterranean Action Plan, Secretariat to the Barcelona Convention and its Protocols at: <http://web.unep.org/uneppmap/>.

The Minamata Convention on Mercury⁶, the Stockholm Convention on Persistent Organic Pollutants⁷, the Basel Convention⁸ and the Global Programme of Action for the Protection of the Marine Environment from Land-based Activity (GPA)⁹ are also among the key guiding frameworks for the Child Projects focusing on reduction of land-based pollution (Component 1 of the MedProgramme).

In terms of knowledge management (KM), the MedProgramme holds a tremendous opportunity to generate new information and consciousness, encourage transboundary cooperation, scale up needed investments and raise general awareness about the benefits arising from good governance and management of natural resources in coastal areas.

The eight Child Projects (CP) of the MedProgramme are expected to deliver a set of complementary results embracing the categories of priorities identified by the TDA for the Mediterranean Sea which are translated into three components of the program: i) Reduction of Land-Based Pollution in Priority Coastal Hotspots and measuring progress to impacts; ii) Enhancing Sustainability and Climate Resilience in the Coastal Zone; and iii) Protecting Marine Biodiversity (see Table 2, MedProgramme Components, Child Projects and GEF Focal Areas, page 16).

⁶ The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. It entered into force on 16 August 2017. More info: <http://www.mercuryconvention.org>

⁷ The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). More info: <http://chm.pops.int>

⁸ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). The Convention was opened for signature on 22 March 1989 and entered into force on 5 May 1992. As of February 2018, 185 states and the European Union are parties to the Convention. More info: <http://www.basel.int>

⁹ The UNEP Global Programme of Action (UNEP/GPA) aims at preventing the degradation of the marine environment from land-based activities by facilitating the realization of the duty of States to preserve and protect the marine environment. It is unique in that it is the only global initiative directly addressing the connectivity between terrestrial, freshwater, coastal and marine ecosystems. More info: <https://www.unenvironment.org/nairobiconvention/unesp-global-programme-action-uneppgpa>

The fourth component (Knowledge Management and Programme Coordination) includes Child Project 4.1 “Mediterranean Sea LME Environment and Climate Regional Support Project” which plays a key role within the MedProgramme as it “implements mechanisms for Programme-wide learning and dissemination of knowledge, monitoring the Programme’s progress to impacts, and fostering synergistic interactions among Child Projects”. Within the GEF programmatic approaches there is a need to ensure programme coherence and impact through coordination among diverse sets of multi-focal area Child Projects contributing to the same programme outcomes. A Support Project functions as a trait d’union (a common link) among Child Projects by providing overall coordination of the programme portfolio, resource-saving services, a robust system to managing knowledge effectively and a sound action plan for gender mainstreaming.

The present strategy provides the context and the boundaries within which KM will operate in the MedProgramme, essentially answering the strategic questions: where are we now? (baseline and project needs), what do we want to achieve? (vision and objectives), and how to get there? (framework for processes, tools, activities and governance).

The present strategy does not aim to provide a final definition of the tools, software and instruments that will be used to reach its goals. Although a wide range of them is considered and analysed, their selection will take place during the inception phase of the MedProgramme together with its stakeholders (countries and executing partners). This process will be driven by the specific needs of the stakeholders and will follow a competitive process for selection ensuring an efficient use of resources.

1.3 Where are we? (Baseline Scenario)

A baseline scenario in the context of this strategy was built through a detailed scanning of existing initiatives related to KM and the objectives of the MedProgramme, and a survey addressed to project designers aimed at diagnosing needs and expectations related to KM and outreach of Child Projects.

The overview of regional (and global when relevant) initiatives on knowledge/ information management focusing on pollution reduction, biodiversity, water resources (fresh water and marine) and climate change revealed that there is a great potential for cross-fertilization and incremental innovation. At the same time, the analysis brought to light some challenges, such as fragmentation, the inability of some projects to sustain their results, insufficient resources or attention devoted to KM approaches, gaps in information sharing, among others, which point to the need to clearly address these challenges at the onset of the MedProgramme.

The responses to the web-based survey served to inform the design of the strategy and its levels, in terms of target audiences, objectives, tools and activities.

1.4 What do we want to achieve? (KM Vision and Objectives)

The MedProgramme strives to become a knowledge hub in the Mediterranean region to scale up successful practices, encourage broader adoption, promote knowledge sharing and support the common objectives of the parties to the Barcelona Convention.

In this effort, it also pioneers a new integrated KM methodology for GEF-financed programs in line with GEF programmatic approaches. The strategy puts in place a framework that will underpin and guide the MedProgramme knowledge-sharing activities and support the achievement of the programme outcome(s), reflecting the complexity of its portfolio while ensuring that its findings are effectively translated, shared and delivered to the intended audiences.

The strategy aims to maximize the MedProgramme impact by (the KM strategy objectives):

- Strengthening coordination and operational coherence among Child Projects and their partners;
- Monitoring the execution of the activities under the entire Programme to assess progress to impact;
- Leveraging and systematically sharing knowledge assets generated by the Child Projects with the intended beneficiaries and audiences;
- Strengthening the science-policy interface (SPI) and influencing decision making through data and information sharing, capacity building, and regional stakeholder engagement;
- Supporting the objectives of the Barcelona Convention and the work of the MAP system through effective stocktaking and scaling up of programme results; and
- Fostering incremental innovation within GEF programmatic approaches and enriching the knowledge base of GEF Implementing and Executing Agencies.

1.5 How to get there?

In order to achieve this vision and related objectives, three interconnected functional levels¹⁰ have been identified to articulate the KM strategy:

1. at the **PORTFOLIO LEVEL** to support the work of project managers and executing partners by providing project management tools and training to key regional stakeholders;
2. at the **GENERAL PUBLIC LEVEL** to share results, inform and influence target audiences by reaching out to and engaging with civil society, media, and representatives of non-scientific community;
3. at the **POLICY and DECISION-MAKING LEVEL** to support the Contracting Parties of the Barcelona Convention, relevant decision makers in the region and the work of GEF Implementing and Executing Agencies by contributing to relevant regional policy processes and related GEF initiatives (particularly the IW:LEARN project).

Organizational coherence and strong synergies among MedProgramme Child Projects are considered critical to sustain effective knowledge sharing and ensure the successful achievement of the KM objectives. Careful consideration was given to the different types of knowledge that will be generated throughout the lifespan of the programme to ensure that intangible assets (tacit knowledge, intended as human and intellectual capital) as well as technical and codified information (explicit knowledge) are properly valued and managed.

1.6 Methodology

The strategy was prepared during the period June - September 2018 in the framework of the Project Preparation Grant (PPG) phase of the MedProgramme (October 2017- December 2018) in close coordination with the senior staff of the UN Environment/Mediterranean Action Plan Secretariat. It is based on the analysis of the Program Framework Document (PFD) of the MedProgramme¹¹ various background documentation (including the Report from the First Regional Consultation held on 7-8 March 2018 in Athens which confirmed the decision of the countries to prepare a KM strategy), the results of a dedicated online survey, exchanges

¹⁰ Activities and tools outlined in this strategy contribute to one or more of these operational levels.

¹¹ The Program Framework Document (PFD) was approved by the GEF Council on 26 October 2016. More info: <https://www.thegef.org/project/mediterranean-sea-programme-medprogramme-enhancing-environmental-securitynairobiconvention/unep-global-programme-action-uneppga>

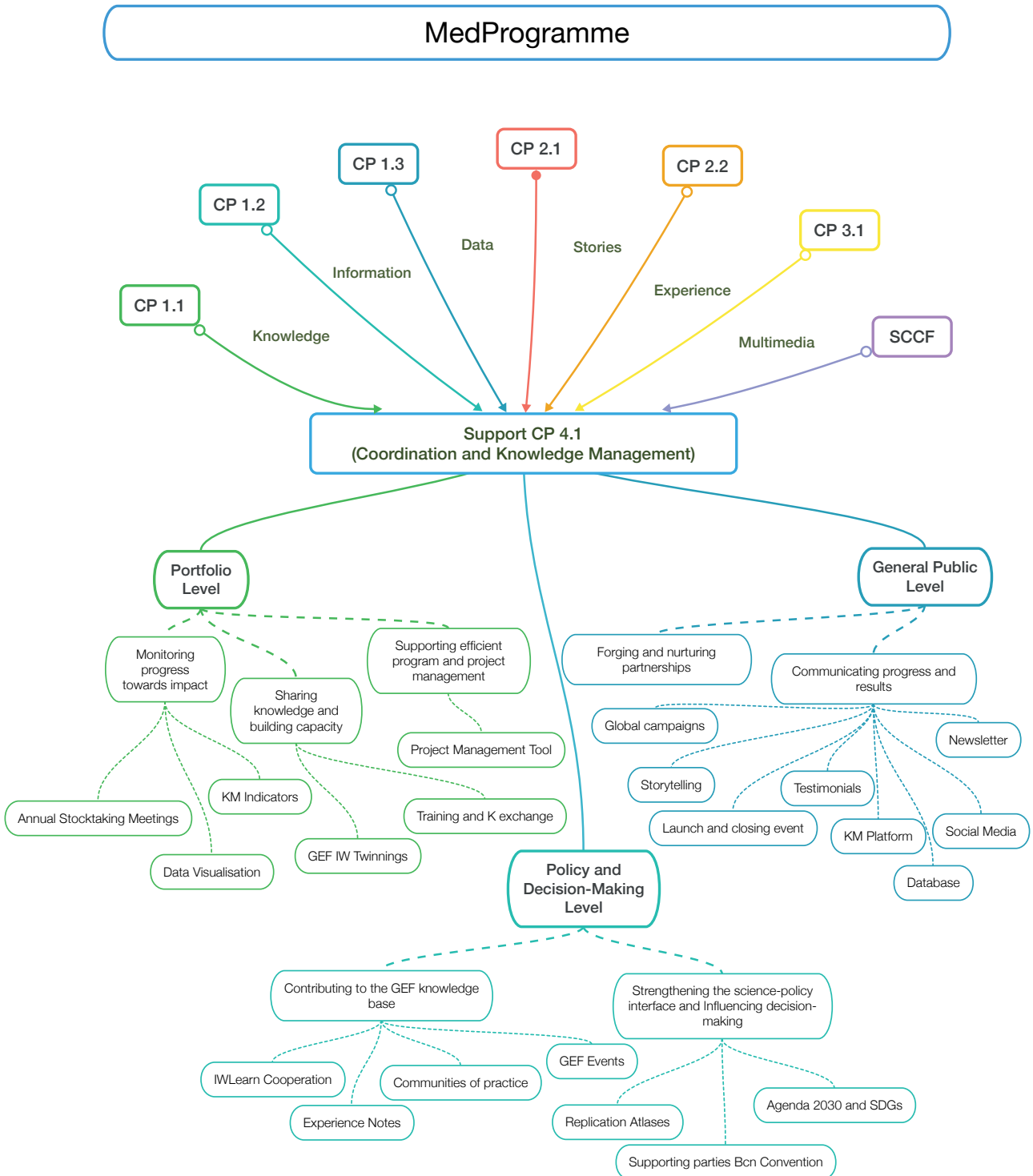
with project designers (with in-depth review of available drafts of Child Project documents), desk research, contact with relevant technical counterparts (i.e. for project management tool, visualization, etc). Further inputs were collected during the Second Regional Consultations for the MedProgramme held on 20 and 21 September 2018 at UNESCO HQ in Paris. Moreover, the design of the strategy took into account lessons learned from the predecessor project of the MedProgramme, the MedPartnership Project.

The approach illustrated in the present strategy will be operationalized during the MedProgramme inception phase in 2019.

1.7 Implementation

The overall KM strategy is built within the MedProgramme Support Child Project 4.1 and executed by the MedProgramme Coordinating Unit (MedPCU) in close coordination with all Child Projects. Outcomes and outputs of Child Project 4.1 are closely aligned with the present strategy, which, in addition to the logframe in the project document, also envisions actions to be possibly undertaken in the course of the execution of the Programme. The final detailed list of tools, activities and initiatives (and their costs) will be validated during the MedProgramme inception phase and fully agreed with the countries, executing partners and stakeholders of the Programme.

Fig. 1 Knowledge production, management and dissemination in the MedProgramme



2. Baseline scenario and projects needs

2.1 Overview of regional KM initiatives

“ Connection, not collection: that’s the essence of knowledge management. –Tom Stewart ”

As the MedProgramme cuts across four different GEF Focal Areas (Biodiversity, Chemicals and Waste, International Waters and Climate Change), its results will be relevant for many different sectors and activities in the Mediterranean region. A review of the existing initiatives related to knowledge management in these domains was carried out with the purpose to: 1) avoid unnecessary duplication; 2) replicate and build on successful practices; and 3) establish potential synergies and partnerships. The research included knowledge platforms, databases, initiatives and projects on knowledge/information sharing in the Mediterranean region (or globally when relevant) focusing on pollution reduction, biodiversity, water resources (fresh and marine) and climate change.

The result is a detailed knowledge map that will be useful during the execution of the MedProgramme to: establish collaborations (for content sharing and use of respective networks to increase impact and dissemination), benefit from existing collected data and technical information, make reference to relevant policy and legal frameworks, get inspiration from effective data visualization examples and platform designs, and replicate/participate in successful awareness raising campaigns and capacity building activities (see legend in Table 1 “Relevance for the MedProgramme”).

Against this baseline, the MedProgramme will generate new data and develop additional capacity of beneficiary countries to reduce pollution in marine and freshwater coastal bodies, increase resilience to climate change, improve the governance of water resources, promote the nexus approach and protect biodiversity and ecosystems.

The analysis of the knowledge map shows that there is an existing wealth of information in these domains. This poses a number of challenges as well as opportunities for effective knowledge sharing. The risk of fragmentation is high, and coordination among similar or complementary initiatives is not always optimal. Often, the results of projects are not fully sustained after their closure (possibly due to lack of funds after project execution is completed, insufficient ownership of results by key stakeholders and partners, or inadequate emphasis and instruments dedicated to KM). Another crucial issue remains the integration of different environmental datasets. Aware of these challenges, the MedProgramme is tackling KM at the very outset identifying possible solutions to overcome them. Moreover, there is ample room for cross-fertilization and learning: one must avoid the temptation to reinvent the wheel, and build instead on existing knowledge useful for incremental innovation. Lastly, the wealth of partners involved in the MedProgramme and especially the MAP system, can prevent pitfalls due to lack of ownership by leveraging and sustaining the KM efforts through their networks.

Legend Table 1


























	Potential Collaboration for Content Sharing and use of Respective Networks to Increase Impact and Dissemination		Relevant Scientific Data and Technical Information	IW	BD	GEF Focal Areas (International Waters, Biodiversity, Chemical and Waste, Climate Change)
	Reference to Key Policy and legal Frameworks		Effective Example(s) of Data Visualisation, Web Design and UX	CW	CC	
						Successful Awareness Raising, Outreach and Capacity Building

Table 1 Overview of selected knowledge platforms and initiatives relevant for the MedProgramme (2018)

A selection of platforms, databases, initiatives and projects on knowledge - and information - sharing in the Mediterranean region (or globally when relevant) focusing on pollution reduction, biodiversity, water resources and climate change compiled for the purpose of drawing a KM baseline scenario for the GEF/UN Environment “MedProgramme”.

Initiative Name and URL	Organizations	Where - When - What	Relevance for MedProgramme					
AMAre https://amare.interreg-med.eu https://bit.ly/2BxKG9J	Executing Partners: CNR, Interreg Mediterranean Donors: ERDF, IPA	Geographical Area: Mediterranean Sea Activity Period: 36 months (ongoing) Description: The objectives of this project are 1- to develop shared methodologies and geospatial tools for multiple stressors assessment, coordinated environmental monitoring, multi criteria analyses and stakeholders' engagements; 2- to translate these guidelines into concrete pilot actions and coordinated strategies in selected Marine Protected Areas (MPAs) to solve hot spots of conflicts affecting marine biodiversity and the services it provides.						BD CW
AQUACROSS http://dataportal.aquacross.eu	Executing Partners: IOC-UNESCO Donors: EU	Geographical Area: Europe Activity Period: 2018 - ongoing Description: Aquacross Information Platform aims to provide open access to a wide range of resources related to aquatic (freshwater, marine and coastal) ecosystem and biodiversity management at the European level. The primary focus is on data used in the various project Case Studies and Work packages, and resulting maps, model outputs and tools.						IW BD
Aquastat http://www.fao.org/nr/water/aquastat/main/index.stm	FAO	Geographical Area: Global (particular focus on Africa, Asia, Latin America, and the Caribbean) Activity Period: 1994 - ongoing Description: AQUASTAT started with the aim to contribute to FAO's goals through the collection, analysis and dissemination of information related to water resources, water uses and agricultural water management, with an emphasis on countries in Africa, Asia, Latin America, and the Caribbean. AQUASTAT is FAO's global water information system, developed by the Land and Water Division. It is the most quoted source on global water statistics. We collect, analyze and disseminate data and information by country on water resources, water uses, agricultural water management.	 					IW CW CC
Basel, Rotterdam and Stockholm Conventions Joint Clearing House Mechanism http://synergies.pops.int/Implementation/KnowledgeManagementandOutreach/Clearinghousemechanism/tabid/5382/language/en-US/Default.aspx	UN and UN Environment	Geographical Area: Global Activity Period: 2001 - ongoing Description: The joint clearing-house mechanism is a multi-stakeholder global system that facilitate the exchange of information and expertise relevant for the Basel, Rotterdam and Stockholm conventions. To achieve such an objective the Secretariat has developed, and is continuously enhancing, a global knowledge base made of <i>information</i> and <i>tools</i> , fed and used by all members of the clearing-house community.	 					IW CW
Biodiversity Information System for Europe (BISE) https://biodiversity.europa.eu/	European Commission, European Environment Agency	Geographical Area: Europe Activity Period: Ongoing Description: BISE is a single entry point for data and information on biodiversity supporting the implementation of the EU strategy and the Aichi targets in Europe.	 					IW BD CW
Blue Med Virtual Knowledge Centre http://www.bluedmed-initiative.eu/virtual-knowledge-centre/	Executing Partners: UiM, EU Commission, EIB, IMO Donors: EU Commission	Geographical Area: Mediterranean Area Activity Period: 2014 - ongoing Description: The Digi-gate for Marine and Maritime Knowledge in the Mediterranean. The Virtual Knowledge Centre (VKC) was launched with the objective to provide a centralised platform for marine and maritime information and to improve synergies across different initiatives and projects in the Mediterranean region.	 					IW
Climate-ADAPT https://climate-adapt.eea.europa.eu	EU Commission, European Environment Agency	Geographical Area: Europe Activity Period: 2012 - ongoing Description: Climate-ADAPT aims to support Europe in adapting to climate change. It is an initiative of the European Commission and helps users to access and share data and information on: Expected climate change in Europe; Current and future vulnerability of regions and sectors; EU, national and transnational adaptation strategies and actions; Adaptation case studies and potential adaptation options; Tools that support adaptation planning.	 					CC
CONSUME-LESS Consume Less in Mediterranean Touristic Communities https://consume-less.interreg-med.eu		Geographical Area: Mediterranean Area Activity Period: 2016 - 2019 Description: Consume-Less aims to develop integrated sustainable energy, water and waste management strategies and to promote sustainable tourism models in Mediterranean cities. Six pilot areas are involved: Gozo, Vélez-Málaga, Saranda, Ragusa, Realmonte and Naxos.						CW
COPERNICUS Marine Environment Monitoring Service http://marine.copernicus.eu	Executing Partners: EU Commission, ESA, EUMETSAT, ECMWF Donors: EU Commission	Geographical Area: Global Activity Period: 2015 - ongoing Description: The Copernicus Marine Environment Monitoring Service (CMEMS) provides regular and systematic reference information on the physical state, variability and dynamics of the ocean and marine ecosystems for the global ocean and the European regional seas.	 					IW BD CW CC
COPERNICUS Land Monitoring Service https://land.copernicus.eu/ https://scihub.copernicus.eu/ https://www.sentinel-hub.com/	Executing Partners: EU Commission, ESA, EUMETSAT, ECMWF Donors: EU Commission	Geographical Area: Global Activity Period: 2015 - ongoing Description: Copernicus Land Monitoring Service (CLMS) provides geographical information on land cover to a broad range of users in the field of environmental terrestrial applications. This includes land use, land cover characteristics and changes, vegetation state, water cycle and earth surface energy variables.	 					BD CW CC

<p>EMODnet http://www.emodnet.eu/</p>	<p>Executing Partners: EU Donors: EU Commission DG MARE</p>	<p>Geographical Area: Europe Marine Environment Activity period: 2013 - ongoing Description: The European Marine Observation and Data Network (EMODnet) consists of more than 160 organisations that together work on assembling, harmonising and making marine data, products and metadata more available to public and private users. The main purpose of EMODnet is to unlock fragmented and hidden marine data resources and to make these available to individuals and organisations (public and private), and to facilitate investment in sustainable coastal and offshore activities through improved access to quality-assured, standardised and harmonised marine data which are interoperable and free of restrictions on use. EMODnet provides access to European marine data across seven discipline-based themes: Bathymetry; Geology; Seabed habitats; Chemistry; Biology; Physics; Human activities. EMODnet motto is 'collect data once and use it many times'.</p>						  	IW	BD	CW	
<p>Environment LIVE https://environmentlive.unep.org</p>	<p>UN Environment</p>	<p>Geographical Area: Global Activity Period: Ongoing Description: Environment Live provides the UN Member States open access to information and knowledge on the environment at the global, regional and national levels. Environment Live is a dynamic on-line platform for sharing contextualized data and knowledge to keep the environment under review.</p>						  	IW	BD	CW	CC
<p>Euro-Mediterranean Information System on know-how in the Water sector (EMWIS) http://www.semide.net/ http://www.emwis.org</p>	<p>Executing Partners: UfM, EEA, GWP, WWF, Lebanese Minister of Energy and Water, INBO-MENBO, MED-EUWI, IME, ACWUA, AQUAMADRE, EcoMENA, MEDRC, UNU-INWEH, L'Ambassade de l'Eau Donors: EU Commission, EuropeAid Co-operation Office & EC DG Environment, France, Italy and Spain</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 1999 - 2020 Description: EMWIS is an initiative of the Euro-Mediterranean Partnership. It provides a strategic tool for exchanging information and knowledge in the water sector between and within the Euro Mediterranean partnership countries. All the countries involved in the Union for the Mediterranean (UfM) are concerned: The 27 EU member states of the EU and the 16 Mediterranean Partner Countries (Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Jordan, Israel, Lebanon, Mauritania, Monaco, Montenegro, Morocco, Palestinian Authority, Syria, Tunisia, Turkey).</p>					  	IW				
<p>European MSP Platform https://www.msp-platform.eu/</p>	<p>Executing Partners: EASME on behalf of DG MARE Donors: EU Commission under the EMFF</p>	<p>Geographical Area: Europe Activity Period: Ongoing Description: The European MSP Platform is an information and communication gateway designed to offer support to all EU Member States in their efforts to implement Maritime Spatial Planning (MSP) in the years to come. Funded by the EU Directorate General for Maritime Affairs and Fisheries (DG MARE), the European MSP Platform acts as the central exchange forum for the rich knowledge generated in past, current and upcoming MSP processes and projects.</p>					  	IW				
<p>European Ocean Biogeographic Information System – EurOBIS http://www.eurobis.org</p>	<p>EMODnet, MarBEF, LifeWatch, Flanders Marine Institute (VLIZ)</p>	<p>Geographical Area: Mediterranean Area Activity Period: 2004 - ongoing Description: EurOBIS - the European Node of the international Ocean Biogeographic Information System (OBIS) - publishes distribution data on marine species, collected within European marine waters or collected by European researchers outside European marine waters. EurOBIS is an online marine biogeographic database compiling data on all living marine creatures. The principle aims of EurOBIS are to centralize the largely scattered biogeographic data on marine species collected by European institutions and to make these data freely available and easily accessible.</p>						IW	BD			
<p>FATE and impact of pollutants in terrestrial and aquatic ecosystems http://fate.jrc.ec.europa.eu/rational/home.html</p>	<p>Executing Partners: EU Commission, JRC, Institute for Environment and Sustainability Donors: EU, JRC</p>	<p>Geographical Area: Europe Activity Period: 2009 - 2015 Description: FATE is the ensemble name for the pool of activities related to the assessment of fate and impacts of pollutants in terrestrial and aquatic ecosystems carried out at the Institute for Environment and Sustainability (IES) of the Joint Research Centre (JRC). Contaminants spread across different environmental media through atmospheric deposition, leaching from soil to groundwater, accumulation in rivers and lakes, and discharge into the sea. FATE addresses the fate and impacts of pollutants across a range of temporal and spatial scales depending on the policy question and making the best use of available data. The results are pollution risk and vulnerability maps, which are very useful to assess the impact of EU policies, raise public awareness and facilitate planning of management scenarios.</p>				 		BD	CW			
<p>GBIF Global Biodiversity Information Facility https://www.gbif.org</p>	<p>EMODnet, EU, EU BON, Japan Ministry of Environment</p>	<p>Geographical Area: Global Activity Period: 1999 - ongoing Description: GBIF—the Global Biodiversity Information Facility—is an international network and research infrastructure funded by the world's governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth. Coordinated through its Secretariat in Copenhagen, the GBIF network of participating countries and organizations, working through participant nodes, provides data-holding institutions around the world with common standards and open-source tools that enable them to share information about where and when species have been recorded.</p>				   		BD				
<p>General Fisheries Commission for the Mediterranean (GFCM) http://www.fao.org/gfcm/data/en/</p>	<p>FAO</p>	<p>Geographical Area: Mediterranean Sea and Black Sea Activity Period: 1997 - ongoing Description: The General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organization (RFMO) established under the provisions of Article XIV of the FAO Constitution. The GFCM initially started its activities as a Council in 1952, when the Agreement for its establishment came into force, and became a Commission in 1997. The main objective of the GFCM is to ensure the conservation and the sustainable use, at the biological, social, economic and environmental level, of living marine resources as well as the sustainable development of aquaculture in the Mediterranean and in the Black Sea (GFCM area of application).</p>			 			IW	BD			
<p>Geo-referenced information system for coastal aquifers in the Mediterranean (INWEB) http://www.inweb.gr/index.php?option=com_wrapper&view=wrapper&Itemid=220#</p>	<p>Executing Partners: UNESCO Chair and Network/International Network of Water-Environment, Centres for the Balkans (INWEB), Aristotle University of Thessaloniki. Donors: UNESCO</p>	<p>Geographical Area: Mediterranean Area Activity Period: 2003 - 2015 Description: The UNESCO Chair/INWEB is a network of academic and non-academic institutions. Each of the ten Balkan member countries has a focal point for its own country's members. Concentrating mainly on transboundary issues, the UNESCO Chair/INWEB promotes a multi-disciplinary approach to water resources management issues, involving scientists, engineers, economists, legal experts and sociologists. It encourages initiatives on water resources management issues from the bottom up, and promotes joint training projects and the sharing of expertise. The objectives of INWEB are to: 1. Establish an open international network of communication and shared expertise in the Balkans and other developing countries to facilitate the exchange of information and expertise in the field of water and the environment; 2. Promote the services to the region of an international body of recognised experts in water and environmental issues; 3. Create and maintain a database on transboundary water and the environment by developing an inventory of existing transboundary monitoring systems for water resources and the environment.</p>						IW				

<p>GODEM - Optimised Management of Waste in the Mediterranean</p> <p>https://tra4dev.cor.europa.eu/portal/EN/coopmonth/Pages/GODEM.aspx</p> <p>Green Growth Knowledge Platform - GGKP</p> <p>http://www.greengrowthknowledge.org</p>	<p>EU Commission</p> <p>Executing Partners: GGGI; OECD; World Bank; UNEP.</p> <p>Donors: MAVA, Swiss, Netherlands, Germany</p>	<p>Geographical Area: Mediterranean Basin</p> <p>Activity Period: 2010 - 2012</p> <p>Description: The project is aimed at setting a network for the exchange of information and experiences between European local/regional authorities and institutions of the southern Mediterranean on the sustainable management of waste treatment.</p> <p>Geographical Area: Global</p> <p>Activity Period: 2012 - ongoing</p> <p>Description: The GGKP is a global community of organisations and experts committed to collaboratively generating, managing and sharing green growth knowledge and data to mobilise a sustainable future.</p>					<p>CW</p>
<p>H2020/SEIS Info system</p> <p>https://eni-seis.eionet.europa.eu/south https://www.h2020.net/</p>	<p>Executing Partners: EEA, UN Environment MAP</p> <p>Donors: EU</p>	<p>Geographical Area: South Mediterranean (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Tunisia)</p> <p>Activity Period: 2015 - ongoing</p> <p>Description: ENI SEIS II South Project aims to contribute to the reduction of the marine pollution in the Mediterranean by developing a Shared Environmental Information System (SEIS) supporting the regular production and sharing of quality assessed environmental data, indicators and information.</p>			<p>IW</p>	<p>CW</p>	
<p>ICZM Platform</p> <p>http://www.iczmpatform.org</p>	<p>Executing Partners: PAP/RAC</p> <p>Donors: MTF</p>	<p>Geographical Area: Mediterranean Area</p> <p>Activity Period: 2018 - ongoing</p> <p>Description: This interactive space is designed as a multi-disciplinary "bank" of information, documentation and good practices related to ICZM in the Mediterranean (and elsewhere), as well as a place for networking and exchange. This platform provides information on the legal and policy framework, capacity building, awareness raising, data base of projects, library and the resources for networking.</p>			<p>IW</p>		<p>CC</p>
<p>IMAP Info Pilot System</p> <p>(website under development as of 11/2018)</p>	<p>Executing Partners: UN Environment MAP, InfoRAC</p> <p>Donors: UN Environment MAP, EC</p>	<p>Geographical Area: Mediterranean Basin</p> <p>Activity Period:</p> <p>Description: Pilot IMAP compatible Data and Information System, connected to MAP Components' information systems and other relevant regional knowledge platforms, will provide data based on data standards and data dictionaries for ten selected IMAP Common Indicators.</p>			<p>IW</p>		
<p>INSPIRE Knowledge Base</p> <p>https://inspire.ec.europa.eu</p>	<p>Member States of the EU</p>	<p>Geographical Area: EU</p> <p>Activity Period: 2007 - ongoing</p> <p>Description: The INSPIRE Directive aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries. INSPIRE is based on the infrastructures for spatial information established and operated by the Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications. The Directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2021.</p>					
<p>INTEGRATED COASTAL WATER MANAGEMENT FOR MED (ICWM)</p> <p>https://business.esa.int/projects/icwm-for-med</p>	<p>ESA; Planetek</p>	<p>Geographical Area: Tyrrhenian Sea</p> <p>Activity Period: 2015 - ongoing</p> <p>Description: The objective of ICWM for MED is to demonstrate the benefits of a service based on the integration of Earth Observation based products, Satellite Communication and Navigation solutions together with Terrestrial assets and crowdsourcing features, for the set-up of an improved coastal surveillance and water quality monitoring service.</p>			<p>IW</p>	<p>CW</p>	
<p>Interreg Mediterranean</p> <p>https://interreg-med.eu http://forum.interreg-med.eu/en/med-community/(Forum)</p>	<p>European Regional Development Fund, IPA fund</p>	<p>Geographical Area: Mediterranean Basin</p> <p>Activity Period: 2014 - 2020</p> <p>Description: 13 countries are working together in the transnational European Cooperation Programme for the Mediterranean area towards low carbon economy, the protection of natural and cultural resources and the strengthening of innovation. The main objective of the Interreg MED Programme is to promote sustainable growth in the Mediterranean area by fostering innovative concepts and practices and a reasonable use of resources and by supporting social integration through an integrated and territorially based cooperation approach. In the period 2014-2020, Interreg MED Programme will promote cooperation between a varied typology of actors of these thirteen Mediterranean countries.</p>			<p>IW</p>	<p>BD</p>	<p>CC</p>
<p>IODE</p> <p>https://www.iode.org</p>	<p>Executing Partners: UNESCO IODE</p> <p>Donors: UNESCO</p>	<p>Geographical Area: Global</p> <p>Activity Period: 1961 - ongoing</p> <p>Description: The programme "International Oceanographic Data and Information Exchange" (IODE) of the "Intergovernmental Oceanographic Commission" (IOC) of UNESCO was established in 1961. Its purpose is to enhance marine research, exploitation and development, by facilitating the exchange of oceanographic data and information between participating Member States, and by meeting the needs of users for data and information products.</p>			<p>IW</p>		
<p>IW:LEARN (Global Environment Facility's International Waters Learning Exchange and Resource Network)</p> <p>www.iwlearn.net</p>	<p>Executing Partners: UNDP; UN Environment.</p> <p>Donors: GEF</p>	<p>Geographical Area: Global (GEF IW portfolio)</p> <p>Activity Period: 2004 - ongoing</p> <p>Description: IW:LEARN is the Global Environment Facility's (GEF) International Waters Learning Exchange and Resource Network. The IW:LEARN project was established to strengthen transboundary water management around the globe by collecting and sharing best practices, lessons learned, and innovative solutions to common problems across the GEF International Waters portfolio. It promotes learning among project managers, country official, implementing agencies, and other partners.</p>			<p>IW</p>		
<p>IW:LEARN Groundwater Community of Practice</p> <p>http://groundwatercop.iwlearn.net</p>	<p>Executing Partners: UNDP, UN Environment (Implementing Agencies); UNESCO International Hydrological Programme (Executing Agency)</p> <p>Donors: GEF</p>	<p>Geographical Area: Global (GEF IW portfolio)</p> <p>Activity Period: 2012 - ongoing</p> <p>Description: The GW CoPs aims to accelerate learning from and within the GEF IW portfolio, and promote replication of good practices in transboundary freshwater management. The CoP acts as a catalytic coalition among GEF IW projects to promote learning that meets project-level priorities. It is designed to build on existing knowledge from inside and outside the GEF portfolio and be responsive to the learning needs of the GEF IW projects. The CoP provide an opportunity to build capacity on groundwater resources management and promote the conjunctive management with surface freshwater and marine waters.</p>			<p>IW</p>	<p>BD</p>	<p>CW</p>

<p>MAMIAS - Marine Mediterranean Invasive Alien Species http://www.mamias.org</p>	<p>UNEP/MAP, RAC/SPA</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2012 - ongoing Description: The Database includes among Alien species, cryptogenic ones. Tropical Atlantic species, which have expanded their geographic distribution in the Mediterranean, are noted as range expansion, or vagrant. The Database includes also species that have been occasionally reported as alien but were subsequently excluded from lists, along with the reasoning of their exclusion.</p>									BD
<p>MAPAMED http://www.rac-spa.org/mapamed</p>	<p>MedPAN and SPA/RAC</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2012 - ongoing Description: MAPAMED (Marine Protected Areas in the Mediterranean) is a GIS database that gathers information on marine protected areas of the Mediterranean, and more generally on sites of interest to the conservation of the marine environment. It is developed and jointly administered by the MedPAN association and SPA/RAC. MAPAMED (i) facilitates the access and the sharing of data on Mediterranean MPAs, (ii) allows the analysis and the evaluation of the status and trends of the MPA network and (iii) identifies ecological and management issues at a supra-AMP scale.</p>									IW BD
<p>MapX https://www.mapx.org</p>	<p>UN Environment, World Bank, GRID-Geneva</p>	<p>Geographical Area: Global Activity Period: Ongoing Description: MapX was developed by UN Environment, the World Bank and the Global Resource Information Database (GRID-Geneva) to capitalize on the use of new digital technologies and cloud computing in the sustainable management of natural resources. One of the founding principles was to equalize information held by different stakeholders as a prerequisite to better dialogue, decision making and monitoring. MapX evolved from an initial focus on extractive resources to include a range of different resource types and themes. Of particular relevance for the MedProgramme are the data layers in MapX developed by UN Environment for MapX to support countries in meeting their reporting obligations on mercury use and emissions under the Minamata Convention, and to manage spatial information regarding PCBs and facilitate reporting for the Stockholm Convention.</p>									IW BD CW CC
<p>Marine Biodiversity and Ecosystem Functioning EU Network of Excellence - MarBEF http://www.marbef.org</p>	<p>EU</p>	<p>Geographical Area: Europe Marine Environment Activity Period: 2004 - 2009 Description: A key task of the MarBEF Network is the integration of different resources related to marine biodiversity. The inventory of these resources can be found on this website. At the moment, this relational database includes information on different European marine biodiversity research sites and European marine biodiversity datasets. The European Register of Marine Species, ERMS and the European node of the Ocean Biogeographic Information System, EurOBIS is also accessible through this website. The terms of use of data are formulated in the MarBEF data policy.</p>									IW BD
<p>MED POL Info System http://www.info-rac.org/en/activities/infomap</p>	<p>UNEP/MAP</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2001 - ongoing Description: MED POL Info System is an online portal that allows Contracting Parties to submit their quality assured data generated from the implementation of the national marine pollution programmes designed in accordance with LBS Protocol.</p>									IW CW
<p>MED-3R Euro-Mediterranean Strategic Platform for a Suitable Waste Management - Recycle, Reduce, Reemploy http://www.med-3r.org/index.php/en/about/the-med-3r-project</p>	<p>Executing Partners: Mediterranean Sea Basin Programme ENPI CBCMED Donors: 90% European Union, 10% Partners</p>	<p>Geographical Area: Mediterranean Basin Activity Period: 2012 - 2015 Description: MED-3R sets up an institutional innovation of multi-level governance, implemented on the basis of strategic platform: "The Euro-Mediterranean Strategic Platform for a Suitable Waste Management" to the benefit of technical managers and experts on waste management over the Mediterranean basin.</p>									CW
<p>MEDACES - Mediterranean Database of Cetacean Strandings medaces.uv.es/home_eng.htm</p>	<p>Executing Partners: RAC/SPA, ICBIBE Donors: Spanish Ministry of the Environment, and Rural and Marine Affairs (MMA)</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2001 - ? Description: In November 2001, the 12th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols, within the "Biological Diversity and Specially Protected Areas" section, recommended for implementing the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea, to approve the offer by Spain with regard to the establishment in Valencia of a Mediterranean database on cetacean strandings (MEDACES).</p>									BD
<p>MediCIP http://medicjp.grid.unep.ch</p>	<p>Executing Partners: UNEP/MAP, Plan Bleu, GWR, PAP/RAC Donors: GEF</p>	<p>Geographical Area: Mediterranean Basin Activity Period: 2009 - 2015 Description: MediCIP is an online multi countries effort to share data and information on Climate Change in the Mediterranean coastal areas. It is a "portal of portals" which gathers data, information and web links towards other institutions (national and regional), in support the implementation of the ICZM protocol.</p>									IW CC
<p>Mediterranean Basin Biodiversity Hotspot http://www.birdlife.org/cepf-mad/hotspot</p>	<p>Executing Partners: CEPF (Critical Ecosystem Partnership Fund); Bird's Life; LPO; DOPPS. Donors: CEPF (GEF, World Bank, AFD, CI, EU, Japan Gov.)</p>	<p>Geographical Area: Mediterranean Basin Activity Period: 2012 - 2022 Description: During the initial investment, 108 grants were awarded to 84 different organizations in 12 countries. This first investment phase demonstrated that civil society organizations do exist in each hotspot country, and that adequate financial support, combined with technical support, has the potential to build strong constituencies able to tackle conservation issues at the local level. CEPF's second phase of investment will focus on protecting plants, promoting regional networking and preserving three ecosystems—coastal, freshwater and traditionally managed landscapes. CEPF is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank.</p>									BD CC
<p>MEDITERRANEAN OBSERVATORY ON ENVIRONMENT AND SUSTAINABLE DEVELOPMENT http://obs.planbleu.org/en/</p>	<p>Executing Partners: Plan Bleu, UNEP/MAP Donors: MAVA, UN Environment</p>	<p>Geographical Area: Mediterranean Basin Activity Period: Ongoing Description: Plan Bleu, acting as a Mediterranean Observatory on Environment and Sustainable Development, has developed an experience in collecting, managing and disseminating data on Sustainable development issues in the Mediterranean Region. One of Plan Bleu's mission is to provide the Contracting Parties of Barcelona Convention with environmental and sustainable development statistics, indicators and assessments to support their action and decision making process.</p>									IW CC

<p>Mediterranean Water Knowledge Platform (MWKP) http://www.emwis.net/initiatives/MWKP</p>	<p>International Office for Water (IOWater); Institut Méditerranéen de l'Eau (IME); Union for the Mediterranean (UfM)</p>	<p>Geographical Area: Mediterranean Basin Activity Period: (Phase 1) 2013-2016 - (Phase 2) 2016-2018 Description: The regional project towards a Mediterranean Water Knowledge Platform got the UfM label on 8 April 2014, at the unanimity of 43 countries members of the Union for the Mediterranean. The project has two components: the 1st one, coordinated by the International Office for Water (IOWater), aims at strengthening the National Information Systems on Water in line with the regional approach taken implemented by the Euro-Mediterranean Information System on know-how in the Water sector (EMWIS); the 2nd one, coordinated by the Institut Méditerranéen de l'Eau (IME), is based on the exploitation of data and information on water for the preparation of a Mediterranean White Paper on Water. This White Paper is part of logical showcasing best practices for integrated water resources management.</p>										
<p>MEDLEM (MEDiterranean Large Elasmobranchs Monitoring) PROGRAM www.arpat.toscana.it/medlem</p>	<p>ARPAT (agenzia regionale per la protezione ambientale della Toscana)</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2002 - ongoing Description: MedLem is a monitoring programme on the captures and sightings of the large cartilaginous fishes occurring in the Mediterranean Sea. A tool for storing and sharing the large shark's data collected in the mediterranean countries. The database is under maintenance: it will be on line again at the end of 2017.</p>										
<p>MedOpen http://www.medopen.org</p>	<p>Executing Partners: PAP/RAC Donors: UNEP</p>	<p>Geographical Area: Mediterranean Area Activity Period: Ongoing Description: MedOpen aims at assisting Mediterranean countries in building capacities for coastal management. The training programme has been created to share ideas, knowledge and strategies to forward the art of designing and implementing local, national and regional place-based integrated coastal zone management (ICZM), as well as to enhance a policy dialogue and build / improve capacities on implications of climate variability and change (CV&C) considerations. The MedOpen training is completely free of charge.</p>										
<p>MedPAN - The network of Marine Protected Areas managers in the Mediterranean http://medpan.org</p>	<p>Executing Partners: UNEP RAC/SPA, WWF, IUCN Donors: EU Commission, UNEP, WWF and others</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2008 - ongoing Description: The MedPAN network's mission is to promote, through a partnership approach, the sustainability and operation of a network of Marine Protected Areas in the Mediterranean which are ecologically representative, connected and effectively managed to help reduce the current rate of marine biodiversity loss.</p>										
<p>NBB PRTR (website under development as of 11/2018)</p>	<p>Executing Partners: UN Environment MAP, InfoRAC Donors: UN Environment MAP, EC</p>	<p>Geographical Area: Mediterranean Basin Activity Period: Description: Provides information on pollution load from sectors and activities in accordance with the requirements LBS Protocol of Barcelona Convention</p>										
<p>OBIS - Ocean Biogeographic Information System http://www.iobis.org/</p>	<p>IOC-UNESCO, IODE</p>	<p>Geographical Area: Global Activity Period: 1997 - ongoing Description: OBIS is a global open-access data and information clearing-house on marine biodiversity for science, conservation and sustainable development. Its aim is to build and maintain a global alliance that collaborates with scientific communities to facilitate free and open access to, and application of, biodiversity and biogeographic data and information on marine life. Obis mission is to build and maintain a global alliance that collaborates with scientific communities to facilitate free and open access to, and application of, biodiversity and biogeographic data and information on marine life.</p>										
<p>OpenChannels https://www.openchannels.org/</p>	<p>Executing Partners: Open Communication for The Ocean and Partners Donors: Gordon and Betty Moore Foundation</p>	<p>Geographical Area: Global Activity Period: 2012 - ongoing Description: OpenChannels aims to foster a vibrant online community of ocean planners and managers sharing experience, knowledge, and advice with peers. In doing so, we can speed the advancement of sustainable ocean management and conservation. OpenChannels is designed to be highly focused on user needs. We want to provide access to all the information that ocean planners and managers need to do their jobs most effectively, including existing high-quality content and new information products and services.</p>										
<p>PANACeA project https://biodiversity-protection.interreg-med.eu</p>	<p>Executing Partners: Malaga University, Interreg Mediterranean, Plan Bleu Donors: ERDF, IPA</p>	<p>Geographical Area: Mediterranean Basin Activity Period: 36 months (ongoing) Description: Devised as a one entry point to scientific evidence supporting best practice on protected area management and environmental policymaking in the region, the Mediterranean Biodiversity Protection Platform (BPP) gathers the expert knowledge generated by the Mediterranean biodiversity protection community as main providers of content. The MedBiodiversity Knowledge platform will open in 2018.</p>										
<p>Pegaso Project - People for Ecosystem-based Governance in Assessing Sustainable development of Ocean and coast http://pegasosdi.uab.es/</p>	<p>Universitat Autònoma de Barcelona (UAB)</p>	<p>Geographical Area: Mediterranean Sea and Black Sea Activity Period: 2010 - 2014 Description: The main objective of PEGASO is to build on existing capacities and develop common novel approaches to support integrated policies for the coastal, marine and maritime realms of the Mediterranean and Black Sea Basins in ways that are consistent with and relevant to the implementation of the ICZM Protocol for the Mediterranean. The PEGASO SDI is a distributed sharing infrastructure made up of GeoNodes and with three main components: a map viewer, map services and a spatial catalog.</p>										
<p>Protected Planet https://www.protectedplanet.net/marine</p>	<p>Executing Partners: UNEP-WCMC, IUCN Donors: UNEP, IUCN</p>	<p>Geographical Area: Global Activity Period: 2014-ongoing Description: Protected Planet is the most up to date and complete source of information on protected areas, updated monthly with submissions from governments, non-governmental organizations, landowners and communities. It is managed by the United Nations Environment World Conservation Monitoring Centre with support from IUCN and its World Commission on Protected Areas (WCPA). It is a publicly available online platform where users can discover terrestrial and marine protected areas, access related statistics and download data from the World Database on Protected Areas (WDPA).</p>										
<p>SPACE ALBORAN http://www.iucn-geoportalboran.org/</p>	<p>Executing Partners: IUCN Center for Mediterranean Cooperation Donors: IUCN, EU, MAVA, POCTAFEX</p>	<p>Geographical Area: Alboran sea (Gibraltar strait) Activity Period: 2007 - ongoing Description: The geoportal's aim is to promote governance of the natural resources of the Alboran sea. A space for governance that promotes the exchange of knowledge, participation, management and learning.</p>										

<p>Strategic Approach to International Chemicals Management (SAICM) http://www.saicm.org/Home/tabid/5410/language/en-US/Default.aspx</p>	<p>Donors: UN Environment, ICCA, EU + 15 countries</p>	<p>Geographical Area: Global Activity Period: 2006 - ongoing Description: SAICM was developed by a multi-stakeholder and multi-sectoral Preparatory Committee and supports the achievement of the 2020 goal agreed at the 2002 Johannesburg World Summit on Sustainable Development. SAICM overall objective is the achievement of the sound management of chemicals throughout their life cycle so that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health.</p>									CW
<p>The Mediterranean Biodiversity Platform http://data.medchm.net/en/</p>	<p>Executing Partners: SPA/RAC Donors: MAVA Foundation</p>	<p>Geographical Area: Mediterranean Sea Activity Period: 2017 - ongoing Description: The Mediterranean Biodiversity Platform is an online tool to inventory, catalog and store data on marine and coastal biodiversity in the Mediterranean, and view them on maps.</p>					IW	BD			
<p>The MPA Action Agenda https://www.mpaaction.org/</p>	<p>WWF and partners</p>	<p>Geographical Area: Global Activity Period: 2014 - ongoing Description: The MPA Action Toolkit is an online platform designed for MPA managers and establishes, marine researchers and other MPA advocates. The objective of this online platform is to share knowledge on MPAs and tools that can contribute to MPA advocacy. On this toolkit you find infographics, videos, academic articles, reports and other types of material that can be used for MPA advocacy and relating activities.</p>					IW	BD			
<p>The Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (MedPartnership) Project http://themedpartnership.org</p>	<p>Executing Partners: UNEP/MAP Donors: GEF, EU, others</p>	<p>Geographical Area: Mediterranean Basin (Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Palestine, Syria, Tunisia and Turkey) Activity period: 2010 - 2015 Description: The Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (MedPartnership) is a collective effort of leading environmental institutions and organizations together with countries sharing the Mediterranean Sea to address the main environmental challenges that Mediterranean marine and coastal ecosystems face. The goals include: to improve environmental conditions of pollution and biodiversity hotspots and other priority areas under stress, to promote the sustainable use of marine and coastal resources through integrated approaches, to reduce pollution from land-based sources, to enhance the protection of 'critical' habitats and species, and to integrate climate considerations into national marine and coastal planning.</p>					IW	BD			
<p>UN Environment World Conservation Monitoring Centre https://www.unep-wcmc.org/</p>	<p>UNEP, WCMC</p>	<p>Geographical Area: Global Activity Period: Ongoing Description: The UN Environment World Conservation Monitoring Centre (UNEP-WCMC) works with scientists and policy makers worldwide to place biodiversity at the heart of environment and development decision-making to enable enlightened choices for people and the planet. Our 100-strong international team are recognised leaders in their field and have unrivalled understanding of the institutional landscape surrounding biodiversity policy and ecosystem management. Based in Cambridge, UK, UNEP-WCMC is a collaboration between UN Environment and the UK charity, WCMC. By working with expert partners worldwide, we draw together, analyse and interpret information on biodiversity, and strengthen the ability of others to do so.</p>					IW	BD			
<p>Water Information Network System (WINS) http://ihp-wins.unesco.org/</p>	<p>UNESCO IHP</p>	<p>Geographical Area: Global Activity Period: 2017 - ongoing Description: Launched in January 2017 by the International Hydrological Programme of UNESCO, WINS is an open-access and participatory platform to share, access and visualize water-related information at all levels. It provides also a networking hub through online working groups, which aims to facilitate exchange among stakeholders. As of June 2018, 40 Member States have joined the platform.</p>					IW				
<p>WISE - Water Information System for Europe https://water.europa.eu/freshwater https://water.europa.eu/marine</p>	<p>Executing Partners: DG-ENV, JRC, EEA, Eurostat Donors: EU Commission, European Environmental Agency (EEA)</p>	<p>Geographical Area: Europe Marine Environment Activity Period: 2007 - ongoing Description: The Water Information System for Europe (WISE) is a partnership between the European Commission (DG Environment, Joint Research Centre and Eurostat) and The European Environment Agency. WISE is a gateway to informations on European marine issues in support of ocean governance and ecosystem based management</p>					IW	BD	CW		
<p>WOCAT - World Overview of Conservation Approaches and Technologies https://www.wocat.net/en/about</p>	<p>Universitat Bern, SDC, GIZ, CIAT, ICARDA, FAO, ISRIC, ICI-MOD</p>	<p>Geographical Area: Global Activity Period: 1992 - ongoing Description: The World Overview of Conservation Approaches and Technologies (WOCAT) is a Network that was established in 1992. The WOCAT Network launched efforts to compile, document, evaluate, share, disseminate, and apply sustainable land management (SLM) knowledge. It was far ahead of others in recognizing the vital importance of SLM and the pressing need for corresponding knowledge management. In early 2014, WOCAT's growth and ongoing improvement culminated in its being officially recognized by the UNCCD as the primary recommended database for SLM best practices.</p>					IW		CW	CC	
<p>World Resource Institute http://www.wri.org</p>	<p>WRI</p>	<p>Geographical Area: Global Activity Period: 1982 - ongoing Description: World Resources Institute (WRI) is a global research organization that spans more than 60 countries. Our more than 700 experts and staff turn big ideas into action at the nexus of environment, economic opportunity and human well-being. We start with data, creating user-friendly information systems, protocols and standards. We conduct independent, unbiased research to analyze relationships and design solutions, and communicate our findings in a compelling manner.</p>					IW	BD		CC	
<p>World Water Quality Portal http://www.worldwaterquality.org</p>	<p>Executing Partners: UNESCO-IHP, IWQ (International Initiative on Water Quality), EOMAP Donors: UNESCO-IHP</p>	<p>Geographical Area: Global Activity Period: Ongoing Description: UNESCO, through its International Initiative on Water Quality (IIWQ) under IHP, has launched the first comprehensive worldwide water quality online portal for freshwater systems, lakes and rivers, retrieved from satellite-based earth observation data, to assist with global water quality assessment and capacity building.</p>					IW		CW		

2.2 Analysis of preliminary survey results



Every project creates knowledge. Every project depends on knowledge. –Unknown



The eight Child Projects of the MedProgramme are expected to produce different sets of outputs and results while contributing to the overarching goal of enhancing environmental security in the region, embracing three categories of transboundary concern (components 1, 2 and 3) as illustrated in Table 2. The fourth component hosts the Support Child Project on coordination and knowledge management.

Table 2 MedProgramme Components, Child Projects and GEF Focal Areas

Mediterranean Sea Programme (MedProgramme)		
MedProgramme Component	Child Project	GEF Focal Areas
1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and measuring progress to impacts.	1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hot Spots and Measuring Progress to Impacts”	IW and CW
	1.2 “Mediterranean Pollution Hot Spots Investment Project”	IW
	1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”	IW
2. Enhancing Sustainability and Climate Resilience in the Coastal Zone.	2.1 “Mediterranean Coastal Zones Climate Resilience Water Security and Habitat Protection”	IW
	2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem NEXUS”	IW
	SCCF “Enhancing regional climate change adaptation in the Mediterranean Marine and Coastal Areas”	CC
3. Protecting Marine Biodiversity	3.1 “Management Support and Expansion of Marine Protected Areas in Libya”	BD
4. Knowledge Management and Programme Coordination	4.1 “Mediterranean Sea Basin Environment and Climate Regional Support Project”	IW and CW

In order to diagnose KM-related needs and expectations of Child Projects (CP), a preliminary survey¹² was prepared and shared with project designers (July-August 2018). The designers of all projects participated in the web-based survey (27 questions), sometimes with representation of more than one person per CP. The analysis of the answers helped building the KM approach, identifying tools and levels of intervention particularly related to:

- Target audiences
- Project / Programme management
- Managing and Visualizing the data
- Information and Knowledge Management

Relevant results of the survey are presented below by cluster topics, however overall the following can be observed:

- The Child Projects of the MedProgramme will produce a rich and heterogenous amount of data and results (quantitative, qualitative, normative). A responsive system to manage the information flow is therefore needed to: capture, store and digest raw data; ensure smooth reporting and coordination; offer a digital representation of the progress through visualization tools for both spatial and non-spatial information; and use the collective information to package appropriate products and knowledge-sharing assets for the intended target audiences of the MedProgramme.
- Data sharing and data collection modalities are critical for generating and managing knowledge. Defining how projects will prepare and make available their data should be addressed at the beginning of the Inception phase of the MedProgramme, once indicators are selected for all Child Projects. A dedicated workshop should be organized to identify sharing standards, protocols and practices for data collection and reporting, including to ensure data quality, respect of privacy and compatibility with data visualization tools on the MedProgramme portal.
- The primary audience of the MedProgramme CPs are policy- and decision-makers in the region. However, in order to influence policy making there is a need to engage and involve a large number of diverse stakeholders to inform them about the findings and benefits arising from the MedProgramme interventions. To this end, three different functional levels (see page 32) and groups of audiences/ stakeholders have been identified to articulate the KM strategy.
- Technical practitioners are among the principal consumers of scientific reports and detailed assessments; therefore, each Child Project shall consider specific groups of technical practitioners in their stakeholder analysis to make sure that the KM strategy can incorporate these views at the programme level.
- The mapping of stakeholders and related engagement plan is crucial to ensure the impact of the KM strategy and of the MedProgramme as a whole. It is important to identify knowledge suppliers/ brokers, knowledge recipients/ beneficiaries and potential change agents at the project level (to be done during the inception phase) and then make sure that these are involved and engaged at the Programme level (see more page 25).
- During the Project Preparation Grant (PPG) phase (June-September 2018) details on activities, stakeholders, outputs and indicators of every Child Project were not available due to the staggered timeframes in preparing the individual project documents. However, through the survey (and several bilateral consultations) it was possible to collect enough insights into the planning of each CP to suggest appropriate solutions and frameworks to manage knowledge holistically across the MedProgramme portfolio.

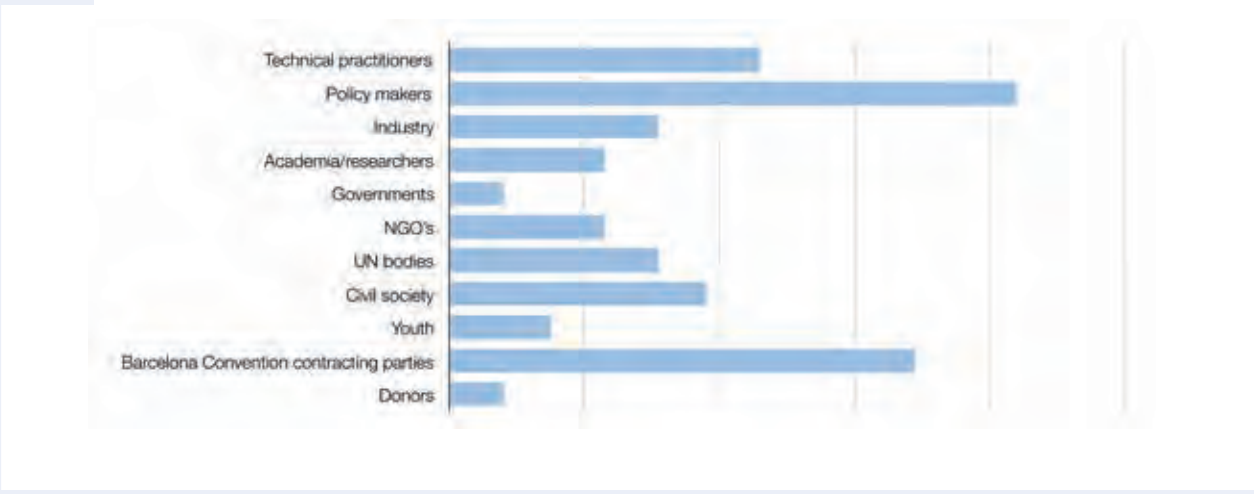
¹² Ref. The preparation of the survey benefitted from the expert and kind advice of staff from UN Environment, Plan Bleu and PAP/RAC. The full questionnaire, which was shared through Google Forms, is annexed in .pdf

Target audiences

[Q2] Who will the primary target audience for your project results be?

The respondents identify as their principle target audience policy makers and the parties to the Barcelona Convention, followed by technical practitioners and civil society. Other relevant audiences are: industry, academia and other UN bodies are: industry, academia and other UN bodies.

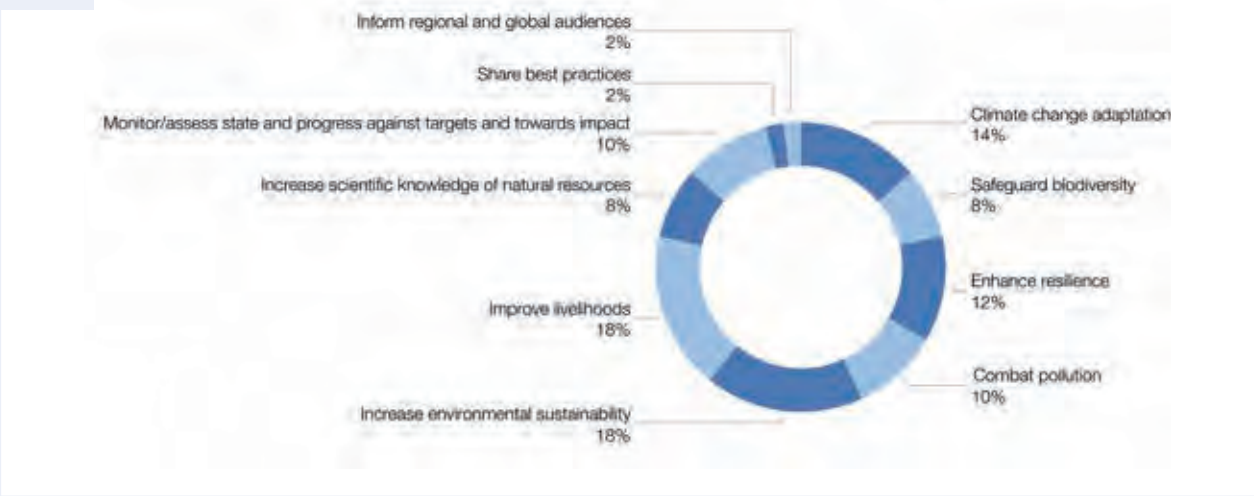
Chart 1



[Q4] Why is your data important?

The data produced will have different objectives, including the priorities to enhance environmental sustainability, increase livelihoods, and adapt to climate change.

Chart 2

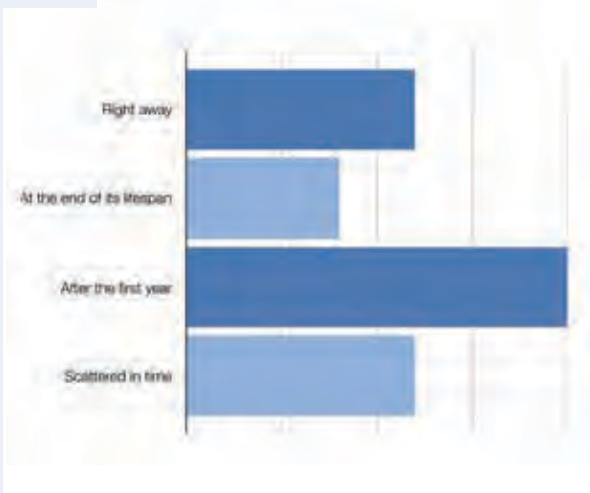


Project/Programme management

[Q3] When will your project start to produce data/results?

Three projects will start producing data right away while other projects will produce data at different times.

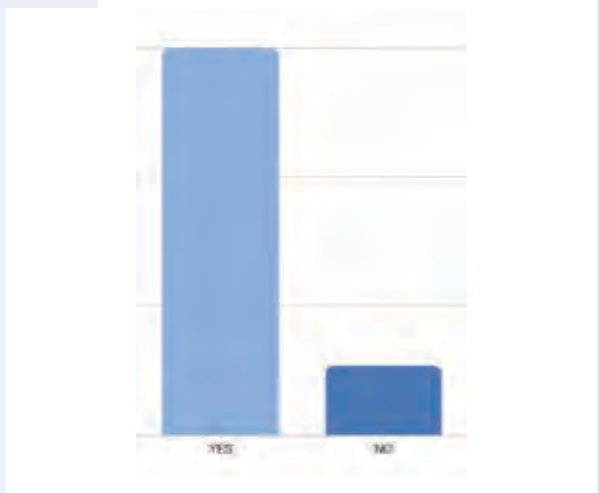
Chart 3



[Q7] Will you and your collaborators be willing to adopt the selected project management tool?

85% of respondents are willing to adopt a web-based project management tool with initial training provided.

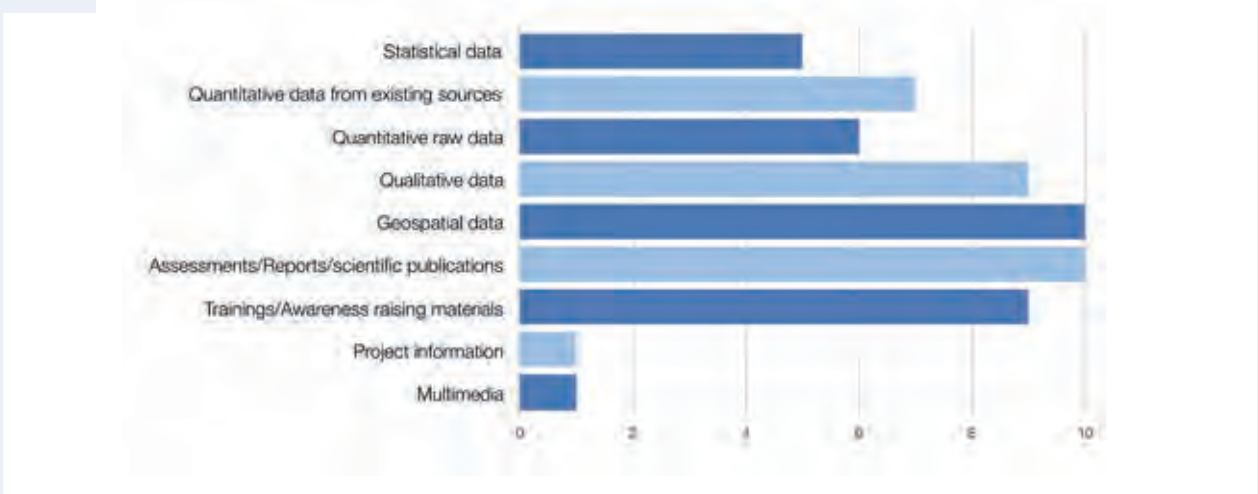
Chart 4



Managing and Visualizing the Data

[Q10] What type of data will you collect and manage as part of your project?

Chart 5



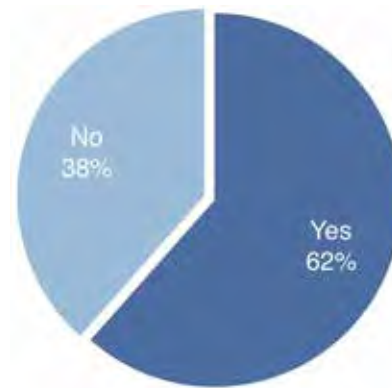
[Q11] **If your project works with geospatial data, what scale do you work at?**

Chart 6



[Q13] **Does your project include the collection and management of time series data?**

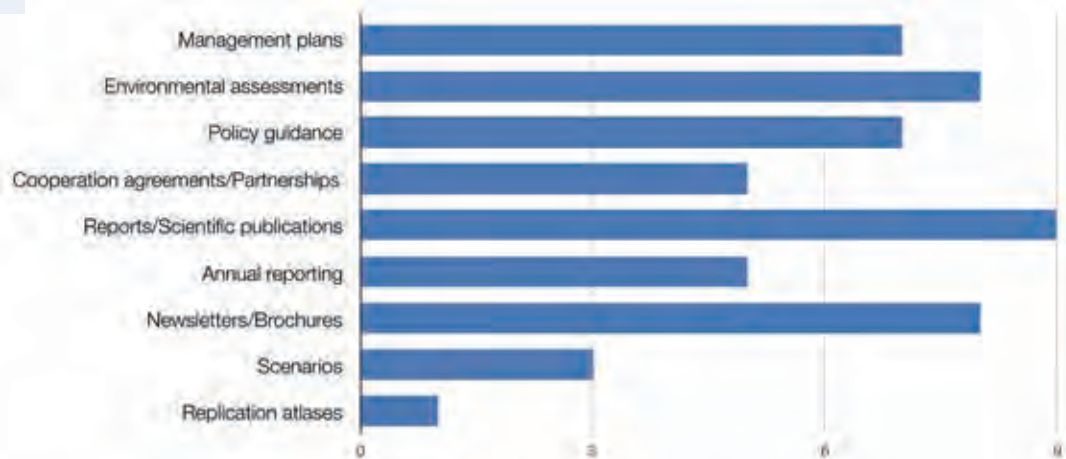
Chart 7



[Q10,11,13,14] Six of the CPs will produce geospatial data from site to regional levels, five will produce qualitative data (see also [16], data from surveys), four will use existing data from external sources, and three will generate new raw data, some of which will be in the form of time series with varying update frequency.

Chart 8 [Q12] **If your project produces qualitative data, what kind is it?**

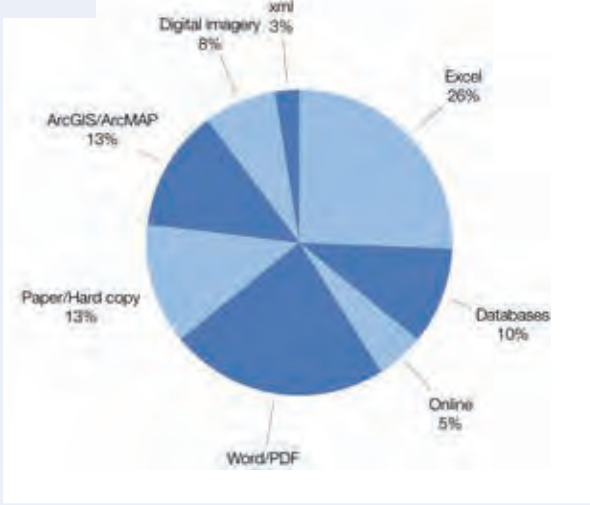
Chart 8



[Q16] What format will you prepare your data in?

A majority of respondents will use Excel to manage their data. Four will use MS Access or similar. Most projects will also manage (qualitative) data in Word, xml and even hard copies (e.g. from questionnaires and surveys). Five projects will manage ArcGIS or ArcMap files and three expect to generate digital images.

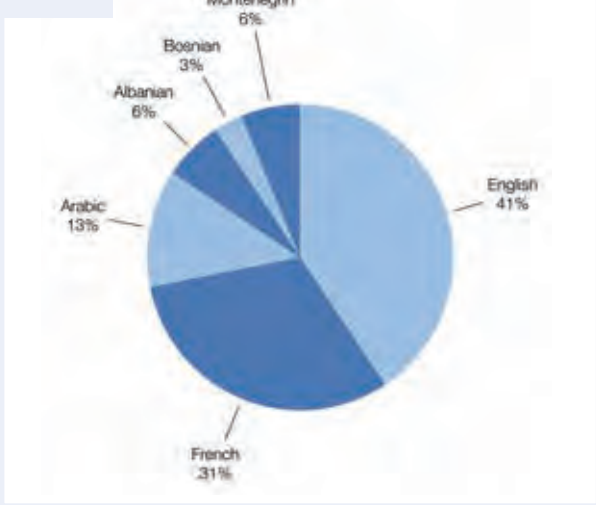
Chart 9



[Q5] What language(s) will your data be produced in?

Data will be produced in six different languages, with the vast majority producing data in English (41%) and/or French (31%) and Arabic.

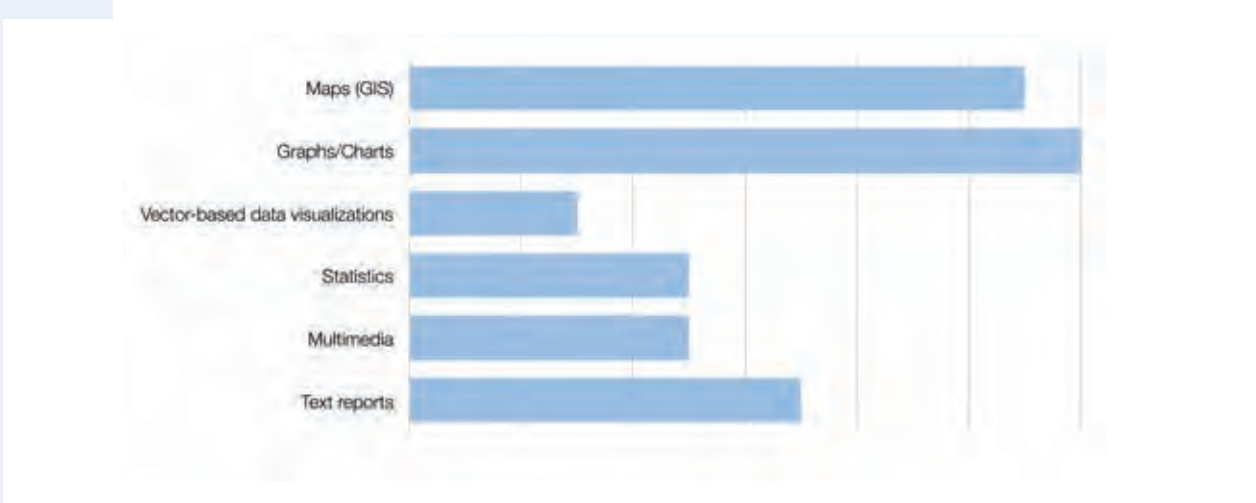
Chart 10



[Q17] Within your Organization/Institution, what type of online visualization tools have you been using so far (if any)?

Most respondents have used charts/graphs and GIS to visualize their data in the past while a smaller number use reports, multimedia and statistics.

Chart 11

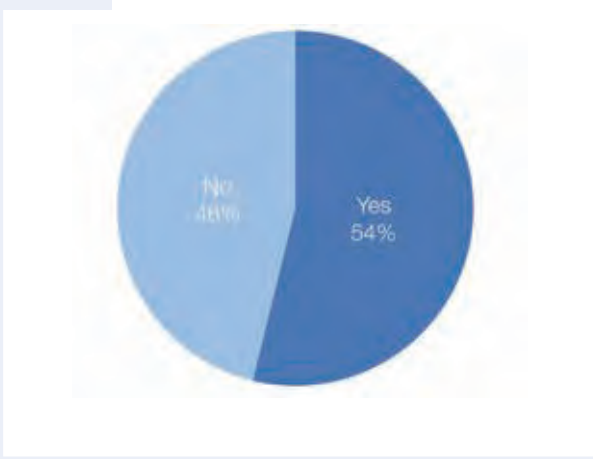


Information and Knowledge Management

[Q8] Have you ever used a Knowledge and Information Management platform?

About half of the respondents have used information and knowledge management platforms before.

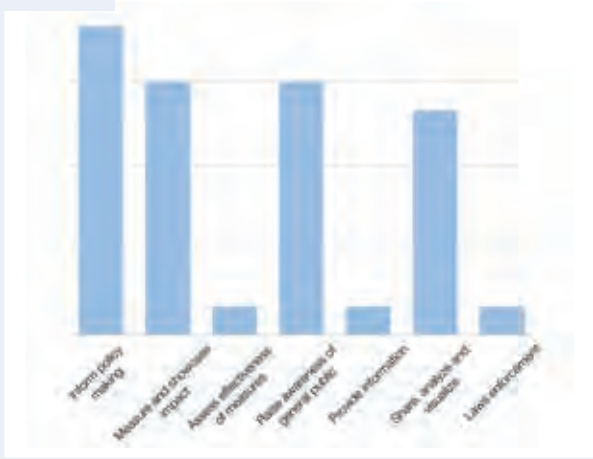
Chart 12



[Q23] What is your key objective for an online (geospatial) platform?

Respondents' expectations in relation to the platform are multiple and include an internal dimension related to data management and information/knowledge sharing among projects, and a public dimension related to showcasing impact, raising awareness and informing policy making in a transparent way. The platform should also help gather the elements that will be needed to tell engaging stories over the lifespan of the programme.

Chart 13



[Q26] What is your key objective for an online (geospatial) platform?

To this open question, respondents illustrated a variety of needs including:

- Engage partners from the beginning so they know they have a channel to promote their work (addressed at the 3 functional levels);
- Help track progress towards set goals (addressed at the portfolio level);
- Improve the internal work between executing partners and the way to communicate (addressed at the portfolio level);
- Facilitate reporting to the GEF (e.g. by timely gathering relevant information from executing partners) (addressed at the portfolio and policy levels);
- Effectively manage documents collaboratively among the co-executing partners (addressed at the portfolio level);
- Provide a roster of environmental experts (addressed at the portfolio level and policy levels);
- Provide a solid and centralized structure as well as cost-effective tools to collect, assess and share data and information (addressed at the portfolio level);
- The strategy should be designed in a way to primarily serve the governments of the contracting parties who have the executive powers to manage the environment, coast, biodiversity, natural resources (addressed at the policy level);
- The strategy should timely inform partners about expectations regarding their contributions to the communication strategy and the amount of work expected (addressed at the portfolio level); and
- The KM strategy should become a best practice for other programmatic approaches and projects.

2.3 MedProgramme Stakeholders

Stakeholder participation is an inherent part of the structure of MAP and the Barcelona Convention where all countries (represented by the MAP focal points) form the Contracting Parties to the Barcelona Convention. In addition, about 100 NGOs and Intergovernmental Organizations (IGOs), termed “partners” are participants to the meetings of the Barcelona Convention. It should also be stressed that stakeholders participated in the formulation of the TDA-MED, SAP-MED, SAP-BIO and the NAPs of the countries, on which the MedProgramme is based. In summary, the key stakeholders that CP 4.1 will strive to involve at national level include:

- Public Sector: ministries responsible for water resources; environment; spatial and development planning; transport; tourism; fisheries; industry; maritime affairs; health; fire-fighting; community development; education; culture and local government authorities.
- Private Sector: national and regional organizations representing: farmers; fisher folk; manufacturers/ industrialists; tourism and aquaculture sector; banks; insurers.
- Non-governmental Organizations (NGOs): national trusts; conservation associations; women's organizations; community-based organizations (CBOs);
- Scientific community: researchers; sociologists; environmental managers; engineers (water, civil, environmental); environmental economists; biologists; climatologists, geographers, oceanographers; teachers; curriculum specialists; media practitioners;
- General public such as the entire coastal population of the Mediterranean Basin (in particular those living in identified hotspots and sensitive areas) and the 176 million tourists visiting the Mediterranean annually.;

At a regional and global level, the stakeholders will be the various signatories to the relevant Multilateral Environmental Agreements (e.g. Barcelona Convention and its Protocols, Convention on Biological Diversity, Basel Convention, United Nations Convention to Combat Desertification, Rotterdam Convention, Stockholm Convention) and all individuals and organizations associated with the achievement of the 2030 Sustainable Development Goals.

The Terminal Evaluation of MedPartnership observed that in spite of the wide stakeholder engagement during implementation of the MedPartnership, the involvement of NGOs, private sector, and Mediterranean countries that are not eligible for GEF funding could have been greater. In the implementation of MedProgramme and its Child Projects, the Lead Implementation and Executing Agencies will foster opportunities to more closely involve NGOs and the private sector in project activities and to engage more closely with non-GEF eligible countries that share the Large Marine Ecosystem (LME) of the Mediterranean Sea. Child Project 4.1 will play an important role in this effort by broadly disseminating information on, and the progress and results of the MedProgramme, stimulating all other Child Projects to design and implement effective stakeholder participation strategies, and promoting involvement in the project's milestone events of relevant NGOs, of the private sector (in particular the tourism industry), and of all non-beneficiary Mediterranean countries.

As regards to specific stakeholders, each Child Project shall undertake its own research and analysis based on respective project objectives to identify partners, target groups and beneficiaries. This analysis is essential to understand who the different players are, their expectations and interest, their characteristics, commitment and constraints, their influence over others, etc. The MedProgramme KM Strategy will support the jump-start and continuous engagement of these groups at the programme level with targeted actions and outreach tools.

Box 2 Glossary: Stakeholders, Beneficiaries, Target groups, Partners

Stakeholders: groups that have a role and interest in the objectives and implementation of a programme or project; they include target groups, direct beneficiaries, those responsible for ensuring that the results are produced as planned, and those that are accountable for the resources that they provide to that programme or project.

Target groups: the main stakeholders of a programme or project that are expected to gain from the results of that programme or project; sectors of the population that a programme or project aims to reach in order to address their needs based on gender considerations and their socio- economic characteristics. When the target group is not sufficiently differentiated, the problem analysis tends to be superficial or too broad and does not allow the effect of the core problem within the various subgroups to be captured.

Direct beneficiaries: usually institutions and/or individuals who are the direct recipients of technical cooperation aimed at strengthening their capacity to undertake development tasks that are directed at specific target groups. In micro-level interventions, the direct beneficiaries and the target groups are the same.

Ultimate (or indirect) Beneficiaries: This is the target group that is expected to be better off as result of the project. The project may provide services directly to this group or more commonly target this group through the strengthening of institutions and organizations (i.e., the direct recipients), which support, increase awareness, or advocate on behalf of the ultimate beneficiaries. The distinction between direct recipients and ultimate beneficiaries is particularly important for donor-funded technical cooperation projects, where donors are primarily concerned with the impact of the project on the latter group. As a result, the project proposal should spell out the intended results of the project beyond just the direct recipients.

Partners: The individuals and/or organizations that collaborate to achieve mutually agreed upon objectives. Note: The concept of partnership connotes shared goals, common responsibility for outcomes, distinct accountabilities and reciprocal obligations. Partners may include governments, civil society, non-governmental organizations, universities, professional and business associations, multi- lateral organizations, private companies, etc.

Source: adapted from UNDP and ILO

2.4 Contributing to the Programme-wide KM

Each Child Project is expected to participate in the common knowledge management (KM) strategy to maximize efficiency, ensure good governance of the programme and achieve greater impact at the different functional levels identified (portfolio level, general public level and policy-making level).

While specific needs related to the diverse outputs of the individual projects will be analyzed on a case-by-case basis, all CPs are evenly contributing to the various activities illustrated in this document. A standard text included in each Child Project document reflects this approach and is aimed at harmonizing individual contributions. The synergetic approach is also reflected in the allocation of evenly distributed budget under each CP that will be used to support KM activities, production of knowledge and data. CP 4.1 will cover for example the costs of developing the KM platform (including the project management tool), organizing activities and events and producing communications material. Each CP will use the dedicated allocation of funds to, for instance, feed the platform with processed data, produce specific information for the preparation of advocacy material, etc.

3. Why a KM strategy?



Much of knowledge management is common sense, but not common practice. –Unknown



3.1 KM in the literature

Since the early 1990s there has been growing attention to the process of managing knowledge within organizations and businesses, mostly with the objective of improving performance and capitalizing on lessons learned. Pioneering professors Ikujiro Nonaka and Hirotaka Takeuchi, were among the first to investigate the benefits of Knowledge Management in organizations and popularize the concepts of “tacit” and “explicit” knowledge. In their 1991 groundbreaking article “The Knowledge-Creating Company”, they affirm that: “In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge”. Through the work of dedicated scholars, knowledge management (KM) has gained a consolidated reputation leading to its establishment as a recognized discipline. KM is now viewed as an organization’s most valuable and strategic asset deserving to be treated accordingly.

There are many definitions of KM (see Box. 2) but it can be commonly described as the “systematic process to identify, capture, structure, value, leverage, and share an organization’s intellectual assets to enhance its performance and competitiveness through a multidisciplinary approach”.

Box 3 Definitions

Knowledge Management (KM): the systematic processes, or range of practices, used by organizations to identify, capture, store, create, update, represent, and distribute knowledge for use, awareness and learning across and beyond the organization.

Knowledge Management Systems (KMS): any kind of IT system that stores and retrieves knowledge, improves collaboration, locates knowledge sources, mines repositories for hidden knowledge, captures and uses knowledge, or enhances the KM process.

Knowledge Products and Services: these refer to outputs such as databases, publications, visual material, maps (knowledge products) and outcomes such as awareness raising, information sharing, and capacity building (knowledge services).

Knowledge Assets: are the accumulated intellectual resources of an organization in the form of information, ideas, learning, understanding, memory, insights, cognitive and technical skills, and capabilities.

Source: Stocking, M. et al. 2018. Managing knowledge for a sustainable global future. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC.

Knowledge Sharing: A subset of knowledge management encompassing the exchange of knowledge (information, skills, experiences, or expertise) within and across organizations. Although it can be one- directional, knowledge sharing in most cases is a two-way or multilateral exchange in which the parties learn from each other. Knowledge sharing is more than mere communication because much knowledge in organizations is hard to articulate. In development work, some knowledge sharing has a regional aspect. For example, South-South knowledge sharing refers to exchanges among partners and peers across developing countries.

Source: Steffen Souleijman Janus. 2016. Becoming a Knowledge-Sharing Organization: A Handbook for Scaling Up Solutions through Knowledge Capturing and Sharing. Washington, DC: World Bank. doi:10.1596/978-1-4648-0943-9. License: Creative Commons Attribution CC BY 3.0 IGO

KM is based on two critical activities:

1. the capture and documentation of explicit (technical and codified information) and tacit knowledge (intangible assets intended as human and intellectual capital);
2. their dissemination amongst the intended audiences and stakeholders.

There are two key challenges: knowledge is difficult to assemble, and it is difficult to encourage its use. Many managers see it as a time-consuming distraction from their core role. However, proper knowledge management can reduce risks and increase efficiency through the re-use of proven approaches and avoidance of known pitfalls. It can also produce a virtuous circle as individuals and teams see their contributions recognised and re-used, thus encouraging further participation in the process. Accurate knowledge management is a powerful enabler of organizational learning and an indispensable ally for strengthening the science-policy interface. Writing a report or producing scientific data is only a part of the broader effort to promote environmental sustainability, because without effective sharing of information (in terms of language, tools, channels, etc) and dialogue among all stakeholders involved, the impact of the knowledge produced remains very limited. Considerable progress in raising awareness and improving scientific dissemination has been achieved in recent decades, but the urgency posed by challenges worldwide calls for accelerated and renewed efforts to raise the awareness of policy makers and the public at large about the measures needed to achieve sustainable development and the protection of natural resources.

3.2 KM under GEF programmatic approaches

The policy recommendations emanating from the GEF-7 replenishment¹³ clearly refer to knowledge as a “critical asset of the GEF Partnership” and commend “the steps taken to build the GEF’s knowledge management systems and practices in GEF-6, as well as the increasing attention to learning and knowledge exchange in GEF projects and programs, notably the integrated approach pilot programs, and in outreach to recipient countries”.

The call for more investments in knowledge management systems and practices also stems from recent GEF OPS (Overall Performance Studies) which have found that “the relevance of knowledge management to the GEF mandate has been increasingly recognized, and efforts to improve knowledge management in the partnership have been made on several fronts”. The GEF2020 Strategy emphasizes “strategically generating knowledge” as a priority. In 2014, the policy recommendations in the GEF-6 Replenishment Document similarly emphasized “the importance of developing a knowledge management (KM) system that aims to improve the GEF partnership’s ability to learn by doing and thereby enhance its impact over time”.¹⁴

At the same time, the GEF-7 Programming Directions commend programmatic approaches (see Box 3) to tackle environmental degradation, making the case for better performance and higher impact of projects within a program. It is noted that “Child projects generally performed better than stand-alone projects on all rating dimensions, especially on execution quality, sustainability and M&E design. Child projects have also improved in design and are now better linked to the overall program in terms of objectives, result based

¹³ Ref. GEF-7 Replenishment, Policy Recommendations, Fourth Meeting for the Seventh Replenishment of the GEF Trust Fund, GEF/R.7/18, p.9, www.thegef.org/council-meeting-documents/gef-7-policy-recommendations

¹⁴ Ref. Global Environment Facility Independent Evaluation Office (GEF IEO), OPS6 Final Report: The GEF in the Changing Environmental Finance Landscape. Washington, DC: GEF IEO, 2018, p. 147 www.thegef.org/sites/default/files/council-meeting-documents/GEF.A6.07_OPS6_0.pdf

management and M&E.”¹⁵ In addition, OPS6 reports that “multi-focal area projects are better at achieving global environmental and socio- economic outcomes at completion compared to single-focal area projects”¹⁶. A recent IEO brief¹⁷ further noted that country stakeholders cite “improved knowledge sharing and synergies with other GEF projects among the incentives for joining a program.

Box 4 GEF Programmatic approaches

Programmatic approaches, formalized in 2008¹⁸, are particularly relevant to the Global Environment Facility (GEF), given the long-term nature of the environmental problems the GEF addresses. The GEF-7 Replenishment Programming Directions¹⁹ reaffirms this approach noting that “more complex programs and sets of child projects will tend to offer more entries for development links due to multi-sectoral approach, multi-stakeholder engagements and platforms, and potential for delivering socio-economic co-benefits, along with enhancing the sustainability of the associated investments.”

Managing knowledge holistically within programs is a key undertaking, posing additional challenges due to the extra complexity and number of partners and stakeholders involved. The STAP²⁰ notes that “as the GEF moves further towards integrated approaches, multi-focal projects and impact programs, it is increasingly important to facilitate acquisition of formal and tacit knowledge, organize knowledge assets from complex situations and make them available to inform future investments. The Integrated Approach Pilot (IAP) programs and Impact Programs impose greater needs for connections between ‘child’ projects and program objectives. KM is the obvious means to tie these connections together, to collect evidence-based learning, and to achieve sustained impact that deliver benefits far into the future.”²¹

This emphasis from the GEF on both integrated knowledge management systems and holistic multi-focal area programmes, clearly sets the ground for a purposeful, concrete and action- orientated KM strategy for the MedProgramme. During its execution, the MedPCU will make sure that actions are closely aligned with GEF KM-related guidelines²².

¹⁵ Ref. GEF-7 Replenishment, Programming Directions, Fourth Meeting for the Seventh Replenishment of the GEF Trust Fund, GEF/R.7/19, p.6, <https://www.thegef.org/council-meeting-documents/gef-7-programming-directions>

¹⁶ Ibid

¹⁷ Evaluation of Programmatic Approaches in the GEF, IEO Brief, The Independent Evaluation Office (IEO) of the GEF, 2017. Full brief at: <http://www.gefio.org/sites/default/files/ieo/signposts/files/programmatic-approaches-2016- brief.pdf>

¹⁸ “Programs have been part of the GEF since its establishment. [...] In 2008, the Council endorsed the objectives and principles for programmatic approaches. For the first time, detailed procedures for designing programs were approved, including the introduction of the program framework document (PFD). This resulted in an increase in the submission of programs to the Council and a change in their nature from phased to clustered ones. Importantly, a stimulus to program ownership was introduced by defining programs as “a more strategic level interaction with the GEF” for countries. [...] Until GEF-5, Council discussions about programs centered more on administrative than technical matters. This changed in 2014, when the Council approved a revised modality based on program scope: (1) thematic—the program addresses an emerging issue (e.g., a driver of environmental degradation), and (2) geographic—the program focuses on a particular geography. In GEF-6, the GEF introduced the IAPs, which focus on drivers of environmental degradation through supporting broad stakeholder coalitions and scalable activities.” IEO BRIEF, Evaluation of Programmatic Approaches in the GEF, January 2018

¹⁹ The full document of the GEF-7 Replenishment Programming Directions is available at:

https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Programming%20Directions%20-%20GEF_R.7_19.pdf

²⁰ STAP stands for the Scientific and Technical Advisory Panel of the Global Environment Facility. More info: <http://www.stapgef.org>

²¹ Stocking, M. et al. 2018. Managing knowledge for a sustainable global future. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. p. 3

²² At the time of the PPG phase (June-September 2018) final GEF guidelines on KM were not yet available. However, due consideration of provisions contained in the GEF Knowledge Management Approach Paper (2015, https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.48.07.Rev_01_KM_Approach_Paper.pdf) and other relevant documents was taken into account when preparing this strategy.

4. Getting there: a modular architecture

“ Knowledge is the new capital, but it’s worthless unless it’s accessible, communicated, and enhanced. ”

–Hamilton Beazley

In order to achieve the objectives of the KM strategy, three interconnected functional levels have been identified to structure actions, activities and tools:

1. at the **PORTFOLIO LEVEL**;
2. at the **GENERAL PUBLIC LEVEL**;
3. at the **POLICY and DECISION-MAKING LEVEL**

Each level is articulated along different objectives. Activities and tools contribute to one or more KM levels and to the two Components of Child Project 4.1 (see Table 3, page 32). They are presented associated with objectives (such as “Monitoring progress towards impact”), but in most cases they are meant to respond to the needs of more than one KM level.

Table 3 Contribution of activities and tools to KM levels and CP 4.1 Components

Activity/Tools	Portfolio Level	General Public Level	Policy Level	CP 4.1 Component 1 Knowledge Sharing and Dissemination	CP 4.1 Component 2 Coordination and Synergies
Project/Program Management Tool	X				X
Database and Visualization tools	X	X	X	X	X
Public portal		X	X	X	
Annual Stocktaking Meetings	X	X	X	X	X
Replication Atlases		X	X	X	X
Trainings for portfolio	X				X
MedProgramme identity	X	X		X	
Med Bulletin/Newsletter	X	X	X	X	X
Storytelling (movies, graphic novels, podcasts, infographics, ...)		X	X	X	
Social media		X	X	X	
Technical reports and scientific publications, IW:LEARN Experience Notes		X	X	X	
MedProgramme Launching event and Final Conference	X	X	X	X	X
IW:LEARN IWC and twinnings, GEF events	X		X	X	X
Global campaigns and processes		X	X	X	
Engagement with testimonials		X		X	
Partnerships	X	X	X	X	

4.1 Portfolio Level

The work of project managers and executing partners is supported through provision of project management tools, monitoring frameworks, trainings and knowledge exchanges. A series of IT- based solutions and knowledge-mining and -sharing techniques are used to capture codified information as well as intangible assets.

4.1.1 Supporting efficient project management

4.1.1.1 Project Management Tool

A multilingual online project management tool²³ (integrated in the KM platform) can respond to the need of supporting efficient project (and programme) management by facilitating communication and information exchange among key actors of the Programme; promote knowledge sharing and peer-to-peer learning; facilitate tracking and monitoring of progress; and meet reporting requirements. A review of options currently available on the market (such as Asana, Freedcamp, Wrike, Slack, Microsoft Project, Basecamp, among others) has been carried out in the preparatory phase of the MedProgramme with a view to inform the selection of the most suitable tool to serve the needs of the portfolio. The final selection and adoption of the tool will occur during the inception phase of CP 4.1.

This decision-support system employs effective data-mining techniques and can be customized to suit the programme's needs, and project managers (and designated project collaborators) will receive specific training on its use and adoption to ensure portfolio-wide consonance.

Key features for such a tool include (but are not limited to): automated reporting, shared calendars, live editing/collaboration on document development, workflow and task monitoring, Gantt-Chart, time tracking, file management and cloud repository, encrypted security, back-ups, integration with email and other products, mobile apps, and role-based access control and discussion boards.

The majority of respondents to the online survey on projects needs welcomed the idea of utilizing a PMT (and benefitting from ad hoc training). Previous experience from MedPartnership showed little use of a similar tool, however since then these online tools have greatly improved their features and levels of customization, and have been adopted widely to manage complex, multi- partner and multi-lingual projects.

4.1.2 Sharing knowledge and building capacity

One of the objectives of the MedProgramme is to improve the capacity of key regional stakeholders and build socio-economic resilience of impacted communities. To this end, a series of knowledge exchanges will take place at different levels taking inspiration and practical lessons learned from the GEF Partnership (reflecting the wealth of experience and examples from projects and programs around the world) and other relevant Organizations involved. A milestone activity in this sense is represented by the series of MedProgramme Annual Stocktaking Meetings (see next section).

²³ Project management tools (PMT) are aids to assist an individual or team to effectively organize work and manage projects and tasks. PMTs can either be desktop software, web-based and as a mobile app. Most of the tools are web- based only with a few providing also desktop and mobile based versions, regardless of the kind of version all the work is updated instantly across all devices and accounts.

4.1.2.1 Knowledge Exchanges

At the portfolio level, the MedPCU will capacitate Child Project teams with knowledge and training that can help them to deliver better project results and achieve greater impact. The identification of topics and modalities of exchange (face-to-face, virtual meetings, Communities of Practice, Expert visits, Study Tours, manuals, among others²⁴) will be defined at the beginning of the Programme implementation. Preliminary topics could include:

1. Gender mainstreaming and stakeholders' engagement;
2. Scientific communication: bridging the gap between scientists/technical practitioners and media specialists;
3. Lessons learned from the MedPartnership and the ClimVar and ICZM projects.

It is expected that these knowledge exchanges will further empower project stakeholders, enhance cooperation, strengthen the institutions they represent and ultimately influence policies and norms for better management of natural resources in coastal areas.

Additionally, Child Projects will participate in learning exchanges by twinning with other relevant GEF IW projects as facilitated by the GEF IW:LEARN Project (see more at page 44).

Moreover, the MedPCU will support specific capacity building activities foreseen by each Child Project by taking stock and amplifying results through the programme-wide outreach.

4.1.3 Monitoring progress towards impact

4.1.3.1 Annual Stocktaking Meetings (ASM)

The Annual Stocktaking Meetings (ASM)²⁵ are one of the milestone activities of the MedProgramme. They are major regional events aiming to establish synergistic interactions among Child Projects and with other relevant initiatives and stakeholders, including with all other Mediterranean countries not participating in the MedProgramme.

ASMs hold a two-fold objective: 1) provide a forum for peer-to-peer learning among the Programme portfolio, and 2) catalyze regional and global attention on the progress made towards impact in the entire Mediterranean region.

The ASMs will be an occasion for face-to-face knowledge exchanges, south-south and north-south learning, and promotion of the broader adoption of MedProgramme approaches and solutions. Project managers, stakeholders and beneficiaries will have the opportunity to learn from each other, tap into respective tacit knowledge, and at the same time benefit from experiences and expertise generated by GEF and non-GEF projects and other relevant experts in different disciplines with diverse backgrounds. Moreover, Child Projects will have the chance to showcase their implementation advancement, discuss problems encountered, and engage with a broad audience of peers and stakeholders. The participation of regional and global media

²⁴ Useful guidance can be found in the following publications: “The Art of Knowledge Exchange. A Results-Focused Planning Guide for the GEF Partnership” 2015 (https://www.thegef.org/sites/default/files/publications/GEF_WB_AoKE_English.pdf); “Becoming a Knowledge-Sharing Organization” 2016 (<http://documents.worldbank.org/curated/en/306761478498267644/pdf/109809-PUB-Box396311B-PUBLIC-DOCDATE-11-2-16.pdf>); and

²⁵ The importance of, and need for stocktaking meetings emerged during the execution of the Strategic Partnership for the Danube and Black Sea Basin, the first GEF experiment in multi-project programs.

will raise public awareness across the Mediterranean countries and beyond. These knowledge exchanges will further enhance cooperation, strengthen the institutions they represent and ultimately influence policies and norms for better management of natural resources in coastal areas. The meetings will involve: all Child Projects and Governments of the participating countries, the MedProgramme’s implementing and executing agencies, the GEF Secretariat and Independent Office of Evaluation (IOE), Convention Secretariats, the UN Environment Global Program of Action (GPA), as well as major regional and global NGOs, representatives of those Mediterranean countries not participating in the MedProgramme; bilateral and multi-lateral donors, IFIs, the UfM, other regional intergovernmental organizations (OSS, etc.), and major private sector coastal area actors, water users, tourism associations and the shipping industry. Representatives of faith-based leaders, women’s organizations, youth organizations, fashion/art/sport testimonials, media specialists, among other relevant groups will also be invited to participate in these events, following a dedicated stakeholders’ analysis.




All project partners are expected to attend, and meaningfully participate in, the ASMs. They will be organized by the MedPCU in cooperation with all CPs and country representatives and will take place on a rotation basis in different project countries.



The ASM design, objectives and architecture will be defined during the first year of MedProgramme operation and approved at the CP 4.1 Steering Committee level. The first ASM will be held during the second year of MedProgramme operation.



4.1.3.2 Data visualization

Data visualization tools effectively support monitoring and reporting through easy visualization of selected data thus taking stock of progress. The table below illustrates possible types of visualization for geospatial and other types of data²⁶.

Table 5 Visualization examples for geospatial data and other types of data

GEOSPATIAL DATA		
Type of visualization	Type of data example	Visual example
Pin, symbol (with or without color or icon coding)	Coastal contamination hotspots, industrial wastewater treatment plants, etc.	
Polygon (with or without color coding, with or without color following a scale)	Number of water system clients connected to modern wastewater facilities, Coastal contamination hotspots, Concentration of mercury in coastal waters, Landscape and seascape under improved management, etc.	
Proportional symbol (color and/or size follow a scale)	Amounts of POPs disposed of /recycled on-site, Amounts of Mercury/ disposed of recycled on-site, Volume of industrial wastewater receiving secondary treatment, Volume of treated industrial wastewater reused, etc.	

GEOSPATIAL DATA		
Type of visualization	Type of data example	Visual example
Heatmap	Concentration of POPs in coastal waters, etc.	
Choropleth maps	Countries implementing comprehensive Integrated Coastal Zone Management, Countries implementing sustainable consumption and production (SCP) approaches, Countries having completed inventories of submarine groundwater discharges, etc.	

OTHER TYPES OF DATA		
Type of visualization	Type of data example	Visual example
Animated gauge	Real-time progress towards target of 3,250 tonnes reduction in POPs contamination, progress towards target of 50 tonnes reduction in mercury contamination, etc.	
Pie chart	Training distribution by type of training and by gender, etc.	

Note: For each geospatial visualization above, more information could be displayed in overlays (which appear when hovering the mouse).

4.1.3.3 Measuring Knowledge Management impact



Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted. –Albert Einstein



Unlike other activities that can be justified in terms of explicit and measurable monetary savings, the added value of knowledge management is more difficult to quantify. Knowledge management benefits are both far reaching and hard to measure as they relate primarily to preventing the waste of money, time and human resources. It is difficult to quantify the expense – in terms of time and money – of finding the right information or reproducing knowledge that already exists, or of using obsolete rather than up-to-date information. The prevention of errors and the savings that are often achieved through better use and reuse of existing knowledge are practically invisible in accounting terms²⁷.

Nevertheless, it is important to assess the performance of KM efforts and measure the impact of the KM strategy. Measurement, benchmarking and incentives are essential to accelerate the learning process and to drive cultural change. When distilling recommendations to improve the systematic treatment of the need for KM, the STAP recommends that “knowledge management progress indicators should be included in the GEF Results-Based Management system”²⁸.

A menu of indicators (both quantitative and qualitative) will be considered by the MedPCU in order to monitor knowledge-related activities (Table 5). Once indicators are discussed and approved during the inception phase of the MedProgramme, related targets can be developed to measure the achievement of the objectives.

Table 6 Possible KM Indicators

What to measure	Indicators	Means of verification
How often are internal users I) accessing, II) contributing to, or III) using the knowledge assets and sharing processes at their disposal?	<ul style="list-style-type: none"> • Number of connections per day/week/month • Number of knowledge assets downloaded • Number of discussions or messages shared, etc. 	Usage data will be provided by the MedProgramme portal analytics
What is the level of internal user satisfaction with the MedProgramme project management tools and how is it impacting their work?	<ul style="list-style-type: none"> • User friendliness of the tool from 1 to 5 (e.g. interface, design, navigation, etc.) • Technical quality of the tool from 1 to 5 (features, speed, etc.) • Overall level of satisfaction from 1 to 5 • Has facilitated collaboration within your CP from 1 to 5 • Has facilitated collaboration with other CPs from 1 to 5 • Has helped you save time by giving your access to resources from 1 to 5 	This can be measured through internal satisfaction surveys that will also provide a venue for users to suggest improvements, (virtual) meetings, etc. Stakeholders should be engaged in a structured manner, for example through interviews, focus groups, or peer learning activities.

²⁷ Steffen Soulejman Janus. 2016. *Becoming a Knowledge-Sharing Organization: A Handbook for Scaling Up Solutions through Knowledge Capturing and Sharing*. Washington, DC: World Bank. doi:10.1596/978-1-4648-0943-9. License: Creative Commons Attribution CC BY 3.0 IGO

²⁸ Stocking, M. et al. 2018. *Managing knowledge for a sustainable global future*. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. p. 5

What to measure	Indicators	Means of verification
How often are public users IV) accessing the MedProgramme portal, and V) accessing the knowledge assets?	<ul style="list-style-type: none"> • Number of visits, • Average time spent • Number of downloads • Pages visited • Number of recipients opening the newsletter • Ease of finding knowledge resources on the portal from 1 to 5, etc. 	Usage data will be provided by the MedProgramme portal analytics. A feedback form can also be available at all time on the portal.
Is MedProgramme producing quality knowledge assets?	<ul style="list-style-type: none"> • Level of satisfaction of stakeholders with knowledge asset • Are stakeholders using knowledge assets in their work 	This can be measured through a stakeholder survey.
Is MedProgramme contributing to the GEF knowledge base?	<ul style="list-style-type: none"> • Knowledge assets shared on other GEF platforms (IW:LEARN and others) 	This will be monitored by the MedPCU.
Is MedProgramme building the capacity of key regional stakeholders?	<ul style="list-style-type: none"> • Key regional stakeholders have been identified • Number of knowledge exchange activities implemented • Number of participants at the Annual Stocktaking meetings 	This will be monitored by the MedPCU.
Is MedProgramme participating / contributing to global and regional campaigns, events and processes?	<ul style="list-style-type: none"> • Number of regional and global events with MedProgramme participation (as presenter) • Number of #MedProgramme mentions on SDG social media channels 	This will be monitored by the MedPCU.
Is MedProgramme getting the attention of the media?	<ul style="list-style-type: none"> • Number of media hits in target languages / countries • Number of media hits in first tier media outlet • Number of Op-eds placed, etc. 	This can be monitored by a media agency for a fee or with free tools such as Google Alerts.
Are Parties to the Barcelona, Stockholm, Minamata, and Basel Conventions VI) aware of the MedProgramme outputs / outcomes? VII) using the MedProgrammes outputs?	<ul style="list-style-type: none"> Number of briefing organized with Parties to the Barcelona Convention Number of countries attending the briefing Number of countries using MedProgramme outputs 	This will be monitored by the MedPCU and country representatives can be surveyed through face-to-face interviews, etc.

4.2 General Public Level

Civil society, media, and representatives of non-scientific community are informed about MedProgramme’s results and engaged in knowledge sharing activities both as brokers and beneficiaries

4.2.1 Communicating progress and results

The KM strategy foresees a large component on communications and outreach aimed at ensuring that results are properly shared with the intended audiences to maximize, replicate and scale up best practices and lessons learned.

A number of traditional communications activities (such as newsletters, brochures, etc.) will be blended with innovative and creative approaches (graphic novels, documentaries, podcasts, etc.) to ensure visibility of the Programme.

4.2.1.1 Knowledge Management Platform

The engine of the KM strategy is enshrined in a powerful web-based knowledge hub comprised of a

data and information management system (with both public and restricted access) and a combination of visualization tools to serve the portfolio's needs.

The platform will serve as central repository of all the data generated by the Child Projects and will be designed with a view to the following strategic knowledge management objectives:

- Facilitate information sharing and promotion of the Programme achievements among the partners and the regional stakeholders.
- Reflect the indicators of all Child Projects in the establishment of the relevant tools and frameworks, and seek coherence with efforts underway in the GEF's Chemicals and Waste Focal Area to create a platform to assist countries in meeting the reporting requirements of the Stockholm and Basel Conventions.
- Support policy development through its data collection and management tools.
- Strengthen the science-policy interface, incorporating relevant data already generated by the countries, with the clear understanding that no data would be disseminated without the permission of its owner.
- In the long term, become a tool of the Contracting Parties of the Barcelona Convention.
- Assist countries in meeting their IMAP reporting requirements.
- Ensure that the highly valuable legacy of the MedPartnership, which produced a substantial volume of knowledge and information as well as a number of tools and guidelines, lessons, and experiences, is carefully preserved and easily accessible, including translations of key documents.

Such an integrated platform should host: 1) a project management tool; 2) a public/outward-facing portal, including sub-webpages for each CP; 3) visualization tool(s) to display a digitalized representation of data through GIS and other suitable means; and 4) a database for raw/primary data.

1. The project management tool was described previously (page 33)
2. The outward-facing MedProgramme portal will be populated with key information showcasing progress towards impact and the contribution of the MedProgramme to global and regional environmental goals. The portal will serve as a gateway for information related to international waters, coastal zones, biodiversity and climate resilience in the Mediterranean sea basin, bringing together information from GEF and non-GEF projects (for example results from the MedPartnership project will be made available and possibly re-packaged in new material) for broad dissemination and cross-fertilization (several platforms identified in the Baseline can be cross-referenced from the MedProgramme platform to reach out to vaster audience and stakeholders). It will closely dialogue with the GEF's new portal (corporate database for projects, reports, and documentation) and the IW:LEARN website. The MedProgramme portal will feature a highly user-friendly interface including effective search functions, filters (such as drop-down menus) and analytical capabilities. Each Child Project will have dedicated sub-pages about their specific activities. CPs are expected to provide regular information (in different multimedia formats) to generate content for their respective project sub-pages and the overall programme portal. The MedPCU will be responsible for curating the information provided and packaging them for the intended audiences.

3. Visualization tools²⁹ will be used to display spatial and non-spatial data (be they quantitative or qualitative) generated by the projects. Data need to be stored and mined in a way that makes them readily available not only to track progress but also to support decision making by the different stakeholders. GIS (geographic information system³⁰) will be largely used as well as textual information, photos, story maps, pie charts, graph charts, infographics, map dashboards, trend line charts, among others (see examples in Table 5). Users can build a query based on specific criteria such as geographic area, data layer or specific indicators. Alternatively, users can simply browse for information using the icons provided. There are a number of visualization software tools available both as open source and commercial options. A number of products (with license or open access) could be suitable for integration in the MedProgramme knowledge platform, such as Esri ArcMap and ArcGis, Geonode, QGIS, MapX³¹ and Google Earth Outreach³². The final selection will be made during the inception phase.
4. Raw/primary data will be stored in a database with flexible restricted/public access. A shared data model/protocol should be agreed at the beginning of the Programme to ensure that projects will compile relevant data with a standardized approach and enable a harmonized data entry system (the INSPIRE directive³³ could be taken as reference to harmonize the process). Issues related to open data, ownership, quality and review of data will be addressed in this exercise; a mapping of voluntary standards can help to evaluate feasible options. Contributors of data are all stakeholders of the MedProgramme, including the Executing Partners. Child Projects are responsible for producing their own data.

4.2.1.2 MedProgramme identity

In terms of visibility, the MedProgramme will be presented in a holistic and coherent way through the development of clear vision statement and positioning, visual identity, logo design, etc. showing consistency and integration across the portfolio. At the same time, each Child Project will be granted individual identities within the overall MedProgramme-branding in order to promote specific activities and benefit from ad hoc services. This will entail the design of consistent logos for each CP, creation of sub-websites within the Programme platform, organization of tailor-made trainings, preparation of specific publications, social media services, among others.

The MedPCU will develop a proposal³⁴ in close consultation with project teams and, once adopted at the Steering Committee level, Child Projects are expected to use it consistently.

²⁹ Data visualization is the presentation of data in a pictorial or graphical format, and a data visualization tool is the software that generates this presentation. Data visualization provides users with intuitive means to interactively explore and analyse data, enabling them to effectively identify interesting patterns, infer correlations and causalities, and supports sense-making activities.

³⁰ The information about location associated with observation and statistical analysis is called geographic information.

³¹ MapX was developed by UN Environment, the World Bank and the Global Resource Information Database (GRID-Geneva) to capitalize on the use of new digital technologies and cloud computing in the sustainable management of natural resources. More info: www.mapx.org

³² A recent partnership has been established between UN Environment and Google.

³³ The INSPIRE Directive aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries. INSPIRE is based on the infrastructures for spatial information established and operated by the Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications. The Directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2021. More info: <https://inspire.ec.europa.eu>

³⁴ In line with both UN Environment and GEF policies on branding and use of logos.

4.2.1.3 Newsletters (Med Bulletin)

Periodic MedProgramme Bulletins will be published (every six months or on a quarterly basis) to showcase progress of the Programme as a whole and of individual Child Projects, including highlights of results, success stories and project events, and relevant global, regional and national relevant meetings and events. It will be one of the primary tools for tracking achievement of targets and milestones for all Child Projects, based upon the corresponding results frameworks. Bulletins will feature a “journalistic” style making the content appealing for a wide range of audiences. Therefore, all CPs are expected to contribute to these Bulletins with different types of inputs in order to document their activities and progress, such as high-quality pictures, articles, statistics, quotes, interviews, footage, among others.

4.2.1.4 Storytelling for advocacy

A number of traditional storytelling instruments will be blended with innovative and creative approaches to increase dissemination and advocacy efforts. Particular emphasis will be given to the preparation of high-quality short movies, animations and documentaries, graphic novels³⁵, documentaries, podcasts³⁶/radio programmes, infographics, art exhibitions, digital interactive stories/articles/interviews, professional photos, microblogging, e-books, art exhibits, among others. The MedPCU will collect different multimedia material from the CPs necessary to prepare these products. Translations of key communications outputs will be carried out in English, French and Arabic to ensure ample dissemination in the participating countries. Specific translations in other national languages will be sought pending budget constraints and upon due consideration of stakeholders’ needs.

4.2.1.5 Social Media

Facebook, Instagram, YouTube and Twitter are four social media tools suggested for use by the MedProgramme. Development of timely and appropriate content and material to populate these channels is indispensable to achieve the desired impact. CPs will be prompted to contribute with relevant and ad-hoc information, pictures, statistics and other data to enrich the social media campaign.

The use of hashtags will be coordinated with the GEF IAs and EAs and project and country representatives of the Programme in support also of other related initiatives and campaigns.

The registration on the above-mentioned channels (or a selection of them) will take place at the beginning of the Programme and content population will start as soon as data and information from the projects becomes available.

4.2.1.6 Participation to global campaigns, events and processes

Experiences and lessons learned from the MedProgramme will be of relevance for a number of global processes shaping policies related to the sustainable management of natural resources in coastal areas. In turn, global processes are important for the MedProgramme to align with national, regional and global priorities and be receptive to new “waves” (policies, socio-economic trends, tech advances, etc). MedProgramme activities in this sense will build on existing successful campaigns, for example the “ICZM Mediterranean awareness-raising Strategy (MARS)”. Contribution to these events will take different forms, ranging from physical attendance, production of specific products, content and multimedia material to be packaged in suitable products, among others. Examples of processes and events that could be relevant for the MedProgramme include the Agenda 2030 and SDGs conferences, the United Nations Environment Assembly (UNEA), Mediterranean-wide policy dialogues, the UN Environment campaigns against chemical and plastic pollution, the EU Development Days

³⁵ Graphic novel or graphic journalism” is an increasingly popular literary genre that uses comics and poignant texts to explain complex matters. It is a compelling way of storytelling for scientific dissemination.

³⁶ A mix of radio and audiobooks, podcasts are a very incisive and entertaining way of sending messages across and inform and spark debate on pressing issues. They are easy to share and can reach a vast and varied audience.

and other key gatherings at the EU level, International Days (such as Coast Day, Environment Day, World Water Day, Health Day, etc), among others.

4.2.1.7 Engagement with media and testimonials

The MedPCU will reach out to a different number of media outlets and journalists with a view to establish long-lasting collaborations. To this end, CPs will be asked to liaise with national and local media of the project countries (for instance, by providing the MedPCU with a list of relevant contacts). A series of direct interactions with communications specialists, media experts and social media influencers is foreseen throughout the duration of the Programme to increase mutual understanding and flow of information. The MedPCU will also reach out to renowned personalities from different realms (such as art, sports, entertainment or fashion) to invite them to serve as ambassadors for the Programme and raise awareness about the main environmental challenges (and solutions) in the coastal areas of the Mediterranean. CPs will be prompted to suggest names, and facilitate contacts when possible, of suitable and potential “goodwill ambassadors” of relevance in the region.

4.2.1.8 Launching/Closing events of the MedProgramme

The design and practical details of these events will be planned during the inception phase of the MedProgramme. Considering the staggered initiation timeframes of the different Child Projects, a launching event of the MedProgramme could be organized in the form of a press conference to coincide with the kick-off of the Support Child Project 4.1. Basic communications material about the objectives of the MedProgramme (such as visual identity, slogan, mission statement, description of Child Projects, informative brochure, short promo video, basic online pages, etc) should be prepared prior to the launching event. Participation to these events will not necessarily be open to the large public, however the information and messages emanating by these two occurrences will be relevant for a general audience as well.

4.2.2 Forging and nurturing Partnerships

“ *If you want to go fast, go alone. If you want to go far, go together.* –African Proverb ”

Opportunities to enlarge the existing partnership of the MedProgramme should not only be welcomed, but actively sought. By reaching out to different stakeholders – individuals, organizations or companies – and engaging them directly in selected MedProgramme activities, a series of distinct advantages will be produced. These include:

- Contributing to transformational change: groups that are likely to evade the radar of “usual suspects” mapping (intended as classic stakeholders for environmental projects) will be intentionally targeted, moving away from the old-fashioned top-down view of passive beneficiaries of knowledge to a new vision in which conscious citizens are regarded as source of knowledge and potential allies in the strive against environmental degradation. For example, a collaboration with Faith-Based Organizations³⁷ to prepare a workshop or joint statements disseminated through their networks would tremendously increase the chances to inform and influence a large portion of general public that is not reached by traditional channels. Another possibility is a partnership with a fashion magazine to sensitize readers about sustainable business in coastal areas.

³⁷ Faith-Based Organizations could be a very important stakeholder group to engage in environmental decision-making. “Religion plays a significant role in the understanding and shaping of attitudes, opinions and behaviours including for management and use of the environment and natural resources”. UN Environment Foresight Brief 008, April 2018.

- Facilitating a more rapid achievement of the Programme results: for example, a partnership with tourism institutions in the different participating countries could accelerate the adoption of more sustainable touristic habits to reduce pollution load into water bodies and increase the acceptance and reuse of treated freshwater for human consumption.
- Raising the profile of the GEF investments in the Mediterranean and of the countries and partners participating to the effort. A partnership with National Geographic for instance, or with national TVs and radio stations, could enhance the dissemination of knowledge and results generated by the MedProgramme as well as by related initiatives and policy-frameworks, like the Barcelona Convention.
- Further stimulating a sense of ownership and contributing to the sustainability of Programme results: making tight connections for example with the Bibliotheca Alexandrina to host a permanent or temporary exhibition about the MedProgramme, which could then travel around museums of the entire Mediterranean basin (starting with participating countries), and thus ensure that the legacy of the MedProgramme will continue to inspire people even after the programme closure.
- Providing additional means to further expand Programme activities: by adding ad hoc co-financing (cash or in-kind) to produce, for example, through a publication or a short movie for the general public, the MedProgramme could gain positive returns in terms of resources and reputation. Bringing together renown artists from project countries and the private sector to jointly produce a graphic novel on the MedProgramme, for instance, could be rewarding in many regards.

The MedProgramme holds the possibility to create a fertile hub for different partners to come together and share experiences and solutions to common challenges related to environmental degradation and pollution of freshwater/marine waters in the region. The private sector is a prime stakeholder in this effort and should be always engaged to cross-fertilize the MedProgramme's interventions. As emphasized in the GEF 2020 strategy: "Coordination failures abound in environmental management, in part because of the prevalence of 'tragedy of the commons' issues. Moreover, the complexity of environmental challenges requires that actions be taken simultaneously by many different stakeholders to be effective; [...] Partnerships with the private sector, civil society, research groups, and indigenous and local communities are vital in this regard."³⁸

The importance of tightening relations with the private sector is again stressed in the GEF 2020 strategy: "The IAPs (Integrated Approach Pilots) will give special attention to engaging the private sector and improving evidence-based design and implementation to enhance learning and the effectiveness of the IAP interventions."³⁹

Furthermore, in strengthening collaboration with a vast and diverse, yet relevant, groups of stakeholders, the MedProgramme will contribute to the vision encapsulated in the Sustainable Development Goal 17: "A successful sustainable development agenda requires partnerships between governments, the private sector and civil society. These inclusive partnerships built upon principles and values, a shared vision, and shared goals that place people and the planet at the centre, are needed at the global, regional, national and local level."

³⁸ 2020 Strategy for the GEF, April 2015. p.27 Full document: https://www.thegef.org/sites/default/files/publications/GEF-2020Strategies-March2015_CRA_WEB_2.pdf

³⁹ 2020 Strategy for the GEF, April 2015. p.22 Full document: https://www.thegef.org/sites/default/files/publications/GEF-2020Strategies-March2015_CRA_WEB_2.pdf

4.3 Policy and Decision-Making Level

The Contracting Parties of the Barcelona Convention, relevant decision makers in the region, technical practitioners as well as GEF Implementing and Executing Agencies are supported in their work through contributions to relevant regional policy processes and related GEF initiatives (particularly through the IW:LEARN project).

4.3.1 Strengthening the Science-Policy Interface (SPI) and Influencing Decision-Making

4.3.1.1 Replication Atlases

A number of highly informative National Replication Atlases, translated in relevant languages, will be produced to stimulate replication of successful practices demonstrated by the Programme and encourage regional and global dialogue. Broader adoption and replication of the successful policies, practices and technologies implemented under the Programme will be promoted through these means, highlighting areas and situations where replication of the Programme's demonstrations should preferentially occur.

Relevant results of Child Projects will be featured in the Atlases and the MedPCU will inform about the participatory process to collect and present the inputs.

4.3.1.2 Agenda 2030 and the Sustainable Development Goals

The MedProgramme will produce regional environmental benefits contributing to the Sustainable Development Goals, in particular the goals on responsible consumption and production (SDG 12), climate action (SDG 13), life below water (SDG 14), and life on land (SDG 15), which reflect to a large extent the GEF's core mission. By fighting environmental degradation in coastal areas and improving livelihoods, the MedProgramme is supporting beneficiary countries, and all populations living in the Mediterranean basin, to increase their capacity to build climate resilience, reduce pollution from nutrients and persistent toxic substances (POPs and Mercury), sustainably manage coastal freshwater and marine resources, protect biodiversity, and restore coastal ecosystems. Moreover, its focus on improving freshwater quality and quantity will directly contribute to SDG 6 on water and sanitation, while a dedicated gender strategy will ensure compliance with the SDG 5 on gender equality and women's empowerment.

4.3.1.3 Supporting countries to implement IMAP

Since the 2005 Mediterranean TDA, the situation in the Mediterranean in terms of transboundary issues in the marine and coastal areas has evolved. In terms of monitoring, the adoption in 2008 of the EU Marine Strategic Framework Directive (MSFD) led to the development in EU countries of national monitoring plans based on a set of detailed common criteria and indicators. UN Environment/MAP initiated the Ecosystem Approach in 2008, which led to the adoption of 11 Ecological Objectives, 61 indicators and definition of GES and targets in 2012 at the COP17 of the Barcelona Convention. This led to the Integrated Monitoring and Assessment Programme (IMAP) for the Mediterranean, which was adopted in 2016 at the Barcelona Convention COP19. IMAP is the best available common set of tools for informing the science-policy interface (SPI) which is critical to achieve meaningful progress on stress reduction. Now the challenge is for countries, especially the non-EU countries, to redesign their national monitoring programs in line with IMAP and the 23 common indicators covering also the areas beyond national jurisdiction. Regarding monitoring of pollution, countries will build upon their MED POL monitoring program and database that has been in existence since 1999, with agreed parameters and stations in key hotspots and coastal areas. However, very few data exist for the majority of the common indicators, other than some contaminants, nutrients and chlorophyll data, particularly in the GEF eligible countries of the Mediterranean.

4.3.2 Contributing to the GEF knowledge base

The results produced by the MedProgramme (hot spots of coastal/marine pollution and habitat degradation, implementing ICZM and nexus planning, conjunctive surface water and groundwater management, protecting coastal groundwater-related ecosystems and coastal/marine biodiversity) will substantially contribute to the GEF knowledge base and to relevant GEF process, events and activities involving the four focal areas of International Waters, Chemicals and Waste, Biodiversity, Climate Change. Technical practitioners and scientists are also addressed as direct consumers of technical reports and assessments, and they are key agents to strengthen the science-policy interface.

4.3.2.1 Technical reports and scientific publications

The MedPCU will ensure that relevant scientific reports and scientific peer-reviewed publications are prepared by the various CPs providing technical information about the achievements of the Programme.

4.3.2.2 Synergies with the GEF IW:LEARN and LME:LEARN Projects

The MedProgramme will closely collaborate with the GEF International Waters Learning and Resource Exchange Network (IW:LEARN) Project⁴⁰ to facilitate uptake of lessons learned and knowledge exchange from/to the MedProgramme portfolio.

Cooperation in the following activities will be particularly addressed:

- Participation to the GEF International Waters Conferences (landmark biannual events of the IW portfolio). The first MedProgramme contribution is expected for the 10th edition of the IWC in 2020.
- Production of Experience Notes (short case studies) produced by Child Projects to showcase worthy results and disseminated through IW:LEARN channels and the MedProgramme KM platform. The format of Experience Notes is standard (<https://iwlearn.net/documents/experience-notes>)
- Participation to IW:LEARN Twinnings with other GEF relevant projects and programs.
- Contribution to IW:LEARN.net with specific content (i.e. data visualization).
- Contribution to social media, news, events, etc.
- Participation to GEF Communities of Practice (CoPs) on IW, CW, when relevant.

4.4 Governance

Both the strategy and its implementation are critical to successful exploitation of knowledge. Many KM strategies fail not because there is something intrinsically wrong with them, but because they are not well implemented.

There must be a good strategy, but also appropriate organizational structure, systems, resources and the right people to execute it.

It is crucial to create teams that are centers of excellence for their specific knowledge skills and experience. Also, the appropriate technical equipment (hardware and software) and adequate expertise are key ingredients to ensure expected results. The GEF STAP concurs with the need for adequate resources noting that “KM delivers cost-efficiency and savings, for example, reduced failure of projects, and it needs up-front resourcing to cover for additional time, specific tools and database needs. [...] KM professionals are essential in applying the discipline, including creating tools and products that help establish KM as a standard practice throughout the organization⁴¹” .

⁴⁰ More info at www.iwlearn.net

The KM strategy of the MedProgramme will require different sets of expertise for its execution. It is anticipated that the following professional profiles will be required throughout the duration of the programme (either full-time and/or part-time):

- Knowledge Management Specialist (to coordinate the implementation of the KM strategy)
- Communications assistant (to support the execution of the communications plan)
- Data Analyst (to help harmonize data produced by Child Projects and maintain the database)
- Web Developer (to develop the KM platform)
- IT Specialist (to administer the IT-based platform and systems)
- Experts in copy-editing, video-making, graphic design, translations, etc. to be contracted as needed.

These and other services will be provided by the staff of the MedPCU, consultants hired to carry out specific tasks and by outsourcing the work to companies (such as for the project management tool, hosting providers, licenses, etc).

“Knowledge-sharing is at the crossroads of core and support functions”⁴². Knowledge-sharing tasks and responsibilities should be as much as possible integrated in the jobs descriptions and terms of reference of projects’ executing teams.

As efforts leading to an effective knowledge management system can be seen as time-consuming and not immediately benefitting the project outputs, there must be a good system in place to incentivize project teams to dedicate time and resources to KM. As noted by the GEF Strategic Technical Advisory Panel (STAP⁴³): “there needs to be better recognition for KM inputs, achievements and publicity. Rewarding projects at mid-term, for example, for demonstrating the use of knowledge to improve and/or adapt the project to meet project objectives may be an effective incentive”. The form of these rewards can vary, but in the case of the MedProgramme they can range for instance from prizes announced at the Annual Stocktaking Meetings, to public recognition mentions (internally or externally the portfolio, such as in the Med Bulletins), among others.

⁴¹ Stocking, M. et al. 2018. Managing knowledge for a sustainable global future. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. p. 9

⁴² Steffen Soulejman Janus. 2016. Becoming a Knowledge-Sharing Organization: A Handbook for Scaling Up Solutions through Knowledge Capturing and Sharing. Washington, DC: World Bank. doi:10.1596/978-1-4648-0943-9. License: Creative Commons Attribution CC BY 3.0 IGO, p. 24.

⁴³ Stocking, M. et al. 2018. Managing knowledge for a sustainable global future. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. p. 9

5. Legacy and Sustainability



Share your knowledge. It is a way to achieve immortality. –Dalai Lama XIV



The benefits arising from managing knowledge properly are both far reaching and hard to measure. This strategy represents one of the first attempts to manage knowledge holistically within a GEF-financed program with multi-focal areas Child Projects, and the role played by the Support Child Project 4.1 in implementing the programme-wide KM strategy is innovative yet challenging. The envisaged result is to effectively support portfolio coordination, provide beneficiary countries with long-lasting capacity and tools to improve national and transboundary coastal ecosystems, and enrich the GEF Partnership with replicable solutions and lessons learned for future interventions in the Mediterranean region. Its success will be determined by the commitment and ownership of all executing partners and stakeholders, in addition to adequate resources and means in place. Its sustainability will translate into reinforced capacity (information, expertise, awareness...) of MedProgramme stakeholders to address environmental challenges making use of a modular knowledge hub which will continue to evolve after the programme ending.

The contracting parties of the Barcelona Convention will be the custodians of the KM structure implemented for the MedProgramme and will carry forward the legacy of the MedProgramme by supporting informed decision-making, paving the way for more investments and interventions, and encouraging broader adoption and knowledge transfer to improve environmental security in the coastal areas of the Mediterranean.

GEF/UN Environment “Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security”

GEF ID 9607

Implementing Agencies



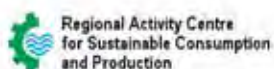
Leading Executing Agency



United Nations
Environment Programme

Mediterranean Action Plan
Barcelona Convention

Executing Partners



ANNEX P

THE MEDITERRANEAN SEA PROGRAMME:
ENHANCING ENVIRONMENTAL SECURITY (2019 – 2024)

GENDER MAINSTREAMING STRATEGY

UN ENVIRONMENT/MEDITERRANEAN ACTION PLAN
OCTOBER 2018

*This strategy was prepared during the Project Preparation Grant (PPG) phase
of the MedProgramme (June – September 2018)*

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1. Introduction

1.1 *Defining Gender Mainstreaming – from 1997 to 2017*

In 2017, shortly after the 23rd Conference of the Parties (COP) in Bonn concluded with the ‘Fiji Momentum for Implementation’, the United Nations Framework Convention on Climate Change (UNFCCC) announced its pioneering Gender Action Plan. The COP23 Presidency underscored the priority of the Plan¹ to increase awareness of, and generate support for the development and effective implementation for, gender-responsive climate and environmental action. Showcasing not only the consensus of the State Parties on these key issues, this critical achievement encapsulates the growing international efforts towards gender mainstreaming and the integration of gender equality perspectives in sectoral policies and programs, since articulated by the UN Economic and Social Council (ECOSOC) twenty years ago.

In July 1997, the Group of Specialists on Mainstreaming, appointed by the ECOSOC, laid out the tenets of gender mainstreaming, which continue to spur and inform UN action:

*“Gender Mainstreaming is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels. It is a strategy for making women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and social spheres so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal is to achieve gender equality”.*²

Elaborating upon this definition, the Division for the Advancement of Women on Gender Mainstreaming, added:

*“Gender Mainstreaming requires more than a quantitative change in numbers of women and men participating in, or benefiting from, policies and programs. It requires a transformation of all sectoral policies at all levels, and of institutions, organizational practices, attitudes and systems that shape them so that they fully consider the realities, needs, and views of women.”*³

The conceptualization and definition of Gender Mainstreaming, as presented above, derives from, and builds on, the preceding conversation of inclusion of women and gendered considerations in development policy. To elucidate, it does not represent a ‘totally’ new approach – but rather, a unique take on gender and developmental policy antecedents dating back to the early 1970s. Functioning as a pivot, gender mainstreaming builds on the Gender and Development (GAD) approach, which differentiates itself from the preceding Women in Development (WID) and Women and Development (WAD) approach, by discarding the notion that gender perspectives should automatically entail the demarcation of women as a target group. The image below⁴ visualizes the timeline of these different approaches leading up to gender mainstreaming, the approach chosen for the Mediterranean Sea Program (MedProgramme): Enhancing Environmental Security Gender Strategy towards

¹ See *Recommendations of the Subsidiary Body of Implementation on Gender and Climate Change* (Agenda No. 20). UNFCCC. (2017)

² See *Gender Mainstreaming: An Overview* for more. United Nations. (2002)

³ *Ibid.*

⁴ The image was developed by the author from: Rathgeber, E. “WID, WAD, GAD: Trends in Research and Practice”. International Development Research Centre (Ottawa). Paper Presentation at the meetings of the Canadian Institute for the Advancement of Women held in Quebec City. (1988)

incorporating gender-responsive project outcomes, gender-sensitive policy formulations, and gender-aware decision-making.

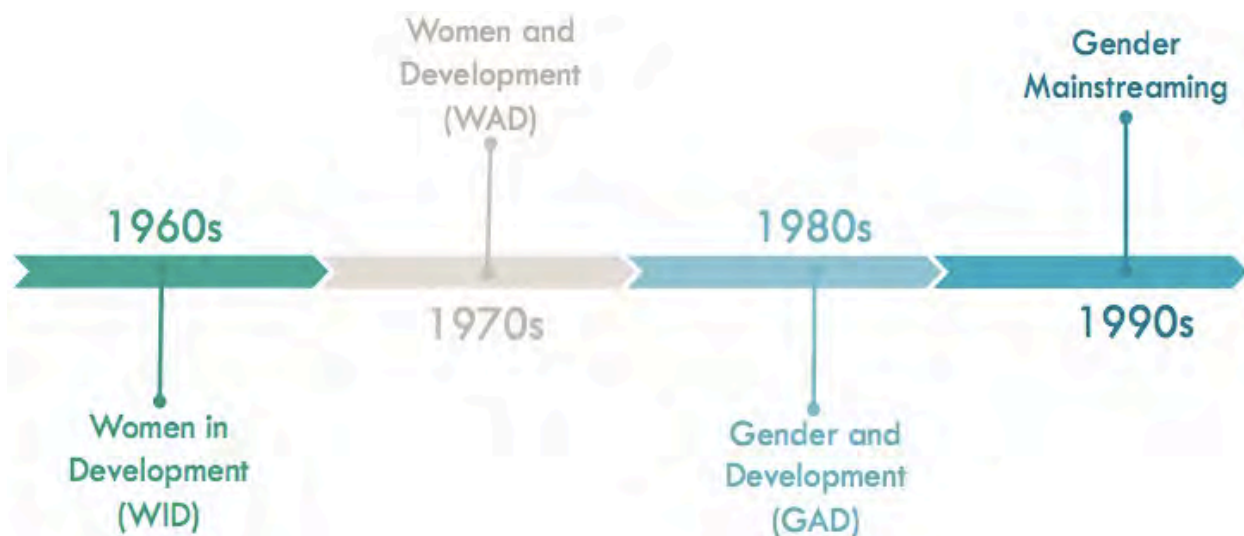


Figure 1: Timeline towards present-day Gender Mainstreaming approach. (adapted from Rathgeber [1988] by author)

1.2 Global Environment Facility (GEF) and UN Environment

Keeping with the above mandate of gender mainstreaming and promoting women’s empowerment, both the GEF and UN Environment have prioritized delivering inclusive and gender-responsive environmental results, and adaptation and mitigation solutions towards climate risks.

Having launched its initial gender policy in 2011, the GEF approved a reinforced policy in November 2017⁵ at the 53rd Council Meeting, shifting the focus from a ‘gender-aware, do no harm’ approach to a ‘gender-responsive, do good’ approach. This requires robust standards in the design, implementation and evaluation of GEF activities, and introducing measures that will allow the GEF, over time, to better leverage strategic opportunities to address gender gaps critical to the achievement of global environment benefits.⁶ More recently, the GEF-7 Programming Directions, prepared by the Secretariat in the April 2018 Stockholm meeting further clarifies the GEF’s evolving and progressive gender strategy – by providing action points for each GEF focal point.⁷ It lays out clear gender standards for each domain under the GEF, and for the MedProgramme, gender directives of the:

- a. Biodiversity focal area (such as: assessments to understand gender-disaggregated biological resource, providing women and other natural resource-dependent groups equal partnership in protection management);
- b. Climate Change focal area (such as: incorporating action points to address the different climate risks faced by men, women, boys and girls and providing adaptation alternatives that improve the status quo);

⁵ See here for the latest [GEF Gender Mainstreaming guide \(EN\)](#). GEF. (2017) (publication)

⁶ “A new Policy on Gender Equality for the GEF”. GEF official website. (2017) (news update)

⁷ GEF-7 Replenishment – Programming Directions. Meeting Report from the 4th meeting held at Stockholm, Sweden for the Seventh Replenishment of the GEF Trust Fund, in April 2018.

- c. Chemicals and Waste focal area (such as: understanding the socioeconomic dynamics that expose men and women to different chemicals, as well as their biological implications),
 - d. IW focal area (such as: gender assessments and social analysis during project preparation, and differentiated reporting of output indicators and additional measures based on the GEF's Gender Action Plan⁸)
- are particularly relevant and have been incorporated as action points for the operationalization for this Strategy.

UN Environment recognizes the role of gender equality as a 'driver of sustainable environment development'⁹, particularly to enhance environmental security and climate resilience; to assuage the stresses on natural resources and dependent communities, including unsustainable management of coastal resources; and to preserve the health of large marine ecosystems (like the Mediterranean) which provide environmental and economic services to coastal populaces. Overall, the organization focuses on the increased visibility and capacity of vulnerable groups in sustainable development policy- and decision-making. To that end, the agency has produced a lessons-learnt report¹⁰, through gender case study compilation, on issues homologous with the overall MedProgramme agenda: gender integration in Integrated Coastal Zone Management (ICZM) and Integrated Water Resources Management (IWRM), marine and coastal pollution, coastal disaster risk reduction and climate change adaptation, coastal developmental planning, and advocacy for gender-inclusive marine ecosystem management and research.

1.3 *The MedProgramme Gender Mainstreaming Strategy*

The MedProgramme represents a pioneering effort, being the first GEF programmatic multi-focal initiative in the Mediterranean region, aiming to operationalize agreed-upon priority actions to reduce major transboundary environmental stresses in its coastal areas, while strengthening climate resilience and water security, as well as improving the health and livelihoods of coastal populations. The MedProgramme will be implemented in nine beneficiary countries sharing the Mediterranean basin: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia. The Lead GEF Agency is UN Environment¹¹. Its eight Child Projects¹² cut across four different Focal Areas of the GEF (Biodiversity, Chemicals and Waste, Climate Change, and International Waters), and involve a wide spectrum of developmental and societal sectors, ranging from banking institutions, the private sector, government and non-government bodies, industry, research, media, and various other organizations.

⁸ *Ibid*, p. 55.

⁹ *Gender Equality and the Environment: Policy and Strategy*. UN Environment. (2015)

¹⁰ *Regional Seas Reports and Studies No. 207* (forthcoming). Marine and Coastal Ecosystems Unit. UN Environment. (2018)

¹¹ GEF Lead Agency: UN Environment. Other GEF Agencies: European Bank for Reconstruction and Development (EBRD). Executing Partners: UNEP/MAP, European Investment Bank (EIB), UNESCO International Hydrological Program (IHP), Global Water Partnership (GWP) Med, World Wildlife Fund (WWF), MEDPOL, UNIDO, and IUCN.

¹² At the time of its approval in 2016, the MedProgramme comprised of seven Child Projects. Subsequently, UN Environment/MAP developed a Mediterranean-focused climate change adaptation project, for financing through the Special Climate Change Fund (SCCF). It was agreed by the UN Environment/MAP, UN Environment and the GEF that this SCCF project would be managed, for all intents and purposes, as an additional Child Project of the MedProgramme. Hence, the number of Child Projects now stands at eight.

Seeking to maintain funding agency (GEF) and lead agency (UN Environment) organizational priorities outlined above, as well as preparing for a proactive GEF-7 ready portfolio, this Gender Mainstreaming Strategy, developed in the Project Preparation Grant (PPG – between June to September, finalized in October) phase, will: provide tailored action points to improve the gender status quo in the countries; place gender-responsive activities and gender-aware policy-making at the core of the MedProgramme agenda; and partake as well as further the existing efforts on gender equality, to leverage opportunities for inclusive and accessible environmental and social co-benefits.

2. Methodology

This Gender Mainstreaming Strategy (GMS), as contextualized above, has been tailored for the MedProgramme. Developed with a two-fold framework, the Strategy is informed by: (a) political ecology and gender studies literature¹³(presented below) to establish a mixed methodology, and (b) Program component- and country-level diagnostics to identify the baseline scenario (Section 3), which the Strategy expects to positively impact with strategic, selective and appropriate mainstreaming measures in project-specific contexts.

At the outset, this Strategy adopts a political ecology lens, which aims to influence policy development, environmental action and investment programs by ‘offering chains of explanations’ rather than single and disjointed root causes. This perspective, when combined with a gender-lens, highlights the socio-political dimensions of coastal and natural resource access, control, distribution and agency, which further govern issues such as environmental degradation, climate risks and resource management policies.

In the words of Rocheleau (1996), gender is relevant to a political ecology perspective as:

*“A critical variable in shaping resource access and control, interacting with class, caste, race, culture and ethnicity, to shape process of ecological change, the struggle of men and women to sustain ecologically viable livelihoods, and the prospects of community for sustainable development.”*¹⁴

Thus, as the Gender Mainstreaming Strategy for the MedProgramme, this Strategy will espouse and embed the use of a combined political ecology- and gender-lens for the constituent projects. This will create a Program-wide focus (albeit, in different site-specific contexts) on understanding the spatially and temporally contingent ways in which gender issues, social relations, and the environment interact. This programmatic approach will, then, be able to consider the gamut of gendered dimensions present in the Mediterranean, such as: gender division of labor, male and female participation in labor, gendered environmental rights and responsibilities, environmental politics and governance, and collective action and resilience.

Secondly, the importance of gender-relevant and vetted data to provide empirical evidence to the policy and program needs is prioritized. Thus, available data indicators (particularly,

¹³ Bauhardt, C. & Harcourt, W. *Feminist Political Ecology and the Economics of Care*. (2018) has been a critical influence on this Gender Mainstreaming Strategy.

¹⁴ Rocheleau, D. E. *Gender and Environment: A Feminist Political Ecology Perspective*. (1996)

from the World Bank Gender Data Portal and UNDP indices) and country-specific (and where available, local site-specific) statistics have been extensively used to justify the concerns raised by the Strategy. The data on each country has been collated through gender diagnostics of desk-reviewed literature and secondary statistics, which has further revealed the existing inconsistency and low relevance accorded to gender considerations and corresponding statistics within on-going environmental projects, programs and policies.

Thus, by using gender-relevant data to contextualize its priorities, the Strategy will attempt to set an example and highlight both the need to incorporate targeted and selective gender actions based on empirical data within the MedProgramme, as well as the urgency to bolster internal and country-level monitoring systems for the collection and reporting of sex-disaggregated, environmentally-related data from project, sub-national and national levels.

3. Baseline Scenario for MedProgramme Components

The MedProgramme builds on the significant achievements of the MedPartnership¹⁵ and ClimVar & ICZM¹⁶ GEF Projects. The latter have enriched the knowledge on the Mediterranean environment and unraveled the implications of climate change and variability in the region; strengthened countries' mutual trust, cooperation and common purpose; consolidated the partnership among countries, UN bodies, Civil Society Organizations, bilateral donors and the European Union; tested on the ground feasibility and effectiveness of technical and policy instruments aimed at addressing major present and future threats to environmental sustainability and climate-related impacts. However, despite these different successes, the two projects were limited by the lack of adequate gender-responsive planning in their sectoral strategies and programs. This represents a 'missed opportunity', as incorporating the gender-lens from project preparation phase through to the monitoring and evaluation phase aid in the mapping of links between gender and environment, as well as identifying positive synergy and improve social/gender and environment outcomes from the outset. This Gender Mainstreaming Strategy, which has been developed as an input in the MedProgramme's preparation phase with the scope of scaling up in parallel with the advancement of the program cycle, thus addresses the gender-blind baseline represented by earlier initiatives.

The MedProgramme represents a comprehensive and powerful response to the environmental and socioeconomic challenges faced by the Mediterranean, in light of continued degradation of coastal zones, growing impacts of climate variability, and loss of livelihoods and deterioration of social conditions. Its objective is to kick-start the implementation of agreed-upon priority actions to reduce the major transboundary environmental stresses affecting the Mediterranean Sea and its coastal areas, while

¹⁵ Strategic Partnership for the Mediterranean Large Marine Ecosystem-Regional Component: Implementation of Agreed Actions for the Protection of the Environmental Resources of the Mediterranean Sea and its Coastal Areas (MedPartnership) – GED ID 2600

¹⁶ Integration of climatic variability and change into national strategies to implement the ICZM protocol in the Mediterranean (ClimVar & ICZM) – GED IF 3990.

strengthening climate resilience and water security, and improving the health and livelihoods of coastal populations. The focus will be primarily on hotspots of land-based pollution, harmful chemicals and wastes (POPs and mercury), and excess nutrients; critical sections of the coastal zone particularly affected by climatic variability, freshwater stress and habitat degradation the efficient and sustainable management of priority marine protected areas; measuring progress to impacts and overall Program coherence. Dedicated Child Projects (eight) will prioritize each of these key issues. The Child Projects will be entry points for gender mainstreaming actions through gender assessments and action plans that determine targeted gender-responsive action through project objectives and outcomes at the project, local and national level.

The following table posits the hypothetical effects of a gender-blind approach to the MedProgramme components (the tentative child project – CP – is mentioned alongside), as opposed to mainstreaming robust gender outcomes within the same:

TABLE I: GENDER-BLIND v. GENDER-RESPONSIVE APPROACH

MedProgramme Component	CP	What is a <i>gender-blind</i> approach?	What is a <i>gender-responsive</i> approach?
Reduction of land-based pollution in priority coastal hotspots, and measuring progress to impacts	1.1	Top sources of land-based pollution, contaminating marine and coastal hotspots, result out of anthropogenic activities such as usage of heavy metals and untreated dumping in river systems, sewage, litter, plastic pollution, usage of pesticides and fertilizers and synthetic organic compounds. ¹⁷ Due to the ubiquitous access and usage of marine resources, the coastal populace is vulnerable to the detrimental effects of	Oxfam’s <i>Handbook of Development and Relief</i> provides one of the pioneering accounts of the connections between poverty and environmental degradation, noting a ‘downward spiral of cause and effect’ – ‘poverty can cause environmental degradation, as poor people over-exploit already strained resources, and environmental degradation causes further poverty as people are unable to find the resources to meet their daily needs.’ ¹⁸ Environmental change, climate disruptions and damage to marine systems and coastal zones have gendered impacts, and women and men shoulder these burdens differently. In what is identified as the ‘feminization of poverty’ or women’s increasing burden of and share in global poverty, economists and development analysts have observed that ‘women constitute an estimated 70% of the world’s poor people, and households headed by

¹⁷ Windom, H. L. “Contamination of marine environment from land-based sources” in *Marine Pollution Bulletin*, (Vol. 25, No. 1-4). (1992)

¹⁸ Eade, D. & Williams, S. *The Oxfam Handbook of Development and Relief*. (1994)

	1.2	land-based pollutants, and therefore, marine pollutants, both in health and livelihood indicators.	
	1.3		<p><i>women alone... are the world's poorest households as a general trend.</i>¹⁹ For example, environmental degradation-induced livelihood impacts are differentiated in coastal areas – fishing communities, based on local gender norms and informal nature of work, relegate remunerative activities (which often tend to be associated with risk, like ‘going out to the waters’) to the men, while women perform post-harvest work, which may not always be remunerated properly, if at all. The gendered allocation of remuneration, thus, creates a disparity in economic capital, and in turn impedes the capacity to adapt to environmental change and climate disruptions. Marine contaminants threaten both human health and the health of marine organisms. However, health impacts are gender-differentiated as well. Many marine and coastal contaminants are particularly dangerous for pregnant women and lactating mothers, as well as for fetal development.²⁰</p>

¹⁹

Ibid.

²⁰

See *Global Gender Environment Outlook*, Section 2.5 for more. UN Environment. (2016)

<p>Enhancing sustainability and climate resilience in coastal zones</p>	<p>2.1</p>	<p>According to a recent report²¹, ocean-related activities in the Mediterranean Sea generate an annual economic value of 450 billion dollars with economic assets for coastal economies and communities amounting to 5.6 trillion dollars. The need for enhancing sustainability and climate resilience in the region is crucial, as the Mediterranean is experiencing a number of immediate coastal problems, which require both short-term and long-term coastal management. Regional scale studies indicate that the Mediterranean is particularly vulnerable to increased flooding and saltwater intrusion as sea levels rise.²² The region has also been marked out as a ‘hot spot of climate change’, with an increase in air temperature range of 2.2°C to 5.1°C predicted over the period of 2080 – 2099.²³</p>	<p>While impacts of environmental degradation and climate risks are undoubtedly severe for the entire coastal populaces, men and women, privileged and vulnerable communities, young and the elderly shoulder burdens unequally. Often the vulnerable and marginalized groups are limited by the exclusion of their needs and perspectives from regional negotiations and management policies. The immediate and long-term coastal problems being faced by the Mediterranean have implications for complex gender relations in the region, which are a kaleidoscope²⁴ of overlapping social, economic and cultural roles, spread across a diverse multitude of countries and communities. The European Mediterranean countries have distinct social patterns and gender norms, which differ from the Middle East and North Africa (MENA) Mediterranean countries, for example. Additionally, the varying political situations in the region also determine how women and men are able to access and leverage sustainable development opportunities to be able to cope with environmental degradation, pressures on natural resources and coastal and marine ecosystems, and climate risks. For the northern Mediterranean countries (the Western Balkan nations), labor market dynamics exhibit a significant gender gap: women’s employment rates (especially for marginalized communities such as Romas) are lower, along with an existing gender wage gap. Since economic capital is among the important determinants of coping capacities to external shocks (in this case, water stress, degradation of coastal aquifers, loss of</p>
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²¹ See *Reviving the Economy of the Mediterranean Sea: Actions for a Sustainable Future* for more. WWF and The Boston Consulting Group. (2017)

²² Nicholls, R. J. & Hoozemans, F. M. N. “The Mediterranean: vulnerability to coastal implications of climate change” in *Ocean and Coastal Management*, (Vol. 31, No. 2-3). (1996)

²³ See *Climate Change and Energy in the Mediterranean* for more. European Investment Bank. (2008)

²⁴ See [this report](#) by the Union for the Mediterranean (UfM) regarding an action plan towards investing in gender equality in the region.

	2.2		<p>coastal livelihoods, climate impacts et al), women (and other marginalized groups, including ethnic minorities) are more likely to be vulnerable. The ‘double disadvantage’ of the situation should also be reckoned with: due to lack of viable economic capital, vulnerable groups are often excluded from socio-political control over coastal zone and water resources (coastal aquifers, particularly) management policies – increasing the possibilities of exposure to the threats looming in the Mediterranean region. For MENA countries, coupled with barriers to the labor market and employment opportunities, women face institutionalized exclusion from civil society and political spheres. Decision-making power within the household and the polity is limited, reducing women’s capacities to engage in the public sphere and gear development opportunities to safeguard their interests. In recent years, however, women have been capitalizing on opportunities presented by pluralistic interpretations of traditional gender norms and entering both the work force and the public space. The gains achieved through social change in this region may not keep pace with the risks and threats arising from the lack of proper management policies for natural resources and the coastal zone, and growing threats of climate change and environmental degradation in the region. As with the European Mediterranean countries, burdens of emerging risks and shocks may fall on the vulnerable groups.</p> <p><i>(Refer to footnote 12, for more information on the SCCF Project – and why it is a Child Project under the MedProgramme)</i></p>
Protecting marine biodiversity	3.1	The Mediterranean’s biodiversity underpins the ability of ecosystems	Until recently, there was a lacuna in the empirical and normative literature on gender and marine biodiversity. However,

		<p>to provide humans with the services they require to survive – although as Hooper shows, delineating the role of biodiversity in ecosystem services and relative roles of difference functional groups has been extremely complex. The Mediterranean’s predominantly coastal population is increasingly threatened by the loss of biodiversity, due to mismanagement and unsustainable use, and this situation is projected to worsen with the coupled effects of human-induced climate impacts, such as warming sea surface temperatures, altering ocean chemistry and increasing run-off of land-based pollutants and sediments.²⁵ Resuscitating and protecting these marine ecosystems, which form the resource base for coastal economic and social activities, requires all possible expedition.</p>	<p>with reviewed studies on the role of gender with respect to conservation, particularly that of mangroves and their ecological significance, brought to light the clear link between gender and biodiversity and conservation outcomes. According to the Convention on Biological Diversity, considering gender issues in relation to biodiversity involves identifying the gender roles and relations have on the use, management and conservation of biodiversity. To begin with, this MedProgramme component should address the knowledge gap regarding gendered biodiversity practices in the region, through extensive data and information collection, stakeholder consultations and focused-group discussions. This would contribute towards gender-responsive policies within marine resource management and biodiversity conservation plans that can increase the sustainability of outcomes by incorporating artisanal and traditional knowledge gathered from both women and men. Exposing gender-differentiated biodiversity practices²⁶ will also help demarcate the different levels of harm caused by different groups (income-generating activities, traditionally relegated to men, may be more exploitative in some instances), as well as the inequalities in control of resources. Biodiversity conservation plans can be truly effective if they address poverty, inequality and resource access dynamics among coastal communities.²⁷</p>
Knowledge management and program coordination	4.1	<p>Knowledge management and program coordination, if carried out with a top-down approach and without a stakeholder-facing participatory approach, risks excluding the needs</p>	<p>Robust coordination and knowledge management strategies panning the MedProgramme have to be operationalized to ensure its success. Given the breadth and value of the initiative, as well as the numerous partners and focus points, these strategies will ensure: stakeholder representation</p>

²⁵ Lockwood, M. et al. “Marine biodiversity conservation governance and management: Regime requirements for global environmental change” in *Ocean and Coastal Management*, (Vol. 69). (2012)

²⁶ See the gender tab on *Convention on Biological Diversity* for more.

²⁷ The Secretariat of the Convention on Biological Diversity hosted a meeting in Bangkok (December 2017) to develop training material to advance gender inclusion in biodiversity planning in the Asia-Pacific region. See the reporting [here](#).

		<p>and concerns of beneficiaries. Additionally, procedural and red tape hurdles tend to disproportionately affect those with limited resources and access to governing mechanisms, support organizations and implementing agencies.</p>	<p>and engagement, technical and administrative coordination of the program; establish a commune of practice and initiative among different stakeholders and partners; management of knowledge generated on an accessible platform (both data and normative) as well as dissemination of lessons learnt and best practices in later stages of the program cycle; high-quality and timely systems for monitoring of the Program's progress to impacts. In tandem with a knowledge management and program coordination strategy, a gender mainstreaming strategy for the MedProgramme will be developed to provide critical gender-responsive research inputs for Programme components, as well as to espouse a gender-aware policy in the region, taking stock of the existent inequities and gender norms of the Mediterranean. Gender mainstreaming shall be pursued within the different Child Projects, with tailored gender assessments and action plans determining strategic and selective action to improve the baseline inequality within project- and country-specific dimensions. This will safeguard the interests and priorities of the vulnerable and marginalized communities among the Mediterranean coastal populaces, as well as increase the sustainability and inclusion of the MedProgramme's priorities in the region and contribute to the regional conversation on decreasing inequality, poverty and vulnerability.</p>
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4. Baseline Scenario for MedProgramme Countries

The nine Mediterranean countries participating in the MedProgramme (Albania, Algeria, Bosnia and Herzegovina (BiH), Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia), face different developmental challenges and socioeconomic disparities, as seen from the country profiles, developed for this Gender Mainstreaming Strategy.. These data profiles borrow from UNDP's Human Development Index, Gender Inequality Index, and Gender

Development Index. Additionally, they refer to the Global Gender Gap Index (World Economic Forum) and compiles national-level poverty statistics (conducted by national authorities of the nine countries, as well as the World Bank, in some cases). These indices have differing methodologies, and are being employed, at the outset, as indicative (and *not* conclusive) measures of current levels of development, gender equality, and poverty and labor force participation.

As Booysen’s research²⁸ shows, composite indices present both challenges and advantages. It should be noted that numerous fallacies have been identified in the methodologies employed in composite indexing. These indices are mainly quantitative, and present empirical and aggregate measures of complex development phenomena, making values apparently objective, at the cost of subjective nuances. Yet, these also remain invaluable as useful supplements to income-based development indicators, understanding relative degrees of development, simplifying complex measurement constructs as well as providing access to non-technical audiences. To balance this dichotomy, ranks have been removed in certain indices and have been linked in the footnoting, and the broader development categories (high/medium/low development) have been used.

TABLE II: HUMAN DEVELOPMENT INDEX (HDI)²⁹
(out of 188 countries – United Nations Development Program – UNDP, 2018)

Defining the HDI: This index measures and combines three basic dimensions of human development (long and healthy life, knowledge and decent standard of living) and provides an overall socioeconomic landscape of a country.

Relevance of the HDI: Since socioeconomic capital and security are crucial determinants of the capacities to adapt towards natural resource stress, loss of coastal livelihoods, marine and environmental degradation, and climate risks, this index indicates how poised each country may be to consider different resource management, resilience, adaptation and mitigation options.

Indicative, not conclusive: In line with Booysen’s argument, the HDI should be treated as indicative, not conclusive. It provides an overview of relative degree of development in a particular country but remains a ‘synthetic indicator’. Recent research has shown the need to supplement the HDI with other indicators associated with economic and social cohesion, sound development strategies, and sustainability in growth models.³⁰

Country	Rank	Relevance
Albania	68 th	With ‘high human development’, Albania’s capacity to adapt to climate risks and variability is pegged well. However, due to regional variation in poverty rates (high in the Kukës prefecture – 22% v. Gjirokastër prefecture (qarks) – 8%, in particular ³¹) in the country, environmental services and social co-benefits may not be equitably shared.

²⁸ Booysen, F. “An Overview and Evaluation of Composite Indices of Development” in *Social Indicators Research*, (Vol. 59 No. 2). (2002)

²⁹ UNDP. (2018)

³⁰ Bilbao-Ubillos, J. “The Limits of *Human Development Index*” in *Sustainable Development*, (Vol. 21 No. 6). (2011)

³¹ *Portraits of Poverty and Inequality in Albania*. INSTAT (Albanian Institute of Statistics) & World Bank. (2015)

Country	Rank	Relevance
Algeria	85 th	With ‘high human development’, Algeria wields capital, largely derived from its oil economy, in readiness against climate shocks. However, due to high inequality in consumption, high unemployment rates (particularly, women and youth) and largely informal workforce ³² , environmental services and social co-benefits may not be equitably shared.
Bosnia and Herzegovina (BiH)	77 th	With ‘high human development’, BiH’s capacity to adapt to climate risks and variability is pegged high and similar to Algeria. As a post-conflict nation, however, educational attainment and labor market access continue to be determined by poverty status ³³ in the country, thus, environmental services and social co-benefits may not be shared.
Egypt	115 th	With ‘medium human development’, Egypt’s readiness towards adopting climate risk mitigation and adaptation opportunities might be limited, wherein the government may prioritize other pressing developmental pursuits. ³⁴ With a volatile political climate, and entrenched gender inequality, environmental services and social co-benefits may not be equitably shared.
Lebanon	80 th	With ‘high human development’, Lebanon’s capacity to adapt to climate risks and variability is pegged well. However, due to high concentration of income and wealth in the country ³⁵ and the spill-over effects of the Syrian civil war, environmental services and social co-benefits may not be equitably shared.
Libya	108 th	With ‘medium human development’, Libya’s readiness towards adopting climate risk mitigation and adaptation opportunities might be limited, wherein the government may prioritize other seemingly pressing developmental pursuits. With a volatile political climate challenging economic stability ³⁶ , dependence on oil production and entrenched gender inequality, environmental services and social co-benefits may not be equitably shared.
Montenegro	50 th	With ‘very high human development’, Montenegro is poised to adapt well to climate risks. However, due to historic ethnic exclusionism (the Roma population, in particular ³⁷) in the country, environmental services and social co-benefits may not be equitably shared.
Morocco	123 rd	With ‘medium human development’, Morocco’s readiness towards adopting climate risk mitigation and adaptation opportunities might be limited, wherein the government may prioritize other seemingly pressing developmental pursuits. Pronounced gender inequality in the country slows economic growth ³⁸ , environmental services and social co-benefits may not be equitably shared.
Tunisia	95 th	With ‘high human development’, Tunisia’s capacity to adapt to climate risks and variability is pegged well. However, due to concentration of income and wealth in the country ³⁹ , high unemployment rates (particularly, youth) and economic unrest challenging political stability, environmental services and social co-benefits may not be equitably shared.

³² “Poverty has fallen in the Maghreb, but inequality persists”. [World Bank](#). (2016)

³³ *Poverty and Inequality in BiH*. [World Bank](#). (2011)

³⁴ *Inequalities, Uprisings and Conflicts in the Arab World. MENA Monitor*. [World Bank](#). (2015)

³⁵ Assouad, L. “Rethinking the Lebanese Economic Miracle”. [WID](#). (2017)

³⁶ *Libya Economic Outlook*. [World Bank](#). (2018)

³⁷ *Gender at a Glance: Montenegro*. [World Bank](#). (2015)

³⁸ “Reducing gender inequality in Morocco can boost growth”. [IMF](#). (2017)

³⁹ *Tunisia: Economic Outlook*. [World Bank](#). (2018)

TABLE III: GENDER INEQUALITY INDEX (GII)⁴⁰

(out of 159 countries – UNDP, 2018)

Defining the GII: This index, showing inequality in achievement between men and women in three aspects (reproductive health, empowerment and labor market), provides a useful gender baseline in terms of health equity, economic capital and financial access, speaking to the gender opportunities of men and women in the countries. This baseline has been elaborated upon using existing gender studies literature on each country.

Relevance of the GII: This index provides a primary understanding of the different levels of achievements on basic development indicators between men and women. This displays useful features towards the gender status quo hypotheses, which could then be derived in the context of this project.

Indicative, not conclusive: In line with Booyesen’s argument, the GII should be treated as indicative, not conclusive. Pernmayer finds that the functional form of the index could be unclear, particularly the inclusion of indicators of relative performance of women vis-à-vis men, along with absolute women-specific indicators.⁴¹

Country	Rank	Relevance
Albania	52 nd	In Albania, traditional beliefs continue to influence gender roles, particularly in the household setting. During socialist rule, although policies promoted women’s presence in the public sphere (through education and work), the continued responsibility for unpaid domestic work remained with women (leading to time poverty or ‘double shifts’). During the transition to a capitalist economy, gender equality laws were not put in place for private sector jobs, and thus, employment for Albanian women could not be safeguarded. ⁴²
Algeria	100 th	In Algeria, social codes affect women’s empowerment. Since labor force participation disparity is pronounced, women lag behind on economic capital needed to combat risks arising from environmental degradation, mismanagement of water and coastal resources, and climate shocks. According to the Arab Barometer, in 2017, compared to 2013, a greater number of Algerians regarded higher education as more important for men, as well as reinforced the notion that married women should be ideally relegated to household duties. ⁴³ This also makes them dependent on the patrilocal structure of Algerian society.
Bosnia and Herzegovina (BiH)	37 th	Despite progress in closing the gender gap in endowments - mainly in education among the younger generation - BiH still faces a number of gender issues, particularly in women’s access to economic and employment opportunities. Alongside improved educational outcomes, significant gaps remain in labor market participation and employment in favor of men, as women continue to face challenges in accessing economic opportunities. ⁴⁴ Additional obstacles continue to exist for women in exercising agency (the power to choose and decide options to preserve to act for oneself), particularly managing domestic work, lack of political representation and participation as well as widespread gender-based violence.

⁴⁰ UNDP. (2018)

⁴¹ Pernmayer, I. “A Critical Assessment of the UNDP’s Gender Inequality Index” in *Feminist Economics*, (Vol. 19 No. 2). (2013)

⁴² World Bank. (2012)

⁴³ “Droits des femmes en Algérie: les lois progressent mais pas les mentalités”. *Middle East Eye*. (2017)

⁴⁴ *BiH: Economic Mobility, Jobs and Gender*. World Bank. (2016)

Country	Rank	Relevance
Egypt	101 st	Political, social and economic capitals are not equitably distributed among Egyptian men and women. Without access to these vital resources, the risks identified by MedProgramme will only burden those at the lower echelons of society. Despite improvement of young women's education levels in recent times (Egypt's rank improved by 34 spots in the latest GII quoted here), the workforce participation and retention rates remain unperturbed, signaling a stagnated job market and scarce employment opportunities. ⁴⁵ Egypt also faces some particular gender-specific barriers in high numbers, such as FGM and sexual harassment, arising out of sexual inequality between men and women in the country.
Lebanon	85 th	Lebanese women face the least gender disparity in the Arab world with their male counterparts. Despite this, discriminatory social codes, particularly the focus on intersectional civil and family laws, continue to impede women's empowerment. ⁴⁶ Although the gender gaps at higher levels of education are reversing, women continue to face entry barriers to the labor market as well as time poverty due to the predominance of unpaid care work.
Libya	38 th	Women in Libya have had a long history of actively participating in the economic, social and political development of the country, going back to the 1950s. Yet, with Gaddafi's introduction of the <i>Declaration of the Authority of the People</i> in 1977 and the <i>Great Green Charter of Human Rights in the Age of the Masses</i> in 1988, these rights were compromised at a substantive level. ⁴⁷ Furthermore, traditional family laws, as a general trend in the MENA region, continue to disadvantage women and exacerbate their time poverty. The 2011 uprisings signaled that women were entering the public space, yet changes in women's empowerment has been sluggish in the past seven years.
Montenegro	32 nd	Montenegro is relatively advanced in terms of progress towards gender equality. This enhances the capacities of Montenegrin men and women to face climate-risks and capitalize on adaptation opportunities. However, gender-inequitable dynamics remain in important determinants such as access to labor markets, health equity et al, rendering certain demographics vulnerable.
Morocco	119 th	Political, social and economic capitals are not equitably distributed among Moroccan men and women. Without access to these vital resources, climate risks will only burden those at the lower echelons of society. Gender equity in labor force participation is one of the lowest in the world ⁴⁸ , disadvantaging women further: women lag behind on economic capital needed to combat climate shocks and risks.
Tunisia	63 rd	In Tunisia, traditional social codes affect women's empowerment. Since labor force participation disparity is thoroughly pronounced, women lag behind on economic capital needed to combat climate shocks and risks. This also makes them dependent on the patrilocal structure of Tunisian society. However, the January 2011 uprisings signaled that women were entering the public space, leveraging opportunities for their economic empowerment, ⁴⁹ although it remains to be seen if the force of this societal shift can keep pace with climate risks.

⁴⁵ Egypt: *Country Gender Assessment*. World Bank. (2010)

⁴⁶ Lebanon: *Country Gender Assessment*. European Union. (2015)

⁴⁷ Libya: *Country Profile*. Gender Concerns International. (2015)

⁴⁸ Morocco: *Country Gender Assessment*. World Bank. (2015)

⁴⁹ *Gender in MENA Projects: Tunisia*. World Bank. (2011)

TABLE IV: GENDER DEVELOPMENT INDEX (GDI)⁵⁰

(grouped in 5 categories, 1: high equality to 5: low equality – UNDP, 2018)

& GLOBAL GENDER GAP INDEX (GGI)⁵¹

(out of 144 countries – World Economic Forum – WEF, 2017)

Defining the GDI & GGI: The GDI (UNDP) index shows the ratio of female to male HDI values. GDI expresses values in deviation, hence, in order to facilitate understanding GDI grouped categories have been used (as grouped by UNDP) to show the absolute deviation from gender parity in HDI values. This further reiterates the results of the HDI and GII (also by UNDP), and shows the real gender gap in human development achievements.

The GGI (WEF) benchmarks 144 countries on their progress towards gender parity on four thematic dimensions – economic participation and opportunity, educational attainment, health and survival, and political empowerment. The Index benchmarks national gender gaps on economic, political, education- and health-based criteria, and provides country rankings that allow for effective comparisons across regions and income groups, over time.

Relevance of the GDI & GII: Since the GDI and GGI use different methodologies, and are conducted by different agencies, this report does not suggest a causality between the two indices. However, a correlation is undeniable, and both indices pick up similar rates of gender disparity in the MedProgramme countries.

Indicative, not conclusive: In line with Booyesen’s argument, the GDI & GII should be treated as indicative, not conclusive. Geake Dijkstra and Hanmer find that although gender-related development indices have increased attention towards ‘feminization of poverty and underdevelopment’, more robust data needs and indicators are required to create aggregate indices that are sensitive to contemporary trends in gendered privation, particularly with the categorization of ‘women’.⁵²

Country	GDI – Group	GGI – Rank	Relevance
Albania	Medium-high equality	38 th	Despite being categorized as a country with high HDI, a pronounced gender gap in Albania is evinced from the grouping and ranking.
Algeria	Low equality	127 th	Algeria, with Tunisia, shows the greatest disparity in development and gender equity rankings. Despite being categorized as a country with high HDI, an entrenched gender gap is revealed.
Bosnia and Herzegovina (BiH)	Medium-low equality	66 th	Despite being categorized as a country with high HDI, a pronounced gender gap in BiH is evinced from the grouping and ranking.
Egypt	Low equality	134 th	The gender gap in Egypt is entrenched, requiring tangible efforts to address and lessen gendered disparities in the country.
Lebanon	Low equality	137 th	The gender gap in Lebanon is entrenched, requiring tangible efforts to address and lessen gendered disparities in the country.

⁵⁰ UNDP. (2018)

⁵¹ WEF. (2017)

⁵² Geske Dijkstra, A. & Hanmer, L. C. “Measuring Socio-Economic Gender Inequality: Towards an Alternative to the UNDP Gender Index” in *Feminist Economics*, (Vol. 6, No. 2). (2000)

Country	GDI – Group	GGI – Rank	Relevance
Libya	Medium-high equality	Not available	NA
Montenegro	Medium-high equality	77 th	Although Montenegro features among the upper categories of the previous indices, this reveals a more entrenched gender gap. Women lag behind their male counterparts, in a greater amount than expected, despite very high human development achievements in the country.
Morocco	Low equality	136 th	The gender gap in Morocco is entrenched, requiring tangible efforts to address and lessen gendered disparities in the country.
Tunisia	Medium-low equality	117 th	Tunisia, with Algeria, shows the greatest disparity in development and gender equity rankings. Despite being categorized as a country with high HDI, an entrenched gender gap is revealed.

TABLE V: SOCIOECONOMIC FACTORS

Note: This table is compiled from various sources, and determines poverty levels (according to USAID income grouping), rural-urban divide and labor force participation parity in the MedProgramme countries.

***Poverty Level:** Environmental degradation and climate change is a threat multiplier, and often its impacts combine with poverty, hence this is an important indicator, corroborating HDI ranking. To illustrate this, the Multidimensional Poverty Index has been used. (The Oxford Poverty and Human Development Institute (OPHI), and UNDP calculate the MPI, for measuring acute poverty in developing countries. It complements traditional income-based poverty measures by capturing the severe deprivations with regard to different indicators: education, health, and living standards. The index not only identifies those living in multidimensional poverty, but the extent (or intensity) of their poverty. The MPI can help the effective allocation of resources by making possible the targeting of those with the greatest intensity of poverty; it can help address some SDGs strategically and monitor impacts of policy intervention.⁵³

***Rural-Urban Divide:** Climate risks take different forms in rural and urban areas, but lack of development and investment in rural areas (particularly in the Mediterranean) often impedes adaptive capacities of vulnerable demographics, who also derive their livelihoods (in this case, coastal livelihoods) from managed and natural resources.

***Labor force participation parity (% of working age population active)⁵⁴:** In the Mediterranean, one of the prime arenas of gender disparity is labor force participation parity. The region is plagued with high unemployment rates⁵⁵ (12.5% average), and this phenomenon remains a gendered one: women and youth are less likely to be employed than men, as a general trend. Additionally, the existing gap in labor force participation indicates that women possess less economic capital, and are limited to gendered (mostly unpaid care work) roles. This directly correlates to lessened participation in coastal economies and scarce or unstable livelihoods; lack of decision-making power both within the household and larger policy frameworks such as coastal resource use and water management; and, greater exposure to repercussions of marine environmental degradation, water stress and potential climate risks (which often acts as a threat multiplier, in this context).

⁵³ See UNDP's *Technical Notes* (2016) for more.

⁵⁴ *World Employment and Social Outlook: Trends for Women*, ILO. (2017)

⁵⁵ "Unemployment: The Mediterranean Effect", *World Bank*. (2012)

Please find table contents on p. 21 (adjusted for footnoting).

Country	Poverty Indices	Rural-Urban	Labor Force Participation <i>(The gender gap is calculated as the difference between women's and men's labor force participation rates – simply, the number of working age men and women employed in a country, ILO 2016)</i>
Albania	<p>1.2% below the National Poverty Line.⁵⁶</p> <p>The Multidimensional Poverty Index reveals that 7.2% of Albanians are precariously 'near' poverty.</p>	<p>Diber and Kukes <i>qarks</i> (prefectures) show lowest rates of urbanization, and related issues: fragmentation, population decline, <i>et al.</i> Tirana and Durres, on the other hand, have the highest level of urbanization and best performance on demographic and geographic indicators.⁵⁷ Rural to urban migration is common, and often unbridled, leading to environmental complications as well as socioeconomic tussles.</p>	<p>39.3% female 60.7% male</p> <p>During the socialist rule, the government policy of full employment boosted female participation and, as a consequence employment rates were higher than the average figures of the OECD countries. Policies such as investment in childcare facilities and female education stimulated women to enter and remain in the labor market. The market economy disadvantaged women by providing unstable employment opportunities, although education outcomes and employment sectoral options have improved in recent decades, leading to the widening of the gender gap in labor force participation.⁵⁸</p>

⁵⁶ *Regional disparities in Albania.* UNDP. (2010)

⁵⁷ *Regional disparities in Albania.* UNDP. (2010)

⁵⁸ Garcia-Pereiro, T. "The Determinants of Female Employment in Albania". Open access on [ResearchGate](#). (2016)

<p>Algeria</p>	<p>11.8% below the National Poverty Line.⁵⁹</p> <p>The MPI is unavailable for the country. However, the <i>Ligue Algérienne pour la Défense des Droits de l'Homme (LADDH)</i> reports that about 35% (14 million) of Algerians are in poverty.⁶⁰</p>	<p>Poverty in Algeria has a distinctly urban face: 75% of the country's poor live in cities, undertaking informal jobs without access to social safety nets. Additionally, the disproportionate rates of urban poor show that the incidences of poverty in the Algerian Sahara are twice as much than among people living in the Steppe.⁶¹</p>	<p>19.0% female 70.4% male</p> <p>Female labor force participation is low in Algeria, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world.⁶² However, according to ILO, the status quo is slowly altering (although not quite at an ideal pace), as there are marked difference between participation rates from 2011 to 2018.⁶³</p>
<p>Bosnia and Herzegovina (BiH)</p>	<p>15% below the National Poverty Line.⁶⁴</p> <p>The MPI reveals that 3.2% of the populace are precariously 'near' poverty.</p>	<p>BiH remains one of the most rural countries in Europe – with over 60% of its populace residing in rural areas.⁶⁵ The rural poverty rate is higher than urban areas, although income dynamics are similar.⁶⁶</p>	<p>34.4% female 58% male</p> <p>Between the years 1992-1995, Bosnia and Herzegovina went through a destructive war that resulted in mass emigration of around 50% of the total population. In the period after the war, although considerable number of refugees returned, it remains unclear how the jobs market was affected around the time. With the failing of the state's strong social protection services such as long-term care, child care and elderly care, and new categories of 'returnee refugees' and 'internally-displaced people', women bear the brunt of unpaid care work. Although more women attend university than men, they continue to face sociocultural barriers in entering the labor force.⁶⁷</p>

⁵⁹ Poverty has fallen in the Maghreb, but inequality persists". [World Bank](#). (2016)

⁶⁰ See *Ligue Algérienne pour la Défense des Droits de l'Homme*(LADDH)for more.

⁶¹ "Poverty has fallen in the Maghreb, but inequality persists". [World Bank](#). (2016)

⁶² Women face the highest proportion of legal restrictions (*de jure* discrimination) in the MENA region, as well as sociocultural norms (*de facto* discrimination) that stipulate limits to women's entry in the public, and working sphere. Young females are particularly discouraged from seeking employment.

⁶³ This [ILO report](#) (2014) expounds on the factors affecting employment and labor force participation in Algeria.

⁶⁴ *Poverty and Inequality in BiH*. [World Bank](#). (2011)

⁶⁵ *Rural Development in BiH: Myth and Reality*. [UNDP](#). (2013)

⁶⁶ *Poverty and Inequality in BiH*. [World Bank](#). (2011)

⁶⁷ This [ILO report](#) (2011) expounds on the factors affecting employment and gender in BiH.

<p>Egypt</p>	<p>27.8% below the National Poverty Line.⁶⁸</p> <p>Although extreme poverty has been virtually eradicated, Egypt is yet to turnaround the effects of the 2011 Arab Springs on its economy, leaving a third of Egyptians in precarious poverty. Particularly, high inflation over 2015-17 has lowered the purchasing power of households.⁶⁹</p>	<p>Regional disparities continue to be a part of the country's landscape, with upper rural Egypt showing poverty rates three times higher than metropolitan Egypt.⁷⁰</p>	<p>22.8% female 76.1% male</p> <p>Female labor force participation is low in Egypt, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world.⁷¹ This is a significant loss as including women and enabling conditions to retain them in the workforce can boost the growth rate of the Egyptian economy.⁷² In recent times, Egypt's performance on health and education indicators is improving, and this could change labor dynamics.</p>
<p>Lebanon</p>	<p>30% below the Middle-Income-Country Poverty Line.⁷³</p> <p>Although GDP increase in Lebanon remains steady, the country faces the economic and social impact of the Syrian crisis. With the influx of 1.5 million refugees, Lebanon's public finances, service delivery, and the environment have been strained, increasing poverty headcount and unemployment.⁷⁴</p>	<p>Lebanon's population is 87% urban, concentrated particularly in Beirut. The dynamics of urban poor show a pan-Mediterranean attribute: job creation is low, youth unemployment is high, and the vulnerable groups are trapped within the informal sector. In the rural areas, different causes entrench poverty: social protection and government service delivery are limited in these remote and mountainous regions.</p>	<p>23.5% female 70.3% male</p> <p>Female labor force participation is low in Lebanon, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world. This is a significant loss as including women and enabling conditions to retain them in the workforce can potentially boost the growth rate of the Lebanese economy.⁷⁵ Recent studies, however, show that Lebanon is leading the growth rate of female participation in labor force in the MENA region.⁷⁶</p>

⁶⁸ *Egypt: Economic Outlook.* World Bank. (2018)

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*

⁷¹ ILO. *Women in Business and Law.* (2014)

⁷² The Economic Research Forum (ERF), a regional forum on economic research in Arab countries, Turkey and Iran finds that encouraging the participation of women in the labor force, particularly the 'married women' demographic could usher in rapid growth for the Egyptian economy. See [here](#).

⁷³ *Lebanon: Rapid Poverty Assessment.* UNDP. (2016)

⁷⁴ *Lebanon: Economic Outlook.* World Bank. (2017)

⁷⁵ Find more on Lebanon on the [ERF website](#).

⁷⁶ See this [AN-NAHAR coverage](#).

Libya	<p>40% below the Middle-Income-Country Poverty Line.</p> <p>Although economic growth is projected to rebound at around 15% in 2018, Libya's oil-dependence does not benefit the majority of the Libyan populace. High inflation coupled with weak basic service delivery have exacerbated socioeconomic exclusion in the country. Libya continues to experience conflict and insecurity.</p>	<p>Libya's population is 85% urban, concentrated particularly in Tripoli, Benghazi, Misrata and Bayda. The dynamics of urban poor show a pan-Mediterranean attribute: job creation is low, youth unemployment is high, and the vulnerable groups are trapped within the informal sector.</p>	<p>27.8% female 78.7% male</p> <p>Female labor force participation is very low in Libya, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world. Women often take on informal sector roles, particularly starting their own small business, despite receiving higher rates of advanced education than men (77% versus 63%). Movement in Libya for women is severely limited and is another deterrent to workforce participation.</p>
Montenegro	<p>8.6% below the Middle-Income-Country Poverty Line.⁷⁷</p> <p>In Montenegro, there has been sustainable reduction in poverty in the last five years.</p>	<p>60.5% of the rural populace is classified poor.⁷⁸</p> <p>In 2010, MONSTAT finds that not only are the rural populace are at a higher poverty risk, they also face more entrenched forms of poverty.⁷⁹</p>	<p>42.5% female 55% male</p> <p>As the country emerged from dirigisme, social property was privatized, and the economy sprouted 'grey areas' of undeclared or unregulated work. Post-conflict Montenegro is still reeling from the economic effects of war, which increased unemployment (17.8% in 2016)⁸⁰ and bolstered GDP loss. The Roma populace face entry barriers to the workforce, and employment rates are far below national averages: 47% Roma male and 8% Roma female are employed.</p>
Morocco	<p>15.5% below the Lower-Middle-Income-Country</p>	<p>3 million out of the 4 million poor live in rural areas⁸²</p>	<p>25% female 74.1% male</p>

⁷⁷ The middle-income country Poverty Line, as defined by the World Bank, stands at consumption below the standardized poverty line of \$5.50/day. World Bank. (2017)

⁷⁸ MONSTAT. (2010)

⁷⁹ MIDAS Project, World Bank. (2016)

⁸⁰ World Bank. (2016)

⁸² Fair Observer. (2017)

	<p>Poverty Line.⁸¹</p> <p>In Morocco, there has been steady decline in poverty, though the underlying factors may be remittances, deceleration of population growth and macroeconomic stability. Inequalities between rich and poor are still abounding, and poverty essentially has a rural face in the country.</p> <p>The MPI also reveals that an additional 12.6% of Moroccans are dangerously ‘near’ poverty. Among the 15.5% poor, 5% are in ‘severe’ multidimensional poverty.</p>	<p>The subjective poverty rate has increased by 15% from 2004 figures in rural Morocco. Meanwhile, the urban poverty rate is half of the national average in 2001, and in 2014, stands at one-third.⁸³</p>	<p>Female labor force participation is low in Morocco, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world.⁸⁴ However, Morocco is entering a period potential demographic dividend, with the number of working-age population, relative to below 15 and above 64 years, increasing. This could either signal a potential economic boom or an unemployment crisis, if economic activity is not encouraged and made inclusive for the marginalized.⁸⁵</p>
Tunisia	<p>24.7% below the National Poverty Line.⁸⁶</p> <p>Poverty rates in Tunisia have seen a significant increase, from 15.5% (2010) to 24.7% (2018). Income disparities are high: the top 20% of Tunisians earn 46% of the national income, while the bottom 20% earn only 5.9%.⁸⁷ Civil unrest since the 2011</p>	<p>Rural areas in Tunisia remain marginalized and underprivileged, leading to high rates of rural to urban migration, particularly towards Greater Tunis and its agglomeration economies.⁸⁸</p>	<p>25.1% female 71.3% male</p> <p>Female labor force participation is low in Morocco, relating to the phenomenon that the gender difference in the labor force participation of the MENA region is the widest in the world.⁸⁹ Like Morocco, Tunisia faces crucial demographic transition in the coming years, yet barriers to the job market remain high. Young women are particularly vulnerable and face exclusion from economic activities.⁹⁰</p>

⁸¹ The lower-middle-income country Poverty Line, as defined by the World Bank, stands at consumption below the standardized poverty line of \$3.10/day. World Bank. (2017)

⁸³ World Bank. (2018)

⁸⁴ ILO. *Women in Business and Law*. (2014)

⁸⁵ This IFAD report expounds on the factors affecting employment and gender in Morocco.

⁸⁶ “Poverty has fallen in the Maghreb, but inequality persists”. World Bank. (2016)

⁸⁷ *Tunisia: Economic Outlook*. World Bank. (2018)

⁸⁸ Amara, M., Jemmali, H. & Ayadi, M. “Rural-Urban Migration and Income Disparity in Tunisia”. *Economic Research Forum*. (2017)

⁸⁹ ILO. *Women in Business and Law*. (2014)

⁹⁰ This ILO report expounds on the factors affecting employment and gender in Tunisia.

	has increased poverty and unemployment and discouraged entrepreneurs and private sector actors.		
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TABLE VI: POLICY ENVIRONMENT, LEGAL TOOLS & INSTITUTIONS

This section explores the policy environment in the countries participating in the MedProgramme, and presents a potential list of gender stakeholders, relevant for the site-specific activities and collaborations during the project cycle. Legal tools, and enabling policies are crucial in ensuring gender inequality can be address through tangible and formal procedures. This table, compiled from various sources, particularly UN Women and the Equal Futures Partnership, thus, takes stock of international conventions, national laws and policies, and country-level stakeholders that can aid the MedProgramme in gender mainstreaming and narrowing socioeconomic gaps.

Country	Policy Tools, Legal Instruments, Institutions	Provisions
Albania	1994 – CEDAW	Albania signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1994.
	1998 (amended 2012) – Constitution of the Government of Albania	Article 18 establishes that all are equal before the law. No one may be unjustly discriminated against for reasons such as gender, race, religion, ethnicity, language, political, religious and philosophical beliefs.
	2016 - 2020 – National Strategy and Action Plan on Gender Equality	The Strategy and the Action Plan represent a commitment for 2016 – 2020, with concrete interventions towards economic empowerment of women and men, ensuring actual participation and engagement in political and public decision-making processes; reducing gender-based violence and domestic violence and strengthening the coordination and monitoring role of the national mechanism of gender equality.
	Institutions	Ministry of Social Welfare and Youth (with contribution of the Inter-Agency Working Group) Ministry of Justice National Referral Mechanisms
Algeria	1996 – CEDAW	Algeria signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996.
	2008 – Constitution of the Government of Algeria	Under the Algerian Constitution, women enjoy the same civil and political rights as men and have the status of full citizens (Articles 29 and 31).
	Institutions	Ministry of National Solidarity, Family Affairs and Status of Women

<p>Bosnia and Herzegovina (BiH)</p>	<p>1993 – CEDAW</p> <p>2006 – Law on Gender Equality</p> <p>2014 - 2017 – National Action Plan on Gender</p> <p>Institutions</p>	<p>BiH signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1993.</p> <p>Bosnia’s Gender Equality Law provides definitions for direct and indirect discrimination, as well as gender-based violence and sexual harassment. It mandates the creation of gender equality of gender equality strategies and programs in education, employment, access to resources, social protection, etc.</p> <p>The NAP addresses the gender rights principles laid out in the national law, and works towards improving women’s participation in public life and decision-making, and particularly target the legacy of human trafficking and sexual slavery in the country’s post-conflict context.</p> <p>Agency for Gender Equality of Bosnia and Herzegovina Ministry of Human Rights and Refugees</p>
<p>Egypt</p>	<p>1981 – CEDAW</p> <p>2014 – Constitution of the Government of Egypt 1937 – Criminal Code of the Government of Egypt</p> <p>Integrated Gender Program (UNDP, UN Women and UNFPA)</p> <p>Institutions</p>	<p>Egypt signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1981.</p> <p>The two main legislations protecting and supporting women are the Egyptian Constitution of 2014 (Articles 11, 53 and 214) and the Criminal Code of 1937. Crimes against women in Egypt are divided in two groups: misdemeanors and felonies. Misdemeanors, such as catcalling, are usually punished by fines with shortened trials. Felonies, like FGM and rape, are permanent criminal offences, punished by longer jail time.</p> <p>The integrated program is helping to address multi-faceted challenges faced by women and young girl through three pillars of social, legal and economic empowerment. A similar EBRD project for the MENA region is active in Egypt as well.</p> <p>National Council for Women</p>

<p>Lebanon</p>	<p>1997 – CEDAW</p> <p>1936 – Constitution of the Government of Lebanon</p> <p>Women’s International League for Peace and Feminism (WILPF) – ABAAD Resource Centre of Gender Equality</p> <p>Institutions</p>	<p>Lebanon signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1997.</p> <p>The Lebanese legal system is primarily based on French Civil Code and Egyptian legal systems. Whilst there is no unified civil law in Lebanon, the Lebanese Constitution promulgated in 1926 articulates the principle of equality among all citizens (Articles 7 and 12).</p> <p>WILPF and ABAAD are leading national consultations to develop the first National Action Plan towards gender equality currently. The EU wrapped up its ‘Gender Equity and Empowerment of Women in Lebanon’ in early 2017, which has laid groundwork towards the adoption of a quota system for women in the country.</p> <p>National Commission for Lebanese Women</p>
<p>Libya</p>	<p>1989 – CEDAW</p> <p>2011 - 2013 – Interim Constitutional Declaration of the Government of Libya</p>	<p>Libya signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1989.</p> <p>After the end of Gaddafi’s rule, the UN-back interim government (Government of National Accord) has overseen the development of draft constitution. Women activists in Libya are currently in the process of including substantive demands⁹¹ in the draft, which will be presented to the Libyan people for referendum. This Constitution will lay out the new framework for gender equality legal tools and policy environment in the coming years.</p>
<p>Montenegro</p>	<p>2006 – CEDAW</p> <p>2007 – Law on Gender Equality</p> <p>2008 – Action Plan to Achieve Gender Equality in Montenegro – PAPRR</p> <p>Institutions</p>	<p>Montenegro signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 2006.</p> <p>The first Law on Gender Equality was adopted in July 2007. The Law on Amendments to the Law on Gender Equality was adopted in June 2015, in line with international specifications of the UN, the EU, and the Council of Europe. This document was drafted in the context of the accession of Montenegro to the EU, based on CEDAW. Action Plan is updated every 4 years, and out of the critical areas covered in Beijing Declaration, Montenegro has opted for 9.</p> <p>The Ministry of Human and Minority Rights The Department of Gender Equality Affairs</p>
<p>Morocco</p>	<p>1993 – CEDAW</p> <p>2011 – Constitution of the Government of Morocco</p>	<p>Morocco signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1993.</p> <p>Article 19 establishes that men and women should enjoy equal rights and freedoms in all civil, political, economic, social, cultural and environmental matters.</p>

⁹¹

Libya Women’s Demands in the Constitution(UNDP-led Cairo consultations). (2017)

	2013 – IKRAM	The Government Plan for Equality was developed by the Government of Morocco along with key stakeholders. .
	Institutions	The Ministry of Human Rights The Ministry of Family, Solidarity, Equality and Social Development
Tunisia	1985 – CEDAW	Tunisia signed the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1985. However, in April 2014, Tunisia officially lifted key reservations on the CEDAW.
	2014 – Constitution of the Government of Tunisia	The new constitution adopted in January 2014 includes strong protection for women’s rights: Article 21 confirms equality of rights and duties; Article 34 guarantees women’s representation in all elected bodies; and, Article 46 ensures protection of human rights.
	2015 - 2018 – Gender Equality Promotion Program in Tunisia (EU-Tunisia)	The financing agreement of the EU-Tunisia program was signed in April 2015. It aims to contribute to achieving gender equality in Tunisia by reducing inequalities at national, regional and local levels.
	Institutions	The National Council of Peers for Equality and Equal Opportunities between Women and Men Ministry of Women, Family and Children

5. The MedProgramme’s Gender Approach, Target and Components

5.1 Means to an End: Transformative Gender Mainstreaming Towards Gender Equality

The conversation on gender mainstreaming to mobilize efforts on gender equality and reduction of discriminatory gender practices and social norms has gained currency as an intellectual concern, technical solution and international consensus. However, the discursive landscape of gender equality has shaped and reconfigured what gender mainstreaming could potentially achieve in different contexts, particularly– *the vision of equality* as sameness, which aspires to a gender-neutral world where women are treated according to the same principles, standards and norms as men, enjoying equal rights and opportunities; and, *the approach of difference or reversal*, which problematizes the existence of unquestioned patriarchal norms, reconstructing the political by seeking recognition of non-hegemonic gendered identities that have been treated as different in comparison to male normative identities and cultures.⁹²

This Gender Mainstreaming Strategy adopts the latter transformative approach (‘the approach of difference or reversal’), positing a gender equality vision for the MedProgramme that questions established categories and implements positive action measures towards gender-responsive actions in the Mediterranean region. In effect, gender mainstreaming is

⁹² Verloo, M. *Multiple Meanings of Gender Equality: A critical frame analysis of gender policies in Europe*, p. 23. (2008)

therefore not an end (goal) of the MedProgramme— rather, a means (process) to an end. This approach reflects also the normative standards defined by the European Institute for Gender Equality (EIGE), which stipulates the importance of identifying gender mainstreaming as a process because it:

“Ensures that policy-making and legislative work is of higher quality and has a greater relevance for society, because it makes policies respond more effectively to the needs of all citizens – women and men, girls and boys. Gender mainstreaming makes public interventions more effective and ensures that inequalities are not perpetuated.

*It does not only aim to avoid the creation or reinforcement of inequalities, which can have adverse effects on both women and men. It also implies analyzing the existing situation, with the purpose of identifying inequalities, and developing policies which aim to redress these inequalities, and undo the mechanisms that caused them”.*⁹³

5.2 *Targets and Components of the MedProgramme’s Gender Strategy*

Based on the above conceptual hinterland, this Strategy has identified three targets, that the eight Child Projects will address through their tailored assessments and action plans (Section 6):

a. Address gender-blind hurdles with gender-differentiated consequences.

Although formal gender equality rights and guarantees are almost ubiquitous in the Mediterranean nations, this Strategy recognizes that gender-neutral policy language may not result in gender-egalitarian outcomes, when implemented in a gendered environment, influenced by gender imbalances and biases.⁹⁴ The neutral policies and laws, which are veritably gender-blind, often work in concert with social tenets, traditional norms, constitutional interpretations, and cultural expectations in ways that may stymie the advancement of gender-responsive practices. Thus, in tandem with country partners and implementing agencies, the MedProgramme will stipulate the analysis of potential gender-neutral hurdles in project- and site-specific contexts to develop targeted action towards addressing the gender-differentiated consequences.

BOX 1: Female entrepreneurship in Mediterranean faces gender-blind hurdles.

The World Bank reports that seemingly gender-neutral barriers such as cumbersome and costly procedures for opening a business and uncertain chances of recovering assets from a failed venture often have gender-differentiated consequences, notably deterring women’s entrepreneurship in the Mediterranean region. Thus, gender-neutral laws, when implemented and interpreted in gendered contexts, often create ambiguities and unintended consequences for the disadvantaged. This also relates to legal inconsistencies and opaqueness afforded to gender-neutral policy language and laws by the fluid interpretation and precedence given to family law and measures, which are often derived from traditional sociocultural norms.

Source: The Environment for Women’s Entrepreneurship in the Middle East and North Africa. The World Bank. (2008).

⁹³ See *Good Practices in Gender Mainstreaming*, a technical guide by EIGE.

⁹⁴ See *The Environment for Women’s Entrepreneurship in MENA*, p. 52. The World Bank. (2008)

b. [Mitigate gender-specific barriers and discriminatory norms.](#)

Certain barriers and discriminatory norms are framed with gender-specificity, targeting one gender or more, against normative ideals that stipulate hegemonic social identities. Gender-specific barriers have tangible and invisible discriminatory outcomes, prejudices and stigma, and are often accepted, condoned and tolerated within the larger social framework. To address these barriers, attention, awareness and resources must be accorded to address the effects of the multiplicity of social differences and gender norms to usher in enduring change and assuage the gender burdens on specific demographic groups. The MedProgramme will, hence, develop dedicated project- and country-specific gender assessments and gender action plans for each of its constituent projects and from the preparation phase through to the concluding monitoring and evaluation stage of the project cycle, with objectives (relating to broader project objectives), transformative outcomes (relating to the wider focus of the project), means of verification and indicators.

BOX 2: Labor participation has gender-specific barriers in the Mediterranean.

The Union for the Mediterranean, on the occasion of its Ministerial Conference in Barcelona (2015), brought the focus on the importance of fostering women's participation in economic life and on its obstacles in the region: women's low presence in paid labor, low wages – with lower wages of 10 – 40%, and a low level of access to positions of responsibility and decision-making. These gender-specific barriers are exacerbated by the current unequal share of care, domestic and reproductive unpaid labor performed by women in the Mediterranean. Women also face discrimination, violence and legal inequalities, which impede their ability to leverage opportunities towards empowerment and independence.

Source: Visions and Actions to Promote Gender Equality in the Mediterranean. The Union for the Mediterranean. (2017).

c. [Scale up gender-sensitive policies and deliver gender-responsive outcomes.](#)

Building on the knowledge and analysis of gender-blind and gender-specific barriers, the MedProgramme will have the imperative to use consultative and participatory tools to conduct gender-differentiated beneficiary assessments and formulate gender-sensitive policies to address the same. These gender-sensitive policies will provide the basis for gender-responsive outcomes within the results framework of the different projects, by bringing transformative change towards⁹⁵: promoting equitable access to goods, services, status, and decision-making power (both within policy institutions and households); expanding the subjective and objective range of legal, social and psychological choices available to both men and women; breaking gender stereotypes, norms and patterns; and, providing the conducive environment, through capacity-building in policy institutions, governance structures and local bodies and awareness-raising among communities (particularly, male sensitization), for a pan-Mediterranean gender mainstreaming effort that is verifiable on all three accounts of accountability, transparency and incentive mechanisms. To scale up and deliver these policies and actions, the MedProgramme will stipulate gender-budget lines within the constituent projects, as dedicated resources need to be mobilized for positive impacts on the gender gap in the region.

⁹⁵ See *Good Practices in Gender Mainstreaming*, a technical guide by EIGE.

BOX 3: Agricultural reform requires gender-sensitive policies in the Mediterranean.

Women’s contribution to agricultural labor (particularly smallholder farming) in the Mediterranean Basin is significant: providing diversified income sources to households, creating empowerment opportunities, and boosting national agricultural and economic production. However, this contribution is often underplayed and misrepresented – although women undertake the time-consuming aspects of agricultural work, they often do so without or with scarce pay. Land ownership and tenure security in the Mediterranean displays gendered disparities as well, with succession laws and social customs in effect. FAO’s reform framework for agriculture in the region, as highlighted in the May 2018 *Regional Conference for the Near East*, showcases these issues through the “Promoting Food Security, Blue Growth, and Empowerment of Small-Scale Farmers and Women in the MENA region” policy document.

Source: “Mediterranean Women in Rural and Agricultural Communities: Double Jeopardy, Multiple Opportunities”. International Centre for Advanced Mediterranean Agronomic Studies. (2018).

5.3 *Visualization of the MedProgramme’s Gender Strategy*

Based their justification and review of peer examples, this Strategy has identified the following components for the MedProgramme’s gender targets, which reflect the types of actions that will be implemented by the Child Projects, visualized below:

Please see visual from p.14.

TARGETS AND COMPONENTS – MEDPROGRAMME GENDER STRATEGY

ADDRESS GENDER-BLIND HURDLES WITH GENDER-DIFFERENTIATED IMPACTS

ENSURE GENDER-EQUITABLE PARTICIPATION THROUGH INCENTIVES AND CONDUCIVE MILIEUS FOR THE DISADVANTAGED

INITIATE DIALOGUE ABOUT THE IMPACTS OF GENDER-BLIND HURDLES AND HOW TO ADDRESS THEM AMONG STAKEHOLDERS

CAPACITY BUILD TOWARDS STRONGER ACCESS AND ASSOCIATION FOR WOMEN TO ENSURE BENEFITS FROM BENEFICIARY NETWORKS

MITIGATE GENDER-SPECIFIC BARRIERS AND DISCRIMINATORY NORMS

IDENTIFY GENDER-DISCRIMINATORY BARRIERS TO PROGRAMME OUTCOMES AND ADDRESS THEM WITHIN PROJECT RESULTS

PROVIDE ACCESS TO POLICY AND PLANNING TOWARDS MORE INCLUSIVE ENVIRONMENTAL GOVERNANCE, RESILIENCE STRATEGIES

LIAISE WITH LOCAL AND NATIONAL STAKEHOLDERS ON REFORM ADVOCACY

SCALE UP GENDER-SENSITIVE POLICIES & DELIVER GENDER-RESPONSIVE OUTCOMES

EARMARK RESOURCES (GENDER-BUDGETING) AND IMPLEMENT TAILORED AND TARGETED ACTION POINTS TO TRANSLATE GENDER RHETORIC INTO VERIFIABLE OUTCOMES

BUILD UP GENDER-RELATED ASSETS AND CAPACITIES (such as LOCAL WOMEN'S GROUPS AND THEIR INCLUSION IN POLICY NEGOTIATIONS AND MANAGEMENT STRATEGIES)

DEDICATE RESOURCES TOWARDS MONITORING AND EVALUATION OF GENDER RESULTS, GENDER-DISAGGREGATED AND SOCIOECONOMIC DATA, BEST PRACTICES AND LESSONS LEARNT FOR FUTURE INTERVENTIONS

6. Operationalizing the Strategy – the MED Approach

Devising a gender mainstreaming strategy denotes only the very outset of a multi-stage policy cycle that requires consistent efforts of integration and consideration of gender perspectives, in each phase of the program and by all actors involved, to succeed.

To operationalize the Strategy, therefore, three necessary elements ('MED' – 5.1) have to be present and inform the different stages of execution, even if the content changes in real time to adequately meet the necessities of project- and site-specific contexts for the different Child Projects, as described below.

Further, a map (5.2) is presented of how the MED Gender Mainstreaming approach is expected to function.

6.1 *Defining the MED Approach*

The approach to be used to operationalize the Strategy is defined below:

a. *Multidimensional.*

A multidimensional approach ensures that gender is used as a principal analytical category – however not without context or functioning in a void. Linkages between gender, poverty, environmental justice, socioeconomic inclusion, ethnic diversity and customary practices must be identified, analyzed and considered in the formulation of inclusive environmental action and policy. Child Projects, hence, will have the autonomy to identify gender issues relevant to the project objectives and outcomes (gender assessments), and devise strategic as well as appropriate gender action plans to address these.

b. *Empowering*

Integrating empowerment as an operational imperative ensures that program objectives and technical components are geared towards environmental and socioeconomic co-benefits. This is necessary to convert gender-aware rhetoric and gender-responsive analysis into actionable points within project logframes (logical frameworks), and with dedicated resource allocation (gender-budgeting) – which have positive ramifications for the gender status quo in project-specific contexts both nationally and locally. Child Projects, hence, will ensure gender assessments and action plans dovetail with the locale of project activities, stakeholders involved, and ensure budgetary allocations to translate rhetoric towards actions with verifiable results.

c. *Durable.*

Durability is the hallmark of a successful strategy/ intervention/project or program. Gender-responsive actions must ensure a shelf life beyond the duration of the project cycle, with positive uptake among national and local stakeholders. Directing investment towards institutional and technical capacity-building, and ensuring ownership of project by stakeholders, will warrant exit strategies for the different Child Projects. Particularly, it will be a program-wide imperative to generate information and data on the linkages between environmental security, climate risks and gender specifically on the Mediterranean region – while, building up capacities of national and local stakeholders to address these in a holistic manner, beyond the duration of the project cycle.

Please see the visualization of the MED approach – and what it entails for Child Projects and the overall MedProgramme below on p.36.

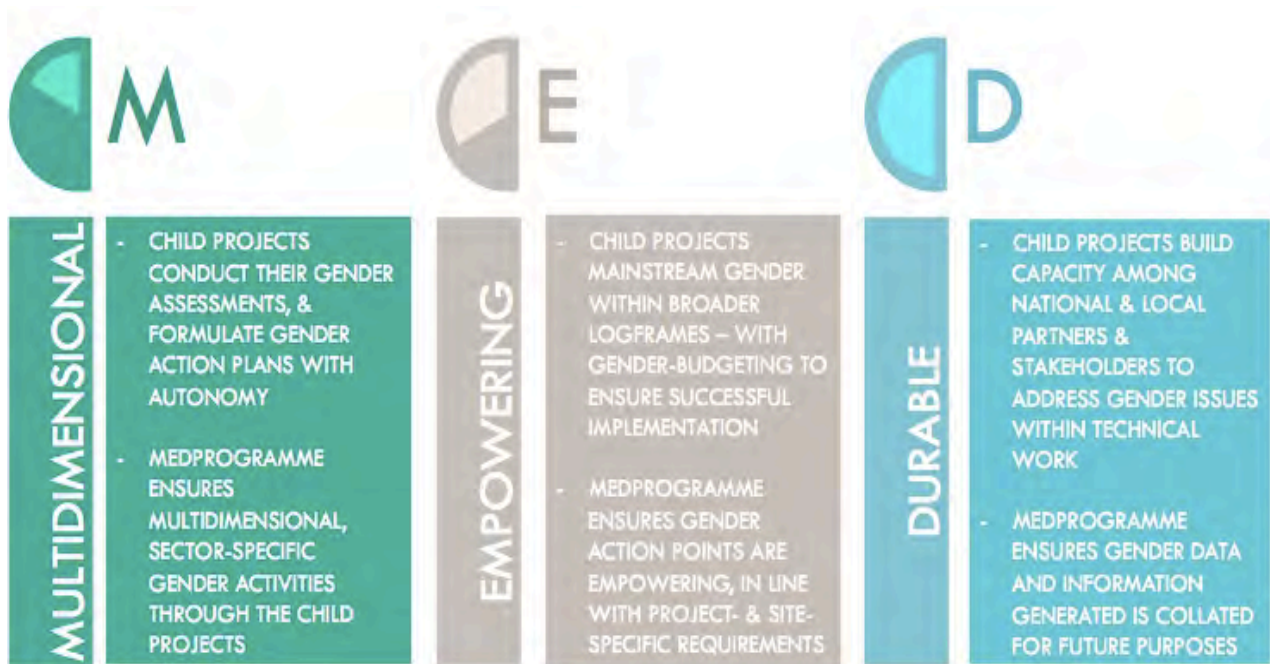


Figure 2: The 'MED' Approach – Child Projects and the MedProgramme

(developed by author)

6.2 Mapping the Programme-wide MED Approach with Child Projects

Having defined the guiding tenets of Program-wide gender mainstreaming to be devolved for each Child Project, the map (presented as a visual) of how this Strategy will tentatively be operationalized is presented below:

a. Preparation Phase – Child Projects identify gender priorities and actions through Gender Assessments

The MED approach of this Gender Mainstreaming Strategy for the MedProgramme will allow for considerable autonomy, as Child Projects will conduct their own gender assessments. The process of conducting a successful gender assessment includes: identifying the gender directives from the GEF focal point of the Child Project, as well UN Environment's gender priorities with regard to the Child Project thematic; desk-reviews of available literature on the theme from – gender, social development, and political risk perspectives; collating relevant data for the gender considerations from international organizations, development banks, national authorities, and think tanks (economic development-focused); structuring a potential baseline upon which the Child Project can positively impact; and finally, gathering information on relevant gender stakeholders (ministries, independent activist groups, NGOs) and legal mechanisms (gender-progressive laws) who could participate during the implementation phase.

b. Preparation Phase – Child Projects develop Gender Action Plans based on assessments

The individual gender assessments conducted by each Child Project will form the basis for the development of a tailored and strategic Gender Action Plan, which will mainstream action points to positively impact upon the gender status quo under the broader project objective, outcomes and activities, as well develop means of verification indicators to measure progress to impacts at later stages. This will ensure that Child Projects are able to cater to their specific gender priorities and issues, pertaining to country- and site-specific contexts, and address them in holistic manner through their activities. Further, such an

approach will avoid the perils of establishing a ‘one-size-fits-all’ approach for the MedProgramme, and allow for a nuanced and focused mainstreaming effort spanning the different Child Projects.

c. *Inception and Implementation Phase – Child Projects will plan the execution of action points identified in the Action Plans*

Operationalizing the Action Plans will involve meticulous planning, as well as resource allocation. As the Child Projects move into the inception phase and ground realities of project implementation take shape – the execution of the action points with dedicated gender budgeting will guarantee that the gender rhetoric moves towards practical and verifiable results within the broader project objectives and outcomes. The steady maintenance of momentum of gender mainstreaming, at this stage, is very crucial – and, will require concerted efforts from different actors within Child Projects to ensure gender stakeholders are engaged, capacity and consensus are mobilized, and resources are used to target beneficiaries to leverage both socioeconomic and environmental co-benefits.

d. *Throughout the Project Cycle – Child Project 4.1*

This Gender Mainstreaming Strategy, intended to structure gender-responsive activities and to provide a coherent mainstreaming methodology, will be included as one of the three pillars of the Child Project 4.1 – the support project providing also the knowledge management and coordination pillars to the entire MedProgramme. This gives the Child Project 4.1 a unique position: at once, while providing a gender support structure to the pan-MedProgramme portfolio, it will also provide a platform for ‘cross-fertilization’ by pooling in gender-relevant research and data (from the different Child Projects) to facilitate Programme-wide learning and exchange.

e. *Reporting and Monitoring – Child Projects align gender results with indicators/develop gender-specific indicators*

In keeping with the *durability* aspect of the MED approach – it is crucial to ensure a prolonged shelf life of the MedProgramme interventions. A step towards this begins in the inception and implementation phase by building capacity and consensus, while mobilizing adequate resources. Going into the reporting and monitoring stages, it will be important for Child Projects to measure progress to impacts against gender-specific indicators that are developed in the Gender Action Plans (in line with GEF gender indicators), to collate Programme-wide gender information and data, and report accordingly. This will also lay the ground for a potential ‘extension’ of the Gender Mainstreaming Strategy through future interventions – by ensuring these can benefit from the gender-responsive actions, policies and capacity building done in the region, and by expanding the entry points these new projects can take with the information and data generated towards cross-cutting issues such as poverty, water access, land and infrastructure etc.

7. Conclusion

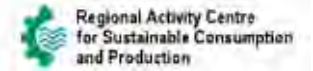
This Strategy has stipulated the MedProgramme's gender priorities, targets and components, as well as the operationalizing approach towards achieving the same. The focus has been to usher a change and/or reversal perspective and posit a gender equality vision for the MedProgramme that hopes to question established social and gendered categories and implements positive action measures towards gender-responsive actions in the Mediterranean region. In effect, gender mainstreaming is therefore not an end (goal) of the MedProgramme— rather, a means (process) to an end (greater gender equality).

With international consensus, national priorities and organizational efforts (of the GEF and UN Environment – see 1.2) prioritizing gender mainstreaming as a solution to greater stakeholder involvement, improved environmental results and social outcomes of projects, and ensure inclusivity. In this milieu, this Strategy will generate regional cooperation and contribute to the pan-Mediterranean conversation on the importance of greater gender equality for the overall progress of society, improvement of economy and functioning of a healthy polity.

ANNEX Q

Reports of the stakeholder consultations

(ATTACHED HEREWITH)



The Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security

Report of the First Regional Consultation

Athens, Greece
7 – 8 March 2018

MedProgramme
Report of the First Regional Consultation
(Athens, Greece 7 – 8 March 2018)

Conclusions

1. The GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia took note of the progress achieved on the preparation of the Child Projects and validated the proposed activities, the sites chosen for their execution at national level and the timelines for the submission of the Child Projects to the GEF Secretariat for CEO endorsement.
2. The implementing and executing partners agreed to evaluate the feasibility of the specific requests of the countries for additional activities (namely those of Algeria under Child Project 2.1 and Bosnia and Herzegovina and Montenegro under Child Projects 1.1 and 1.3).
3. UN Environment/MAP committed to keep the GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia fully informed of the progress on the development of the Child Projects and to provide the advanced versions of the project documents for comments at the appropriate time to the GEF Operational Focal Points and the country's nominated national thematic experts, if any.
4. The GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia committed to coordinate the gathering of comments from competent national institutions and thematic experts, and to provide UN Environment/MAP with a single set of official comments.
5. Regarding the letters of co-financing, the GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia expressed their preference for a single letter detailing the co-financing contributions for each of the Child Projects of the MedProgramme. The UN Environment / GEF Task Managers for International Waters (IW) and Chemicals and Waste (CW) agreed to seek guidance from the GEF Secretariat and to inform them about how to proceed.
6. The implementing and executing partners and the GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia agreed to take the necessary steps to ensure effective coordination with their respective counterparts in the programme (interministerial bodies, stakeholder groups, etc).
7. UN Environment/MAP took due note of the countries' call to ensure effective coordination among all Child Projects and to consider as much as possible cross-cutting issues like climate change and biodiversity.

Next steps

1. UN Environment/MAP will provide the GEF Operational Focal Points with:
 - a. an overview of the national and regional activities of the MedProgramme foreseen in each of the participating countries.
 - b. a responsibility matrix indicating the executing structure for each Child Project, including the implementing and executing partners and their respective roles.
 - c. the contact information for each of the implementing and executing partners.
 - d. clear indications about how to proceed with the preparation of co-financing letters including a template.
 - e. an overview of the national stakeholders engaged during the development of the project documents.

(Note: Items a, b and c will be submitted with the final meeting report of the First Regional Consultation. Items d and e will be provided in due course.)
2. The GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia will provide UN Environment/MAP with:
 - a. a list of national thematic experts including specific focal points for IW and CW to whom the advanced draft of the project documents will be sent for comments.
 - b. co-financing letters from any relevant national partners, including supporting coordination for combined letters across different child projects as needed.
3. The technical execution partners will support the GEF Operational Focal Points and national focal points in the identification of relevant initiatives which can contribute to the co-financing support by countries. They will also provide UN Environment/ MAP with their own organizational co-financing letters.

Background information

1. The objective of the MedProgramme is to accelerate the implementation of agreed upon priority actions to reduce the major transboundary environmental stresses affecting the Mediterranean Sea and its coastal areas while strengthening climate resilience and water security, and improving the health and livelihoods of coastal populations. The MedProgramme was endorsed by the GEF Council in October 2016 and is comprised of seven Child Projects which will contribute to the GEF's focal areas of International Waters (IW), Chemicals and Waste (CW), and Biodiversity (BD) (Table 1). Nine countries have endorsed the MedProgramme: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco, and Tunisia. It will be executed over a period of six years starting in 2019.
2. The First Regional Consultation for the MedProgramme was convened by UN Environment/MAP to bring together the participating countries and the implementing and executing agencies to: (i) take stock of progress on the development of the Child Projects; (ii) discuss next steps for completion of the submission package, including letters of co-financing; and (iii) agree upon a timeline for the submission of documents to the GEF Secretariat. The agenda of the consultation is provided in Annex 1.

Table 1 Overview of the MedProgramme components, Child Projects, Executing Agencies and GEF Focal Areas

Mediterranean Sea Programme (MedProgramme)			
MedProgramme Component	Child Project	Indicative lists of executing Agencies	GEF Focal Areas
1. Reduction of Land Based Pollution In Priority Coastal Hotspots, and measuring progress to impacts	1.1 Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hot Spots and Measuring Progress to Impacts	UNEP/MAP	IW and CW
	1.2 Mediterranean Pollution Hot Spots Investment Project.	EIB UNEP/MAP	IW and CW
	1.3 Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC).	EBRD UNEP/MAP	IW and CW
2. Enhancing Sustainability and Climate Resilience in the Coastal Zone	2.1 Mediterranean Coastal Zones Climate Resilience Water Security and Habitat Protection.	UNEP/MAP UNESCO-IHP GWP-Med	IW
	2.2 Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem NEXUS.	GWP-Med UNEP/MAP	IW
3. Protecting Marine Biodiversity	3.1 Management Support and Expansion of Marine Protected Areas in Libya.	UNEP/MAP IUCN WWF Med	BD
4. Knowledge Management and Programme Coordination	4.1 Mediterranean Sea Basin Environment and Climate Regional Support Project.	UNEP/MAP	IW and CW

Attendance

3. The regional consultation brought together 40 participants, including representatives from eight of the nine countries that endorsed the MedProgramme and all seven of the implementing and executing agencies. The complete list of participants is set forth in Annex 2.
4. The names, titles and affiliations of the GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Montenegro, Morocco and Tunisia and their nominated representatives that participated in the regional consultation are provided in Table 2. It should be noted that the GEF Operational Focal Point of Libya, Mr. Mustafa Soliman, confirmed his wish to attend the consultation, but was unable to do so as a result of difficulties encountered in the organization of his travel by UN Environment/MAP.

Table 2 Names, titles and affiliations of the GEF Operational Focal Points and the nominated representatives that participated in the First Regional Consultation for the MedProgramme

Country	Representative(s)	Title and affiliation
Albania	Ms. Ornela Çuçi*	Vice Minister, Ministry of Tourism and Environment
Algeria	Ms. Samira Hamidi	Inspectrice Centrale de l'Environnement et du Développement Durable, Ministère des Ressources en Eau et de l'Environnement Direction Générale de l'Environnement et du Développement Durable
Bosnia and Herzegovina	Dr. Senad Oprašić*	Head of Environmental Protection Department, Ministry of Foreign Trade and Economic Relations
Egypt	Mr. Mohamed Shehab AbdelWahab*	Chief Executive officer of Egyptian Environmental Affairs Agency, Ministry of Environment
	Dr. Mohamed Osman	Undersecretary, Head of Sector, Environmental Management Sector, Ministry of Environment
	Mr. Moustafa Fouda	Advisor to the Minister on Biodiversity
Lebanon	Ms. Olfat Hamdan	Head of Protection of Urban Environment Department, Ministry of Environment
	Mr. Adel Yacoub	Head of Department, Protection of Natural Resources Department, Ministry of Environment
	Mr. Paul Moussa	Agricultural Engineer, Department of Natural Resources Protection, Ministry of Environment
Montenegro	Mr. Esef Husic	Acting General Director for Climate Change and Mediterranean Affairs, Ministry of Sustainable Development and Tourism
	Ms. Ivana Stojanovic	Advisor, Department for Mediterranean Affairs, Ministry of Sustainable Development and Tourism
Morocco	Ms. Nassira Rheyati	Chef de Service Coopération Multilatérale, Division de la Coopération Internationale, Direction du Partenariat, de la communication et de la Coopération, Secrétariat d'Etat chargé du Développement Durable
Tunisia	Mr. Karim Sahnoun	Directeur du suivi des conventions et des projets de coopération avec les partenaires étrangers, Direction Générale des Relations Extérieures, Ministère des Affaires Locales et de l'Environnement

* GEF Operational Focal Point

Presentations

5. Presentations were delivered for each of the MedProgramme's seven Child Projects and the GEF Special Climate Change Fund (SCCF) Project, in addition to three presentations on the development process for the MedProgramme. The present report does not attempt to summarize these presentations, but focuses rather on the discussions they prompted.
6. All of the presentations delivered during the regional consultation are available at: <https://www.dropbox.com/sh/zp1kqx6jl9ss8jk/AAD-1U2ik3rfHt5RKOkKza6Za?dl=0>.

Welcoming remarks and initial discussions

7. Mr. Lorenzo Galbiati, UN Environment/MAP Secretariat (hereafter the Secretariat), welcomed the participants to Athens on behalf of the Coordinator of the Barcelona Convention Mr. Gaetano Leone. The Secretariat recalled the 40 year collaboration among the Convention's Contracting Parties, partners and UN Environment/MAP towards a shared vision for "a healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse contributing to sustainable development for the benefit of present and future generations." The Secretariat observed that the assessments, diagnostics, planning and experimentation carried out during this time had led to a consensus on priority areas for further intervention, and that together, the countries, UN/Environment MAP, the European Investment Bank, UNESCO-IHP, GWP-Med, WWF MedPO and IUCN have responded to this need by developing the Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security. The MedProgramme will support countries by providing a comprehensive response to the provisions of the Barcelona Convention and its Protocols, of other legally binding agreements and other instruments and programmes, among them the Stockholm and Minamata Conventions and the UN Environment Global Programme of Action. The Secretariat reminded participants that the GEF Council approved the MedProgramme at the end of 2016 and will support its execution through grants from the International Waters, Chemical and Waste and Biodiversity Focal Areas. In conclusion, the Secretariat stated that the focus of the regional consultation was to update the countries on the status of the development of the MedProgramme and to agree together on the next steps to complete the process.
8. Participants were also welcomed by the MedProgramme's two implementing agencies: UN Environment and the European Bank for Reconstruction and Development (EBRD).
9. Mr. Yegor Volovic, the UN Environment GEF Task Manager for International Waters (IW), recalled the longstanding collaboration among GEF and the countries in the region, through the Barcelona Convention (for the Mediterranean Sea) and the Bucharest Convention (for the Black Sea). He also noted the forward-thinking vision of the MedProgramme (approved under GEF-6) which has environment security as its focus, a theme that is now well-established in GEF-7.
10. Ms. Eloise Touni, the UN Environment GEF Task Manager for Chemicals and Waste (CW), spoke about the multi-focal area approach of the MedProgramme and explained that this will be the GEF's strategy going forward. She explained that the GEF's activities on CW in the MedProgramme would support countries in efforts to meet obligations for POPs and mercury under the Stockholm, Basel and Minamata Conventions.
11. Ms. Dana Kupova, Principal of Resource Efficiency Investments at EBRD, explained EBRD's 10 year collaboration with the GEF Secretariat, which to present has focused on climate change

adaptation and mitigation, and expressed her positive anticipation about expanding the Bank's activities to the IW and CW focal areas.

12. The Secretariat reviewed the agenda of the consultation with participants and briefly outlined the desired outcomes of the two-day event.
13. The representatives of several countries (Bosnia and Herzegovina, Egypt and Lebanon) asked for clarification on the modality for execution of activities at the national level. The Secretariat first clarified the distinction between GEF implementing and executing agencies. Implementing agencies of the GEF are responsible for delivering project proposals to the GEF Secretariat and liaising with the Secretariat and countries at the GEF Council, in addition to providing general oversight and quality control. Executing agencies of GEF projects are responsible for carrying out project preparation and execution of the activities on the ground with national, regional and international organizations, as appropriate, to achieve the expected results of the project. For the MedProgramme, the two implementing agencies are UN Environment and EBRD, and the seven executing agencies are UN Environment/MAP, EIB, EBRD, UNESCO-IHP, GWP-Med, IUCN and WWF-Med.
14. The Secretariat added that activities would be executed at the national level through a variety of arrangements, including through UN Environment's Regional Activity Centres (RACs), through international organizations like UNESCO, WWF and GWP-Med, and through other execution modalities. The Secretariat informed the participants that consultations organized with the countries to date on individual Child Projects (Annex 3) had clarified these arrangements in a number of cases and that future consultations would provide further opportunities to do so. Ultimately, it is up to the participating countries to express their wishes on the best approach to executing activities at the national level, in a manner that is compatible with the rules and regulations of the GEF Secretariat and the executing UN agencies, as well as the available resources for each Child Project.
15. In response to a question about the need to reflect emerging issues in the MedProgramme, the partners explained that GEF funds are earmarked for specific priority areas. For example, the issue of marine litter was not eligible under GEF-6 and was therefore not reflected in the MedProgramme. The issue of marine litter nevertheless will be tackled in the region thanks to complementary initiatives of the MAP system, and will furthermore be eligible under GEF-7. The UN Environment GEF Task Manager for IW reminded the participants that Mediterranean countries express their priorities on environmental issues via three consultative bodies (the UN Environment Assembly, the GEF Council and the Barcelona Convention) and on chemical-specific issues via their participation as Contracting Parties to the Stockholm and Minamata Conventions.
16. Mr. Esef Husic, Acting General Director for Climate Change and Mediterranean Affairs of Montenegro, also intervened to greet the participants of the meeting on behalf of the Ministry of Sustainable Development and Tourism of Montenegro and Mr. Igor Gradjevic, the GEF Operational Focal Point of Montenegro. He pointed out the positive experience of Montenegro during implementation of the MedPartnership and reminded of the exceptional results achieved in that process such as the preparation and adoption of the National Strategy for Integrated Coastal Zone Management (NS ICZM), preparation of the Integrated Resources Management Plan (IRMP) for the Buna/Bojana Area, vulnerability assessment of the coastal area to climate change including the sea-level rise, and the mapping of the valuable coastal habitats, etc. On the basis of these results and in line with NS ICZM, and the National Action Plan (NAP) for the implementation of the LBS Protocol and NAP for protection of the coastal biodiversity, Montenegro reiterated its priorities for the MedProgramme, including:

- Disposal of harmful waste containing PCBs and remediation of the hotspots, in the framework of the Child project 1.1 and in synergy, if possible, with Child project 1.2;
- Preparation of the local plans which mainstream the adaptation measures to climate change as part of the SCCF Project;
- Realization of priorities determined in the IRMP for the Buna/Bojana Area related to mapping of vulnerability of groundwater, identification of the level of pollution of the groundwater in aquifers, and establishment of the regular monitoring of groundwaters together with their baseline assessment.

Day 1 Agenda Item 1: Setting the scene and objectives of the consultation

17. The Secretariat emphasized that the MedProgramme was designed to accelerate the implementation of agreed actions identified from a series of transboundary diagnostic analyses of the Mediterranean Sea and subsequent strategic action programmes (SAP-MED and SAP-BIO) elaborated in the context of the Barcelona Convention at the request of its Contracting Parties. The MedProgramme is a direct contribution to the implementation of the UN Environment/MAP’s Mid-term Strategy 2016 – 2021.

Day 1 Agenda Item 2: Report on progress for preparation of the MedProgramme documents

18. The Secretariat provided an update on the status of the logframes and project documents for each of the Child Projects and the SCCF Project (Table 3)

Table 3 Status of the logframes and project documents for the MedProgramme and the SCCF Project

Project	Logframe status	Project document status
Child Project 1.1	Preliminary draft prepared	Preliminary draft under preparation
Child Project 1.2	Intermediate draft prepared	Preliminary draft prepared
Child Project 1.3	Intermediate draft prepared	Intermediate draft under preparation
Child Project 2.1	Advanced draft prepared	Advanced draft prepared
Child Project 2.2	Preliminary draft prepared	Preliminary draft under preparation
Child Project 3.1	Preliminary draft prepared	Not yet initiated
Child Project 4.1	Intermediate draft prepared	Intermediate draft prepared
SCCF Project	Advanced draft prepared	Advanced draft prepared

19. The Secretariat provided an overview of the national and regional interventions planned for all countries (Annex 4). A matrix of responsibilities of the executing partners is set forth in Annex 5.

20. The representative from Egypt congratulated the partners on the progress achieved towards preparation of the MedProgramme, and expressed his view that biodiversity and climate change were not adequately addressed in the planned activities. The Secretariat explained that the MedProgramme reflected the GEF Council’s priorities and was funded primarily with earmarked funds from the IW and CW focal areas, but that these issues were being addressed through complementary activities in the region. For biodiversity, this includes the MED MPA Project, the 2020 MPA Roadmap, and the technical support activities of SPA/RAC; and for climate change, this includes a variety of GEF interventions, including the Special Climate

Change Fund Project that will address climate change adaptation in six Mediterranean countries. The Secretariat acknowledged that the MedProgramme cannot address every issue, and for this reason it was better to focus on priority areas to achieve greater impacts. The UN Environment GEF Task Manager for IW offered to work with the countries to develop medium-sized projects to address other priorities, as this type of project can be approved faster than full-size projects or programmes.

21. The representative of SPA/RAC thanked the representative of Egypt for drawing attention to the need to strengthen efforts to protect biodiversity in the region, and noted that many other countries have raised this point in other contexts. In the opinion of the representative of SPA/RAC, this is a sign that the GEF Secretariat needs to consider including a regional biodiversity component in all regional projects/programmes, in view of its link to other areas including pollution and coastal zone management. The representative of SPA/RAC asked UN Environment to consider approaching the GEF Secretariat on this issue. The UN Environment GEF Task Manager for IW indicated that there were good opportunities for this in GEF-7 since its priorities include the blue economy and marine biodiversity, and that IW was a good entry point for transboundary MPAs, for example.
22. The representative of Morocco, speaking about her experience in the preparation of the Child Projects of the MedProgramme and the SCCF Project, pointed out that there is a need for the country to nominate a specific focal point for each of the projects, since the GEF Operational Focal Point and the MAP Focal Point (the same person in this case) cannot manage the entire portfolio of projects. The Secretariat suggested that each country could have a national focal point for each specific technical issue and that these focal points could be consulted (along with the GEF Operational Focal Point) when needed and invited to attend steering committee meetings for the projects that fall under their area of expertise. The UN Environment GEF Task Manager for IW agreed that each country needed specific focal points for the various projects.

Day 1 Agenda Item 3: Next steps and timeline for submission of documents to the GEF Secretariat

23. The Secretariat described the next steps for completion of the project documents, including the gathering of additional baseline information, organization of national consultations, preparation of co-financing letters, and validation of project documents by the GEF Operational Focal Points.
24. The Secretariat then presented the tentative timeline for submission of the project documents to the GEF Secretariat (Table 4).

Table 4 Targets for submission of project documents for review and endorsement

Project	Target for submission of project document to GEF for CEO endorsement
Child Project 1.1	July 2018
Child Project 1.2	August 2018
Child Project 1.3	July 2018
Child Project 2.1	June 2018
Child Project 2.2	August 2018
Child Project 3.1	October 2018
Child Project 4.1	June 2018
SCCF Project	June 2018

25. The Secretariat recalled that each country would need to indicate clearly the different co-financing contributions for each of the relevant Child Projects, and that these contributions would be monitored on an annual basis. Furthermore, the modality for the preparation of co-financing letters in the context of a programmatic approach needs to be discussed with the GEF Secretariat, considering that normally one co-financing letter would be required per project per country (the MedProgramme would require more than 50 co-financing letters under this arrangement). There is clearly a need to simplify this process for the MedProgramme. The UN Environment IW Task Manager agreed to liaise with the GEF Secretariat to clarify this issue and propose an acceptable solution.

Day 1 Agenda Item 4: Child Project 1.1

26. Child Project 1.1 will be executed by UN Environment/MAP, in coordination between MED POL and two of UN Environment/MAP's Regional Activities Centres – SCP/RAC and Plan Bleu. The project is expected to deliver the following main outcomes:

- In coastal hot spots, measurable reduction of wastes and hazardous chemicals (POPs, mercury) impacting human health and coastal habitats is achieved;
- Update of the baseline situation (TDA), harmonization of monitoring protocols, methodologies and procedures in compliance with Integrated Monitoring and Assessment Programme (IMAP) of the Barcelona Convention, including design of offshore reference network and gender assessment.

27. The discussion ensuing the project's presentation by the representatives of MED POL and SCP/RAC touched upon various aspects, including requests for clarifications on the selection of countries, sites and options prioritized in the preliminary proposal for disposal (POPs/PCBs and mercury) activities. Another important question raised by the participating countries was about coordination between various implementing/ executing agencies within MedProgramme as well as with other implementing agencies of related (GEF-funded or not) projects.

28. The representative from Montenegro highlighted the need for cooperation and coordination between Child Projects 1.1 and 1.3 to address national priorities, including contaminated sediments at the former shipyard Bijela (categorized as the hot spot B in the Barcelona Convention National Action Plan – NAP) and provision of incentives to phase out in use PCBs in the aluminum plant in Podgorica. Furthermore, country missions were called for in order to discuss matters in greater detail. The need for coordination with the GEF-UNDP project for safe removal of PCBs was also highlighted.

29. The Secretariat explained that a partner coordination meeting would follow the two-day country consultations to address, among other things, specific issues raised by Montenegro. Missions to countries would be planned based on the partners' meeting discussions. The Secretariat emphasized the need for cooperation within the MedProgramme and with sister agencies, while avoiding double-counting and overlapping between different activities. The representative of UN Environment/MAP - MED POL reminded that endorsement letters for the PCBs management were issued by Montenegrin authorities to both UN Environment/MAP and UNDP. Missions to countries (possibly joint for Child Projects 1.1 and 1.3) could take place in April 2018, to be facilitated by national authorities.

30. The representative of Bosnia and Herzegovina informed of the progress with preparation of the mercury initial assessment (MIA) and pointed out two locations where pronounced mercury contamination problems were identified. A plea was made to include Bosnia and

Herzegovina in the MedProgramme mercury removal activities. The representative of UN Environment/MAP - MED POL explained the reasons for not including Tuzla site in the preliminary plan for mercury disposal under Child Project 1.1, including its location (far outside the Mediterranean watershed) and the fact it was not addressed in the country's NAP, as well as MED POL Focal Point's confirmation of these facts. The representative of Bosnia and Herzegovina was invited to provide the MED POL with the MIA report.

31. The Secretariat considered that the feasibility of inclusion of the sites outside the Mediterranean watershed should be checked with the GEF Secretariat. The UN Environment GEF Task Manager for CW emphasized the importance of the national priorities (as identified in the relevant plans prepared under the Stockholm and Minamata Conventions) for the development of the MedProgramme interventions and welcomed more detailed proposals by the countries. A reference was made to Child Project 1.1 presentation on new POPs prevention opportunities and a recommendation was made to ascertain that calculations of any quantities to be offset through project interventions were acceptable to GEF Secretariat.
32. The representative of Lebanon expressed an agreement with presented criteria for preliminary selection of countries and sites for Child Project 1.1 disposal interventions and enquired about inclusion of specific locations and disposal options for Lebanon. As regards new POPs and mercury prevention, ideas were exchanged on how to validate the baseline data; working with lamps containing mercury was singled out as a viable prevention (and disposal) option.
33. The representative of Tunisia endorsed in principle the national activities included in the preliminary plan/ presentation for Child 1.1 (as well as for Child Project 1.2), emphasizing at the same time the need for assistance with remediation of POPs/ PCBs contaminated sites in the country.
34. The representative of Morocco pointed out the use of the PCBs management platform located in Casablanca could lower disposal costs for the proposed activities (compared to exports to the EU).

Day 1 Agenda Item 5: Child Project 1.2

35. European Investment Bank (EIB) is the main executing agency for the Child 1.2 project, with a contribution from UN Environment/MAP for the regional level activities (development of standards). The following main results are planned to be achieved through the project's components that will be executed by the EIB:
 - Reduction of organic pollution reaching the Mediterranean Sea causing coastal ecosystem degradation;
 - Depollution and water resources management at the level of catchments which are draining into the Mediterranean, in order to improve the human, environmental and health situation and reduce the contaminants loads entering the Mediterranean Sea;
 - Reduction and control of chemical and organic pollution from past and present industrial activities in coastal areas impacting human health and livelihoods, and coastal ecosystems, thereby reducing pollution discharges to the Mediterranean Sea;
 - Preparation of pre-investment studies for mercury decontamination and conversion of industrial processes.

36. Under Child Project 1.2 project, a 7 million USD GEF grant¹ will be utilized to support preparation of investments and strengthen capacities needed to reduce pollution in the Mediterranean hot spots. In the course of the preparation of the programme framework document (PFD), Child Project 1.2 was projected to mobilize up to 500 million USD in co-financing. The representative of EIB presented specific sites and type of interventions considered for technical assistance under the GEF grant, including three projects in Egypt (wastewater treatment plants - WWTPs - and drains depollution), upgrade of a wastewater collection and treatment system (for the city of Tripoli) in Lebanon, upgrade of 10 WWTPs in Tunisia, and mercury depollution projects in Morocco and Tunisia. Following the EIB's presentation, the Secretariat asked whether the initially identified co-financing amount was still applicable.
37. The representative of EIB explained the background to the selection of areas of work presented at the meeting, including linkages to the Horizon 2020 goal of depolluting the Mediterranean and the pipeline of projects identified through the EU-funded Mediterranean Hot Spots Investment Programme (MeHSIP), the latter serving as the starting point for identification of specific projects to be developed through Child Project 1.2. The Barcelona Convention NAPs were also used as references, in particular for identification of hot spots (and in some instances for consideration/ cross-checking of specific projects). The representative of EIB reported that the co-financing is currently assessed at the level of 510 – 550 million USD, depending on bankability of the projects to be developed and willingness of the countries/ project promoters to borrow to implement specific interventions. Without the bankability of the selected projects, and the willingness of the countries to borrow, the co-financing would be not possible.
38. The representative of Lebanon raised a question on the possibility to add Saida WWTP and other projects (referring to reuse of treated wastewater and aquifer recharge) identified by national stakeholders to the MedProgramme/Child Project 1.2 selection process. The representative of EIB explained the selection started from the MeHSIP approved list of 24 projects and that there were delays in signing the cooperation agreement with Lebanon. Nevertheless, the Bank remains open for proposals of other projects for Lebanon (including Saida WWTP) provided that eligibility criteria are met.
39. The representative of Tunisia asked for clarification on the GEF grant funding for the MedProgramme Component 1 projects versus loans planned for specific projects implementation. UN Environment/MAP clarified the loan component (shown in the approved PFD as the Child Project 1.2 co-financing) referred to hard loans/ EIB funding to be approved for mature projects while as the in-kind portion of the total Child Project 1.2 co-financing referred to the share of the EC funds extended for the same purpose. The representative of Tunisia confirmed that the national projects (upgrade of 10 WWTPs in different regions, mercury depollution at SNCPA plant in Kasserine) considered under the Child Project 1.2 were in line with the national priorities, as outlined in the country's NAP and mercury initial assessment/ action plan.
40. The UN Environment/MAP - MED POL presented its work on Child Project 1.2 related to the outcome on standards, i.e. development of common environmental standards for desalination, aquaculture and wastewater treatment. The intent is to develop, in the course of Child Project 1.1 implementation, a set of regional standards to enable better regulation (including eventual adoption of the new/updated Regional Plans) of activities and sectors where the gaps in the Barcelona Convention's regional measures to achieve Good Environmental Status (GES) in the Mediterranean have been identified.

¹ Five million USD from International Waters Focal Area and 2 million USD from Chemicals and Waste.

41. The interventions of the representatives from Lebanon and Egypt emphasized the existence of strong national standards in some of the areas that will be subject to standards development and the sensitivities/ difficulties with adoption of regional ones (including the need for regional standards to be tuned with national ones). For wastewater and sludge management, preparation of guidelines was seen as more pertinent than the development of standards. The need to mobilize and use all the existing technical knowledge in the region in the course of implementing this set of regional activities was recommended.
42. The representative of UN Environment/MAP - MED POL reiterated the development of standards was planned for the areas where the existing regional/ Barcelona Convention measures were assessed as insufficient to reach the GES. The outputs of the Child Project 1.2 activities will feed into the process of updating the existing and/or developing new Barcelona Convention Regional Plans, whereas the decision making process will be fully conducted in line with standard procedures of the Convention and its governing bodies. The work on the development of standards and new/updated Regional Plan is integrated in the UN Environment/MAP Programme of Work for the current biennium.
43. The representative of WWF pointed out the new INTERREG project implemented by WWF France (including work on aquaculture) should be consulted in the course of development of aquaculture standards.

Day 1 Agenda Item 6: Child Project 1.3

44. As the GEF Implementing Agency, the EBRD is leading on the preparation of Child Project 1.3 which will produce the following outcomes:
 - Public/ private investments enable pollution reduction in priority coastal and catchment areas through the improvement of water and waste water management systems and the introduction of modern and efficient technologies and practices;
 - Prevention or elimination of POPs.
45. Compared to Child Projects 1.1 and 1.2, preparation and implementation of the Child Project 1.3 has certain specificities due to the EBRD's different work approaches. The focus will be on municipalities and on private sector, with a dynamic project pipeline identified based on project selection criteria. The IW component of the project will focus primarily at municipal wastewater treatment projects. The areas of interest for the CW component (POPs elimination) will be electricity distribution companies, industries (where POPs/ PCBs disposal and prevention activities are likely to be linked to larger modernization loans/ packages) and potentially agri-business (for possible substitution and disposal of POPs pesticides that are still in use). Due to the dynamic nature of developing the project pipeline, sites and companies (potential beneficiaries of the project), will not be known at this stage, and the Bank's internal rules limit options for their disclosure to third parties.
46. The representative of Montenegro pointed out that no information on the Child Project 1.3 development activities had been received by the country so far and expressed interest/need to hold consultations and learn more about the scope of work of the consultants conducting pertinent assessments for the EBRD. A similar intervention was made by the representative of Albania, emphasizing the need to meet the consultants and discuss priorities with them. The representative of Bosnia and Herzegovina highlighted the need for more detailed discussion as regards prevention of new POPs, and suggested the Child Project 1.1 and Child Project 1.3 activities should be combined. In addressing these interventions, the representative of EBRD explained the work conducted so far was aiming to generate a

snapshot of the countries' situation and that the National Implementation Plans (NIPs) for the Stockholm Convention have been analyzed. Based on these analyses, project selection criteria would be defined and project pipeline built.

47. The representative of EBRD explained the GEF funding would be used for technical assistance (including project preparation) and potentially for grants to overcome specific market barriers associated with the implementation of environmental technologies. Another potential use of the GEF funds is provision of technical assistance (including project preparation). For the time being, EBRD is not considering use of intermediary banks in the projects' implementation phase.
48. The representative of Montenegro pointed out the links between Child Projects 1.1. and 1.3 and expressed interest to explore possibilities to address two priority sites (Aluminum plant and former shipyard Bijela) through the MedProgramme and in coordination with the ongoing UNDP and the World Bank projects (the former funded by the GEF, the latter through the World Bank loan). The representative of EBRD took note of the interventions, flagged the two sites as potential Child Project 1.3 project sites, and emphasized the Bank could provide loans for the larger investment interventions while using GEF funds for technical assistance and grants. Further discussions and coordination are necessary to define possible interventions.
49. The representative of Lebanon raised the question about potential overlap concerning what Child Projects 1.1 and 1.3 are aiming to deliver. The Secretariat pointed out the differences in the targets of the two projects while the representative of EBRD highlighted the difference in the funding approaches: for example, potential disposal of PCBs supported through Child Project 1.3 funding would be coupled with the Bank's loan for new investments leading to improved management of chemicals and wastes.
50. The question of expected submission date of the Child Project 1.3 to the GEF Secretariat was raised. The representative of EBRD explained the process was challenging nevertheless the completion of project preparation phase was planned for mid-summer.
51. The representative of Albania asked for clarification on potential beneficiaries of the projects to be funded through Child Project 1.3. The representative of EBRD explained sovereign lending was not considered for the time being, while as municipal and private sectors were identified as the key potential recipients (municipalities in particular for the IW component and waste water management improvements).
52. Regarding the regional level activities, the representative of EBRD explained the strategy was to ensure that experiences with successful national interventions would be disseminated across the region and potentially replicated in partnership with participating and other companies.
53. The representative of Tunisia emphasized the necessity for coordination between different executing Agencies, since some activities concern three child projects (1.1, 1.2 and 1.3).

Day 2 Agenda Item 2: Child Project 2.1 "Mediterranean Coastal Zones Climate Resilience Water Security and Habitat Protection"

54. Child Project 2.1 will be executed jointly by UN Environment/MAP and two of its RACs (PAP/RAC and Plan Bleu) and by UNESCO-IHP and GWP-Med. The Child Project will achieve the following outcomes:
 - Coastal zone sustainability enhanced through the adoption of comprehensive ICZM strategies, coastal plans and instruments (MedProgramme Outcome 4).

- Increased resilience to climate variability and change, and enhanced water security of coastal populations through improved sustainability of services provided by coastal aquifers and by groundwater related coastal habitats (MedProgramme Outcome 5).
55. The representative of Algeria expressed interest in discussing the possibility of Algeria benefitting from national level activities in the context of Child Project 2.1. The Secretariat responded that Algeria had endorsed the MedProgramme in December 2017, when the preparation of Child Project 2.1 was already well advanced. Algeria will benefit from the regional activities foreseen in this Child Project (e.g., training and capacity building including on submarine groundwater discharges, gender and conjunctive management of water resources; awareness raising; support to ICZM Protocol ratification; etc.). The executing partners agreed to evaluate the possibility of accommodating Algeria's request. However, the representative of UNESCO-IHP expressed concerns about the constraint of the budget available for the MedProgramme Outcome 5 and the risk of jeopardizing the successful implementation of initially foreseen activities by increasing the number of national activities.
56. The representative of Egypt observed that the execution of a project with four partners would be challenging and also pointed out the need to consolidate the monitoring framework for Child Project 2.1. In response, the executing partners first recalled their successful joint execution of activities for the MedPartnership, including the development of the [Integrative Methodological Framework](#) (IMF), a practical tool to integrate considerations of integrated coastal zone management, integrated water resources management and groundwater management. This tool will guide the partners in the integration of their individual and joint activities for Child Project 2.1. Next, with respect to monitoring, the executing partners recalled that the project would benefit from an existing monitoring framework established for the Barcelona Convention, including the Integrated Monitoring and Assessment Programme (IMAP) for the achievement of good environmental status in the Mediterranean, and indicators related to implementation of the ICZM Protocol, the Mediterranean Strategy for Sustainable Development, and the ecosystem approach, amongst others. Finally, the Secretariat reminded the participants that one of the objectives of Child Project 4.1 was to ensure the effective coordination among all projects and partners, including through the organization of yearly stocktaking meetings, communication tools such as the MedProgramme website and the establishment of a Programme-wide results monitoring framework.
57. The representative of Montenegro took the opportunity to request assistance on transboundary cooperation with Albania related to Child Project 2.1 and to draw attention to some additional priorities regarding the focus of groundwater activities. First, the representative of Montenegro reminded the participants that the Buna/Bojana area had been officially confirmed as Montenegro's priority area for Child Project 2.1 and that an integrated resource management plan had been developed for this area in the context of the MedPartnership. A framework agreement between Montenegro and Albania for the sustainable development of Skadar Lake and Buna/Bojana was subsequently drafted and is currently awaiting signature by the two countries. The plan includes the establishment of a joint commission between Montenegro and Albania to support its implementation. In view of this, the representative of Montenegro requested that efforts be made under Child Project 2.1 to support the establishment of the joint commission with Montenegro and Albania, once the agreement has been officially adopted. On a related note, the representative of Montenegro also stated that the integrated resource management plan for the Buna/Bojana area called for the preparation of vulnerability maps for the area's aquifer as well as monitoring of groundwater parameters. The representative of UNESCO-IHP congratulated the representatives of Montenegro and Albania on their cooperation and confirmed UNESCO's willingness to work with both countries on the joint commission, and to address the requested

aquifer vulnerability mapping within its activities for Child Project 2.1. UNESCO-IHP highlighted at the same time its concerns about the limitation of available funds.

58. The representative of Morocco recalled the country's request to monitor hydrographic indicators in the context of Child Project 2.1 and to ensure effective coordination between the activities of Child Project 2.1 on ICZM and those of the SCCF Project on climate change adaptation in the coastal zone. The representative of Morocco also thanked the executing partners for integrating its expressed priorities into the design of the activities for Child Project 2.1.
59. The representative of Tunisia indicated that an official letter documenting the country's priorities for Child Project 2.1 would soon be transmitted to UN Environment/MAP, and also confirmed that the priorities of Tunisia for this Child Project are: for the aquifer, it is the Ras Jebel coastal aquifer, and for ICZM, the region of coastal area of the Gulf of Monastir and the Kerkennah Archipelago.
60. As at 7 March 2018, official letters expressing priorities for activities under Child Project 2.1 have been received from the GEF Operational Focal Points of Egypt, Morocco and Lebanon.

Day 2 Agenda Item 3: Child Project 2.2 "Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus"

61. Child Project 2.2 will be executed jointly by UN Environment/MAP and GWP-Med, and will achieve the following outcomes:
 - Enhanced water, food, energy and ecosystems integrated governance, security and sharing of benefits;
 - Reduced trade-offs among sectors and more balanced competing water uses;
 - Sustainability of basin/aquifers and coastal and marine zones as well as supported economic activities and biodiversity.
62. Following an overview of the Child Project, the representative of GWP-Med informed the participants that two sub-regional consultations would be organized in the coming months: one in the Adriatic and one in the MENA region. These consultations will provide ample opportunities for the countries to express their priorities with respect to the planned activities, which include assessments and plans based on the nexus approach.
63. The representative of Albania expressed interest in participating in the activities of this Child Project, provided that the outputs are action-oriented and do not simply involve the elaboration of strategies. The representative of GWP-Med confirmed that the outputs include action plans, but reminded the participants that it was ultimately the country's responsibility to ensure their implementation.
64. The representative of Lebanon inquired about the possibility of undertaking national level activities of this Child Project in Lebanon. The representative of GWP-Med indicated that this was a possibility, especially in view of the strong synergies that could be achieved with the activities foreseen in Lebanon for Child Project 2.1, including sustainable management of the Damour aquifer and the preparation of the National ICZM Strategy.
65. The representative of Morocco expressed interest in exploring the possibility of taking part in the activities of this Child Project, recalling that Morocco has many strategies for water, energy, food and ecosystems and that opportunities existed for improved integration among these domains. Furthermore, Morocco's National Sustainable Development Strategy recognizes each of these domains as priority area, and the activities of Child Project 2.2 could

assist the country in meeting the relevant commitments under this strategy. The representative of Morocco informed the participants that the relevant institutions would be consulted about the country's potential participation in national level activities for this Child Project.

Day 2 Agenda Item 4: Child Project 3.1 “Management Support and Expansion of Marine Protected Areas in Libya”

66. Child Project 3.1 will be executed jointly by UN Environment/MAP, SPA/RAC, IUCN, and WWF-Med, and will achieve the following outcome:
- Expansion of seascapes under protection in Libya, and improved protected area management through the implementation of the Libyan Marine Protected Areas (MPAs) National Strategy, mapping of marine key habitats, monitoring of marine megafauna (mammals, seabirds, turtles and cartilaginous fish), capacity support mechanisms and adoption of permanent solutions.
67. Following a presentation of the activities of Child Project 3.1, the representative of SPA/RAC explained that development of the project document would soon begin in earnest, with the recruitment of a national expert and the organization of an inception meeting with the relevant stakeholders in Libya. UN Environment/MAP explained that the development of this Child Project had been placed on hold for a specific reason, namely to conduct discussions with other donors about the possibility of expanding activities to countries other than Libya. Finally, however, it was decided in February 2018 to proceed with the development of the project for Libya as originally planned. UN Environment/MAP indicated that the development of the project document would proceed swiftly, in view of the fact that the project involves only one country, and that executing partners have already gathered substantial information for the baseline situation.
68. In terms of the identification of the 24 sites of conservation interest that will comprise the Libyan network of MPAs to be established under Child Project 3.1, the representative of SPA/RAC indicated that the executing partners have made a preliminary assessment based on existing data from SPA/RAC and WWF in Libya as well as through desk studies. The next step will be to conduct a rapid assessment of Libya's coast to identify additional candidate areas and to agree upon a final list of sites to be included in the national network of MPAs.
69. The representative of Egypt cited the country's extensive experience in the management of MPAs and invited the executing partners to consider the organization of capacity building workshops for Libyan experts at MPAs in Egypt. The representative of SPA/RAC thanked the representative of Egypt for this suggestion and explained that capacity building within Child Project 3.1 would focus on the 'train the trainer' approach and would provide opportunities for trainees to apply MPA management strategies in small-scale projects conducted outside of the scope of the MedProgramme. The representative of SPA/RAC observed that the design of training activities – including the possibility of travel – was subject to the available budget.
70. In view of potential synergies between Child Project 3.1 and Child Project 2.1, the representative of UNESCO-IHP recalled to the participants that UNESCO will undertake activities related to submarine groundwater discharge with Libya, in the form of regional trainings and capacity building in collaboration with the General Water Authority.

Day 2 Agenda Item 5: Child Project 4.1 “Mediterranean Sea Basin Environment and Climate Regional Support Project”

71. Child Project 4.1 will be executed by UN Environment/MAP, and will achieve the following outcomes:
- Increased uptake of lessons and of cutting-edge knowledge generated across the portfolio of interventions, and the active participation in IW LEARN activities, Communities of Practice, and events; improve the capacity of key regional stakeholders and of the global IW community to build climate resilience, maintain coastal resources, protect biodiversity and restore coastal ecosystems.
 - The effective coordination and learning among all Child Projects, consistency with the Programme objectives, and synergies among projects and partners, ensured.
72. The Secretariat informed the participants that a key element of Child Project 4.1 is the Knowledge Management Strategy and associated tools that will facilitate information sharing and promotion of the Programme's results among the partners, the region's stakeholders and beyond. He added that a Knowledge Management Specialist would be recruited in April 2018 to provide guidance on this aspect of the Child Project, including on the requirements for the creation of an appropriate knowledge platform and for populating this platform with appropriate data from the countries and partners. A successful example of an effective knowledge platform was cited: the case of the platform for the GEF's Caribbean Regional Fund for Wastewater Management (GEF-CREW) (<http://www.gefcrew.org/>).
73. With respect to the Knowledge Management Strategy and the related platform, the UN Environment GEF Task Manager for CW requested that the Knowledge Management Specialist reflect all indicators of all child projects in the establishment of the relevant tools and frameworks. It was furthermore explained that the GEF's Chemical and Waste Focal Area has created a proof-of-concept platform to assist countries in meeting the reporting requirements of the Stockholm and Basel Conventions (<https://m.youtube.com/watch?v=BMyc6alVeh0>).
74. The representative of Egypt asked that special attention be given to designing data collection and management tools that support policy development, while at the same time responding to the needs of the GEF Secretariat and the Programme partners. The Secretariat confirmed that one of the aims of the Child Project 4.1 was to strengthen the science-policy interface, and that a great deal of relevant data has already been generated by the countries. Furthermore, the knowledge platform proposed under Child Project 4.1 could be used to aggregate and promote these data, with the clear understanding that no data would be disseminated without the permission of its owner. The Secretariat noted that this knowledge platform could one day become a tool of the Contracting Parties of the Barcelona Convention.
75. The representative of Albania noted that many countries lacked data and asked whether the Programme would support generation of data for the Integrated Monitoring and Assessment Programme (IMAP). The Secretariat confirmed that certain data generated from the MedProgramme could indeed assist countries in meeting the IMAP reporting requirements.
76. In response to the representative of Albania's suggestion to employ social media tools to promote the Programme, the Secretariat confirmed that the use of modern communication tools – including social media, YouTube and thematic videos – would be fully integrated in the Programme's communication and outreach strategy.

Day 2 Agenda Item 6: GEF Special Climate Change Fund (SCCF) Project

77. The SCCF Project will be executed by UN Environment/MAP and GWP-Med and will achieve the following outcomes:

- Stakeholder engagement on climate change adaptation is strengthened and partnerships are enhanced.
- Adaptation mainstreamed into IZCM strategies and coastal plans.
- Public spending relative to climate change adaptation in the coastal zone prioritized and national resources mobilized.
- Facilitated access to international climate change adaptation financing.
- Strengthened science-policy interface, accessibility of related knowledge and enhanced regional climate information.

78. The Secretariat recalled that the SCCF Project is a medium-sized project that will mainstream climate change adaptation into coastal planning using a proven approach that was successfully implemented in a past GEF intervention in the region. New funding opportunities under the GEF-7 Replenishment may provide opportunities for replication of this approach in the region.
79. Regarding the geographic scope of the national level activities foreseen in Morocco for the SCCF Project, the representative of Morocco reiterated her wish to maintain the same scope as Child Project 2.1, namely the Tanger-Tétouan-Al Hoceima region. The representative of Morocco recalled that it would be most efficient to work in this manner, as the same stakeholders would be engaged for both projects. The representative of PAP/RAC (the executing agency that will lead the ICZM activities in Child Project 2.1 and the integration of climate change adaptation in coastal plans for the SCCF Project) concurred that it would be best to work at the regional level.
80. During the discussion of execution modalities for activities foreseen at the national level in the SCCF Project, the representatives of Montenegro and Morocco reiterated their wishes to have PAP/RAC and Plan Bleu execute the planned activities in their respective countries on the preparation of recommendations for integrating climate change adaptation in local coastal planning processes.
81. The representative of Egypt recalled that his country was among the countries most vulnerable to climate change and inquired about why the country was not participating in the SCCF Project. The Secretariat recalled that Egypt had been invited to contribute to and endorse the Project Identification Form (PIF) of the GEF SCCF Project but that unfortunately this did not occur. The Secretariat recalled that an official letter was transmitted to the GEF Operational Focal Points of all GEF eligible countries on 9 September 2016 to inform about the opportunity to participate in the SCCF Project and to request inputs and advice from the countries on the development of the PIF. This communication was followed by a second letter on 30 September 2016 to formally request the endorsement of the PIF by the countries prior to the submission to the GEF Secretariat. Six countries issued letters of endorsement for the SCCF Project, namely Albania, Algeria, Libya, Montenegro, Morocco and Tunisia.
82. The representative of PAP/RAC recalled that a large project entitled “Enhancing climate change adaptation in the North coast and Nile Delta Regions in Egypt” had recently been approved by the Green Climate Fund for execution by UNDP Egypt and the Ministry of Water Resources and Irrigation. The PAP/RAC National Focal Point for Egypt has already undertaken a consultation with the Ministry of Water Resources and Irrigation and with UNDP Egypt and they agreed to build synergies with the GEF MedProgramme CP 2.1.

Day 2 Agenda Item 7: Discussion on timeline for completion of the development phase

83. Following discussions, the GEF Operational Focal Points, the nominated representatives and the implementing and executing partners agreed on the tentative timelines proposed for the completion of the project documents and their submission to the GEF Secretariat for endorsement, as set forth in Table 4 of the present report.

Day 2 Agenda Item 8: Conclusions of the first regional consultation

84. In the closing of the consultation, the GEF Operational Focal Points, the nominated representatives and the implementing and executing partners agreed on a set of conclusions and next steps, which have been reformulated for clarity and are set forth on pages 2 and 3 of the present report.

Annex 1
Agenda of the First Regional Consultation of the MedProgramme

Day 1: 7 March 2018	
9:00 – 9:30	<i>Registration</i>
9:30 – 9:45	Welcoming remarks: UN Environment
9:45 – 10:30	1. Setting the scene and objectives of the consultation: UN Environment/MAP
10:30 – 11:00	2. Report on progress for preparation of the MedProgramme documents: UN Environment/MAP
11:00 – 11:30	<i>Coffee Break</i>
11:30 – 12:00	3. Next steps and timeline for submission of documents to the GEF Secretariat: UN Environment/MAP
12:00 – 13:00	4. Update on Child Project 1.1: Project partners (MED POL, SCP/RAC, Plan Bleu)
13:00 – 14:30	<i>Lunch</i>
14:30 – 15:30	5. Update on Child Project 1.2: Project partners (EIB and MED POL)
15:30 – 15:45	<i>Coffee Break</i>
15:45 – 16:45	6. Update on Child Project 1.3: Project partner (EBRD)
16:45 – 17:00	7. Conclusions of Day 1
17:00	<i>End of Day 1</i>

Day 2: 8 March 2018	
9:30 – 9:45	1. Opening remarks: UN Environment/MAP
9:45 – 10:45	2. Update on Child Project 2.1: Project partners (PAP/RAC, UNESCO-IHP, GWP-Med and Plan Bleu)
10:45 – 11:15	<i>Coffee Break</i>
11:15 – 12:15	3. Update on Child Project 2.2: Project partner (GWP-Med)
12:15 – 13:45	<i>Lunch</i>
13:45 – 14:45	4. Update on Child Project 3.1: Project partners (SPA/RAC, WWF and IUCN)
14:45 – 15:15	5. Update on Child Project 4.1: UN Environment/MAP
15:15 – 15:45	6. Update on the GEF Special Climate Change Fund Project
15:45 – 16:15	<i>Coffee Break</i>
16:15 – 17:15	7. Discussion: Timeline for completion of the development phase
17:15 – 17:30	8. Conclusions of the first regional consultation
17:30	<i>Closing of the consultation</i>

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Annex 3
List of consultations organized to date in the context of the MedProgramme

Project/programme	Type of consultation/activity	Location	Dates
Child Project 1.1	Regional Workshop on "Improved and Harmonized POPs Inventories and Action Plan" organized by the Stockholm Convention Regional Centre for North Africa	Rabat, Morocco	30 October to 3 November 2017
Child Project 1.1	Technical mission to Lebanon to identify potential interventions and sites for PCBs disposal/remediation	Beirut, Tripoli, Lebanon	17 - 21 December 2017
Child Project 1.1	Technical mission to Tunisia to identify potential interventions and sites for PCBs and mercury disposal/remediation	Tunis, Tunisia	31 January - 2 February 2018
Child Project 1.1	Technical mission to Algeria to identify potential interventions and sites for PCBs and mercury disposal/remediation	Algiers, Tizi Ouzu, Algeria	12 - 15 February 2018
Child Project 1.2	Meeting mission with promotor and GEF focal point in relation to upgrading and extension of 10 WWTP	Tunis, Tunisia	23-24 March 2017
Child Project 1.2	Technical mission to meet the promotor and GEF focal point in relation to COELMA project	Tetouan, Morocco	24-26 July 2017
Child Project 1.2	Meeting with promoter, GEF focal point and project consultants to kick off technical assistance for project preparation	Rabat, Morocco	5 February 2018
Child Project 1.2	Meeting with promoter, GEF focal point and stakeholders to present COELMA project	Tétouan, Morocco	6 February 2018
Child Project 1.2	Stakeholder consultation and pre-appraisal of the project by EIB	Tripoli, Lebanon	On going
Child Project 1.2	Feasibility studies are on-going for the three projects. A baseline data have been collected and available information on the institutional/policy framework has been prepared for Alexandria West WWTP.	Egypt	On going
Child Project 2.1	Sub-regional consultation with the Adriatic countries	Tivat, Montenegro	26 September 2017
Child Project 2.1	Sub-regional consultation with the Southern Mediterranean countries	Rabat, Morocco	12 - 13 December 2017
SCCF Project	First Regional Consultation	Rabat, Morocco	13 - 14 December 2017
SCCF Project	National consultation with Morocco	Rabat, Morocco	8 - 9 February 2018

Annex 3

List of consultations organized to date in the context of the MedProgramme

Project/programme	Type of consultation/activity	Location	Dates
SCCF Project	National consultation with Montenegro	Podgorica, Montenegro	12 – 13 February 2018
MedProgramme	First Regional Consultation	Athens, Greece	7 – 8 March 2018

Annex 4
Overview of the national and regional interventions planned for all countries in the MedProgramme

(ATTACHED)

Annex 5
Matrix of responsibilities of the executing partners for the MedProgramme

MedProgramme – Overview of responsibilities for execution

Partner countries: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, State of Libya, Montenegro, Morocco, and Tunisia

Lead GEF Agency: UN Environment

Other GEF Agency: EBRD

Executing Partners: UN Environment/MAP, EIB, UNESCO-IHP, GWP-Med, WWFMedPO, IUCN

Component 1: Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

Type of activity	Plan Bleu	SCP/RAC	MED POL	UN Environment MAP
Disposal		✓	✓	
Remediation			✓	
Prevention		✓		
Other		✓	✓	
Measuring progress to impacts	✓		✓	
Programme-wide communication and knowledge management				✓

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

Type of activity	EIB	MED POL	UN Environment MAP
WWTP extension and upgrade (incl. reuse)	✓		
Depollution of catchment areas	✓		
Reduction and control of industrial pollution	✓		
Reduction of mercury releases	✓		
Other activities	✓		
Environmental standards		✓	
Programme-wide communication and knowledge management			✓

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Type of activity	EBRD	UN Environment MAP
Water management systems upgrades	✓	
Reduction and prevention of POPs	✓	
Other activities	✓	
Dissemination/ replication	✓	
Programme-wide communication and knowledge management		✓

Annex 5
Matrix of responsibilities of the executing partners for the MedProgramme

Component 2: Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

Type of activity	GWP-Med	Plan Bleu	PAP/RAC	UNESCO IHP	UN Environment MAP
Coastal zone management	✓	✓	✓		
Management of Coastal Aquifers and Related Ecosystems				✓	
Programme-wide communication and knowledge management					✓

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

Type of activity	GWP-Med	UN Environment MAP
Nexus assessments, related capacity building and institutional support	✓	
Identification of bankable nexus interventions	✓	
Communication and outreach	✓	✓
Programme-wide communication and knowledge management		✓

Component 3: Protecting Marine Biodiversity

Child Project 3.1 “Management Support and Expansion of Marine Protected Areas in Libya”

Type of activity	IUCN	SPA/RAC	WWF MedPO	UN Environment MAP
Inventory of marine and coastal sites of conservation interest in Libya	✓	✓		
Strengthening the governance of marine protected areas		✓		
Reduction and control of industrial pollution				
Effective management of MPAs	✓	✓	✓	
Civil society engagement	✓	✓	✓	
Capacity building	✓	✓	✓	
Awareness raising and communication	✓	✓	✓	✓
Programme-wide communication and knowledge management				✓

Annex 5
Matrix of responsibilities of the executing partners for the MedProgramme

Component 4: Knowledge Management and Programme Coordination

Child Project 4.1 “Mediterranean Sea Basin Environment and Climate Regional Support Project”

Type of activity	UN Environment MAP	All partners
Knowledge sharing and dissemination of results	✓	✓
Coordination and synergies	✓	

GEF Special Climate Change Fund (SCCF) Project²

SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas”

Partner countries: Albania, Algeria, State of Libya, Montenegro, Morocco and Tunisia

GEF Agency: UN Environment

Executing partners : UN Environment/MAP, PAP/RAC, Plan Bleu, GWP-Med

Type of activity	GWP-Med	PAP/RAC	Plan Bleu	UN Environment MAP
Stakeholder engagement, capacity building and cooperation	✓	✓	✓	
Mainstreaming climate change adaptation in coastal planning		✓	✓	
Access to financing mechanisms for climate change adaptation	✓			
Knowledge management, communication and dissemination				✓

² The SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas” was approved after the adoption of the MedProgramme as an external intervention. However, it was agreed with the GEF Secretariat and the participating countries that the project, would be executed as part of the Programme to maximize synergies and efficient use of resources.

ALBANIA - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> • Potential for PCBs disposal considered (for later phase of project implementation)
<i>Remediation</i>	None
<i>Prevention</i>	None
<i>Other activities</i>	<ul style="list-style-type: none"> • Support for the PCBs inventory considered (pending confirmation of the need) • Capacity building for ESM of PCBs
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge, for consideration in the Barcelona Convention framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

ALBANIA - Summary of national and regional activities in the MedProgramme

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • National assessment to support implementation of the ICZM Protocol • Coast Day central celebration dedicated to coastal aquifers
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • For the Buna - Bojana Transboundary Coastal Aquifer (in cooperation with Montenegro): <ul style="list-style-type: none"> ○ In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology ○ Identification and evaluation of coastal aquifer and ecosystems services ○ Analyses of saline intrusion processes ○ National Dialogues identifying potential conjunctive management solutions ○ Preparation of coastal aquifer management plan ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Participation in the sub-regional training in support of ICZM Protocol implementation • Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast • Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis • Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ○ Regional Assessment of Submarine Groundwater Discharges ○ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) • Joint regional training modules on conjunctive surface water and groundwater management • Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

ALBANIA - Summary of national and regional activities in the MedProgramme

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities	(specific countries to be identified during the 2018 consultations)
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries’ capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

ALBANIA - Summary of national and regional activities in the MedProgramme

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 "Mediterranean Sea Basin Environmental and Climate Regional Support Project"

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project "Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas"

Regional activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers • Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for climate change adaptation</i>	<ul style="list-style-type: none"> • Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments • Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none"> • Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

ALGERIA - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> • PCBs disposal (sites and quantities to be determined) • Disposal of POPs others than PCBs (sites and quantities to be determined)
<i>Remediation</i>	<ul style="list-style-type: none"> • Small-scale interventions considered for priority sites contaminated with POPs/ PCBs
<i>Prevention</i>	<ul style="list-style-type: none"> • Options for prevention of new POPs assessed
<i>Other activities</i>	<ul style="list-style-type: none"> • Support for PCBs dynamic inventory considered (pending confirmation of the need) • Capacity building for ESM of POPs/ PCBs
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge, for consideration in the Barcelona Convention framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

ALGERIA - Summary of national and regional activities in the MedProgramme

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • National assessment to support ratification of the ICZM Protocol • Stakeholder consultation to support ratification of the ICZM Protocol • Coast Day central celebration
<i>Management of Coastal Aquifers and Related Ecosystems</i>	None
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Participation in the sub-regional training in support of ICZM Protocol implementation • Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast • Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis • Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ◦ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) • Joint regional training modules on conjunctive surface water and groundwater management • Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities (specific countries to be identified during the 2018 consultations)	
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
<i>Communication and outreach</i>	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	

ALGERIA - Summary of national and regional activities in the MedProgramme

<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries' capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 "Mediterranean Sea Basin Environmental and Climate Regional Support Project"

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project "Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas"

Regional activities	
<i>Stakeholder engagement,</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers

ALGERIA - Summary of national and regional activities in the MedProgramme

<i>capacity building and cooperation</i>	<ul style="list-style-type: none">• Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for climate change adaptation</i>	<ul style="list-style-type: none">• Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments• Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none">• Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries• Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy• Contribution of data and active use of the MedProgramme Knowledge Management Platform• Participation in IW LEARN events

BOSNIA AND HERZEGOVINA - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	None
<i>Remediation</i>	None
<i>Prevention</i>	None
<i>Other activities</i>	None
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge, for consideration in the Barcelona Convention framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

BOSNIA AND HERZEGOVINA - Summary of national and regional activities in the MedProgramme

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 "Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection"

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • National assessment to support ratification of the ICZM Protocol • Stakeholder consultation to support ratification of the ICZM Protocol • National consultation to support the launch of an Inter-Ministerial Committee
<i>Management of Coastal Aquifers and Related Ecosystems</i>	None
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Participation in the sub-regional training in support of ICZM Protocol implementation • Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast • Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis • Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ◦ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) • Joint regional training modules on conjunctive surface water and groundwater management • Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

BOSNIA AND HERZEGOVINA - Summary of national and regional activities in the MedProgramme

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities (specific countries to be identified during the 2018 consultations)	
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries’ capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

BOSNIA AND HERZEGOVINA - Summary of national and regional activities in the MedProgramme

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 "Mediterranean Sea Basin Environmental and Climate Regional Support Project"

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none">• Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...)• Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.)• Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects• Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none">• Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

EGYPT - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	None
<i>Remediation</i>	None
<i>Prevention</i>	<ul style="list-style-type: none"> • Mercury prevention options considered (pending confirmation of eligibility) • Options for prevention of new POPs considered (pending country’s confirmation of interest)
<i>Other activities</i>	<ul style="list-style-type: none"> • Support for PCBs inventory considered (pending confirmation of the need)
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

National activities	
<i>WWTP extension and upgrade (incl. reuse)</i>	<ul style="list-style-type: none"> • Extension in the capacity and upgrade treatment level for Alexandria West Wastewater Treatment Plant, including sludge treatment • Assessment of demand and definition of the technical options to achieve the required level of wastewater and sludge treatment in WWTPs to meet the requirements for reuse as well as minimize the operation costs • Rehabilitation and extension of existing WWTPs and rehabilitation of drains’ structures – Bahr Al Baqar drain • Rehabilitation and possibly extension of several wastewater treatment plants currently inefficient - Nile catchment area
<i>Depollution of catchment areas</i>	<ul style="list-style-type: none"> • Definition of technical options for investment in depollution infrastructure (WWTP, solid waste landfills etc.) • Identification of point and diffuse sources of pollution at the catchment level to prioritise the environmental and health risks • Construction of new WWTPs and solid waste landfills – Bahr Al Baqar drain
<i>Reduction and control of industrial pollution</i>	<ul style="list-style-type: none"> • Assessment of industrial pollution sources discharging in sewer network - Alexandria West Wastewater Treatment Plant, in Bahr Al Baqar drain and in the Nile catchment area

EGYPT - Summary of national and regional activities in the MedProgramme

National activities	
<i>Reduction of mercury releases</i>	None
<i>Other activities</i>	<ul style="list-style-type: none"> • Capacity building
Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge management, for consideration in the Barcelona Convention framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Preparation of Egypt’s National ICZM Strategy, relying on the implementation of <i>Climagine</i> participatory approach <ul style="list-style-type: none"> ○ Scoping to assess existing state and to agree on key issues and priorities ○ Establishing governance mechanism for planning ○ Engaging stakeholders through Climagine ○ Diagnostic analysis to deeply understand the root causes of the key issues and to build argumentation for policy solutions ○ Validation and developing indicators with Climagine ○ Future scenarios and the agreement on the vision ○ Designing the future strategy ○ Validating proposed measures and finalizing Climagine and the National ICZM Strategy • National assessment to support ratification of the ICZM Protocol • Stakeholder consultation to support ratification of the ICZM Protocol
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • For the North West Coast Aquifer: <ul style="list-style-type: none"> ○ In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology ○ Identification and evaluation of coastal aquifer and ecosystems services

EGYPT - Summary of national and regional activities in the MedProgramme

	<ul style="list-style-type: none"> ○ Analyses of saline intrusion processes ○ National Dialogues identifying potential conjunctive management solutions ○ Preparation of coastal aquifer management plan ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> ● Participation in the sub-regional training in support of ICZM Protocol implementation ● Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast ● Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis ● Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> ● Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ○ Regional Assessment of Submarine Groundwater Discharges (Activities under Output 2.4) ○ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) ● Joint regional training modules on conjunctive surface and groundwater management (Activity 2.2.3) ● Gender training on sex-disaggregated water data collection (Activity 2.2.4)
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> ● Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy ● Contribution of data and active use of the MedProgramme Knowledge Management Platform ● Participation in IW LEARN events

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities	(specific countries to be identified during the 2018 consultations)
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> ● Nexus assessments conducted ● Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout ● Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) ● Training events on the nexus approach delivered to national and local administrations and other key stakeholders ● Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
<i>Communication and outreach</i>	<ul style="list-style-type: none"> ● Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas

EGYPT - Summary of national and regional activities in the MedProgramme

Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries' capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 "Mediterranean Sea Basin Environmental and Climate Regional Support Project"

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

LEBANON - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> PCBs disposal (up to 140 tonnes stocks, 90 tonnes dichlorination and 360 tonnes in use equipment; sites to be specified)
<i>Remediation</i>	<ul style="list-style-type: none"> Remediation interventions considered for priority sites (PCBs contamination) – Bauchrieh, Qadisha and on contaminated sites by PFOS-PFAS (survey and sampling)
<i>Prevention</i>	<ul style="list-style-type: none"> Options for prevention of mercury assessed (1. “Hospitals Free of Mercury” – Proposed Target: 1 tonne mercury prevented. 2. “Dentists Free of Mercury” – No target yet.) Options for prevention of new POPs assessed (1. “PFOS-PFAS Free Fire-Fighting” and/or 2. “HBCD Free EPS/XPS” (pending confirmation of Ministry’s agreement, eligibility and further assessment)).
<i>Other activities</i>	
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> TDA update Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy Contribution of data and active use of the MedProgramme Knowledge Management Platform Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

National activities	
<i>WWTP extension and upgrade (incl. reuse)</i>	None
<i>Depollution of catchment areas</i>	<ul style="list-style-type: none"> Technical assistance for wastewater system operation Definition of water resources management options with all stakeholders at the watershed level to guarantee sustainable use of resources
<i>Reduction and control of industrial pollution</i>	<ul style="list-style-type: none"> Assessment of industrial pollution sources, data-base and GIS
<i>Reduction of mercury releases</i>	None
<i>Other activities</i>	<ul style="list-style-type: none"> Improve environmental control & monitoring capacity by setting up a monitoring unit
Regional activities	

LEBANON - Summary of national and regional activities in the MedProgramme

<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge management, for consideration in the BC framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Preparation of Lebanon’s National ICZM Strategy, relying on the implementation of <i>Climagine</i> participatory approach <ul style="list-style-type: none"> ○ Scoping to assess existing state and to agree on key issues and priorities ○ Establishing governance mechanism for planning ○ Engaging stakeholders through <i>Climagine</i> ○ Diagnostic analysis to deeply understand the root causes of the key issues and to build argumentation for policy solutions ○ Validation and developing indicators with <i>Climagine</i> ○ Future scenarios and the agreement on the vision ○ Designing the future strategy ○ Validating proposed measures and finalizing <i>Climagine</i> and the National ICZM Strategy • Preparation of the Integrated Resources Management Plan for the Damour Region, applying the Integrative Methodological Framework developed under the MedPartnership, and the <i>Climagine</i> participatory approach <ul style="list-style-type: none"> ○ Scoping report to describe the generally understood conditions of the plan area and to agree on priorities ○ Establishing governance mechanism for planning ○ Engaging stakeholders through <i>Climagine</i> ○ Diagnostic analysis to deeply understand the root causes of the key issues and to build argumentation for policy solutions ○ Validation and developing indicators with <i>Climagine</i> ○ Future scenarios and the agreement on the vision ○ Designing the future plan

LEBANON - Summary of national and regional activities in the MedProgramme

	<ul style="list-style-type: none"> ○ Validating proposed measures and finalizing Climagine and the IRM Plan ● National assessment to support implementation of the ICZM Protocol ● Stakeholder consultation to support implementation of the ICZM Protocol ● National consultation to support the launch of an Inter-Ministerial Committee
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> ● For the Damour Coastal Aquifer: <ul style="list-style-type: none"> ○ In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology ○ Identification and evaluation of coastal aquifer and ecosystems services ○ Analyses of saline intrusion processes ○ National Dialogues identifying potential conjunctive management solutions ○ Preparation of coastal aquifer management plan ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> ● Participation in the sub-regional training in support of ICZM Protocol implementation ● Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast ● Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis ● Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> ● Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ○ Regional Assessment of Submarine Groundwater Discharges (Activities under Output 2.4) ○ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) ● Joint regional training modules on conjunctive surface water and groundwater management ● Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> ● Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy ● Contribution of data and active use of the MedProgramme Knowledge Management Platform ● Participation in IW LEARN events

LEBANON - Summary of national and regional activities in the MedProgramme

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities (specific countries to be identified during the 2018 consultations)	
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries’ capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 “Mediterranean Sea Basin Environmental and Climate Regional Support Project”

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice

LEBANON - Summary of national and regional activities in the MedProgramme

Coordination and synergies

- Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

LIBYA - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> National assessment to support ratification of the ICZM Protocol
<i>Management of Coastal Aquifers and Related Ecosystems</i>	None
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> Participation in the sub-regional training in support of ICZM Protocol implementation Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) Joint regional training modules on conjunctive surface water and groundwater management Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy Contribution of data and active use of the MedProgramme Knowledge Management Platform Participation in IW LEARN events

LIBYA - Summary of national and regional activities in the MedProgramme

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities (specific countries to be identified during the 2018 consultations)	
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries’ capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

Component 3. Protecting Marine Biodiversity

Child Project 3.1 “Management Support and Expansion of Marine Protected Areas in Libya”

National activities
<p><i>Inventory of marine and coastal sites of conservation interest in Libya</i></p> <ul style="list-style-type: none"> • At least one field survey conducted to identify and characterize marine and coastal sites of conservation interest in Libya, and submitted for approval • Marine megafauna monitoring performed in at least two sites
<p><i>Strengthening the governance of marine protected areas</i></p> <ul style="list-style-type: none"> • Libya’s Strategy on Marine Protected Areas (MPAs) is developed and submitted for approval • A draft law on MPAs is development and submitted for approval • A governance structure for MPAs in Libya is designed and made operational in at least one MPA

LIBYA - Summary of national and regional activities in the MedProgramme

<i>Effective management of MPAs</i>	<ul style="list-style-type: none"> • MPA management unit established in at least one on-site • MPA management plan elaborated for at least one site
<i>Civil society engagement</i>	<ul style="list-style-type: none"> • One CSO participatory platform established to encourage CSO participation in the management of MPAs • At least five CSOs involved in MPA establishment and management participatory processes
<i>Capacity building</i>	<ul style="list-style-type: none"> • At least four training events on MPA governance, sustainable management, stakeholder engagement and Marine megafauna monitoring organized for conservation groups, representatives of fisheries and tourism, and government stakeholders
<i>Awareness raising and communication</i>	<ul style="list-style-type: none"> • At least four awareness raising campaigns designed and launched, targeting the general public, fisheries, tourism, coastal management and/or urban planners • Engagement in the MedProgramme Knowledge Strategy, including sharing of lessons learned, providing data to feed the Knowledge Management platform • Participation in IW LEARN events, communities of practice, etc.
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW communities of practice

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 “Mediterranean Sea Basin Environmental and Climate Regional Support Project”

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

LIBYA - Summary of national and regional activities in the MedProgramme

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas”

Regional activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers • Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for climate change adaptation</i>	<ul style="list-style-type: none"> • Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments • Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none"> • Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

MONTENEGRO - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> • Potential for PCBs disposal considered (coordination with GEF/ UNDP) • Assessment study for Bijela Shipyard
<i>Remediation</i>	None
<i>Prevention</i>	None
<i>Other activities</i>	None
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge, for consideration in the Barcelona Convention framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

MONTENEGRO - Summary of national and regional activities in the MedProgramme

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	None (synergy with SCCF Project, where climate change adaptation will be mainstreamed into local coastal planning processes for the Kotor Bay area)
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • For the Buna - Bojana Transboundary Coastal Aquifer (in cooperation with Albania): <ul style="list-style-type: none"> ○ In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology (Activity 2.1.1) ○ Identification and evaluation of coastal aquifer and ecosystems services (Activity 2.1.2) ○ Analyses of saline intrusion processes (Activity 2.1.3) ○ National Dialogues identifying potential conjunctive management solutions (Activities under Output 2.4) ○ Preparation of coastal aquifer management plan (Activities under Output 2.5) ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained (Activities under Output 2.6)
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Participation in the sub-regional training in support of ICZM Protocol implementation • Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast • Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis • Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ○ Regional Assessment of Submarine Groundwater Discharges ○ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) • Joint regional training modules on conjunctive surface water and groundwater management • Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

MONTENEGRO - Summary of national and regional activities in the MedProgramme

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities	(specific countries to be identified during the 2018 consultations)
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries’ capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

MONTENEGRO - Summary of national and regional activities in the MedProgramme

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 “Mediterranean Sea Basin Environmental and Climate Regional Support Project”

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas”

National activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<p>In the Kotor Bay area:</p> <ul style="list-style-type: none"> • A gender-sensitive climate risk assessment undertaken through a stakeholder-led process to provide sufficient basis for building coastal resilience to climate change and sustainability • Solutions identified for building coastal resilience and sustainability through stakeholder involvement, using the participatory approach methodology Climagine
<i>Mainstreaming climate change adaptation in coastal planning</i>	<ul style="list-style-type: none"> • Preparation of guidelines on mainstreaming climate change adaptation in the appropriate local coastal planning processes in the Kotor Bay area (synergy with CP 2.1 of the MedProgramme) • Evaluation of the legal, policy and institutional barriers for implementing solutions to mitigate climate risks
Regional activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers • Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for</i>	<ul style="list-style-type: none"> • Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments

MONTENEGRO - Summary of national and regional activities in the MedProgramme

<i>climate change adaptation</i>	<ul style="list-style-type: none">• Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none">• Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries• Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy• Contribution of data and active use of the MedProgramme Knowledge Management Platform• Participation in IW LEARN events

MOROCCO - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> Mercury disposal options considered – COELMA, Tétouan (in coordination with EIB/ Child 1.2)
<i>Remediation</i>	None
<i>Prevention</i>	<ul style="list-style-type: none"> Options for prevention of mercury assessed (1. “Hospitals Free of Mercury” – Possible target: 1 tonne mercury prevented. 2. “Dentists Free of Mercury” – No target yet (pending confirmation of Ministry’s agreement on pilot). Options for prevention of new POPs assessed (1. “PFOS-PFAS Free Fire-Fighting”. 2. “HBCD Free EPS/XPS” and/or 3. “SCCP Free PVC” or “SCCP Free Lubricants” (pending confirmation of Ministry’s agreement, eligibility and further assessment.
<i>Other activities</i>	None
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> TDA update Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy Contribution of data and active use of the MedProgramme Knowledge Management Platform Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

National activities	
<i>WWTP extension and upgrade (incl. reuse)</i>	None
<i>Depollution of catchment areas</i>	<ul style="list-style-type: none"> Decommissioning of COELMA chlor-alkali plant in Tétouan, removal of mercury stocks (in conjunction with Child 1.1), soil and sediment decontamination in valley where applicable
<i>Reduction and control of industrial pollution</i>	None
<i>Reduction of mercury releases</i>	<ul style="list-style-type: none"> Decommissioning of COELMA chlor-alkali plant and potential process conversion to membrane process
<i>Other activities</i>	<ul style="list-style-type: none"> Capacity building

MOROCCO - Summary of national and regional activities in the MedProgramme

Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> Development of regional standards on desalination, aquaculture and wastewater and sludge management, for consideration in the BC framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy Contribution of data and active use of the MedProgramme Knowledge Management Platform Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> Preparation of the ICZM Plan for the Tanger-Tétouan-Al Hociema Region, relying on the implementation of <i>Climagine</i> participatory approach (synergy with SCCF Project, where climate change adaptation will be mainstreamed into this plan) <ul style="list-style-type: none"> Scoping report to describe the generally understood conditions of the plan area and to agree on priorities Establishing governance mechanism for planning Engaging stakeholders through <i>Climagine</i> Diagnostic analysis to deeply understand the root causes of the key issues and to build argumentation for policy solutions Validation and developing indicators with <i>Climagine</i> Future scenarios and the agreement on the vision Designing the future plan Validating proposed measures and finalizing <i>Climagine</i> and the ICZM Plan National assessment to support implementation of the ICZM Protocol Stakeholder consultation to support implementation of the ICZM Protocol Coast Day central celebration dedicated to coastal resilience
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> For the Rhiss Nekkour Coastal Aquifer: <ul style="list-style-type: none"> In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology Identification and evaluation of coastal aquifer and ecosystems services Analyses of saline intrusion processes

MOROCCO - Summary of national and regional activities in the MedProgramme

	<ul style="list-style-type: none"> ○ National Dialogues identifying potential conjunctive management solutions ○ Preparation of coastal aquifer management plan ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> ● Participation in the sub-regional training in support of ICZM Protocol implementation ● Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast ● Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis ● Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> ● Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ○ Regional Assessment of Submarine Groundwater Discharges ○ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) ● Joint regional training modules on conjunctive surface water and groundwater management ● Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> ● Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy ● Contribution of data and active use of the MedProgramme Knowledge Management Platform ● Participation in IW LEARN events

Child Project 2.2 “Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus”

National activities	(specific countries to be identified during the 2018 consultations)
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> ● Nexus assessments conducted ● Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout ● Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) ● Training events on the nexus approach delivered to national and local administrations and other key stakeholders ● Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
<i>Communication and outreach</i>	<ul style="list-style-type: none"> ● Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	

MOROCCO - Summary of national and regional activities in the MedProgramme

<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries' capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.

Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 "Mediterranean Sea Basin Environmental and Climate Regional Support Project"

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

MOROCCO - Summary of national and regional activities in the MedProgramme

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas”

National activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<p>In the Tanger-Tétouan-Al Hociema region:</p> <ul style="list-style-type: none"> • A gender-sensitive climate risk assessment undertaken through a stakeholder-led process to provide sufficient basis for building coastal resilience to climate change and sustainability • Solutions identified for building coastal resilience and sustainability through stakeholder involvement, using the participatory approach methodology Climagine
<i>Mainstreaming climate change adaptation in coastal planning</i>	<ul style="list-style-type: none"> • Preparation of guidelines on mainstreaming climate change adaptation in the coastal plan for the Tanger-Tétouan-Al Hociema region (synergy with CP 2.1 of the MedProgramme) • Evaluation of the legal, policy and institutional barriers for implementing solutions to mitigate climate risks
Regional activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers • Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for climate change adaptation</i>	<ul style="list-style-type: none"> • Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments • Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none"> • Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

TUNISIA - Summary of national and regional activities in the MedProgramme

Component 1. Reduction of Land Based Pollution in Priority Coastal Hotspots, and Measuring Progress to Impacts

Child Project 1.1 “Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hotspots and Measuring Progress to Impacts”

National activities	
<i>Disposal</i>	<ul style="list-style-type: none"> • PCBs disposal (sites and quantities to be determined) • Disposal of POPs others than PCBs (sites and quantities to be determined) • Mercury disposal options assessed – SNCPA, Kasserine (in coordination with EIB/ Child 1.2)
<i>Remediation</i>	<ul style="list-style-type: none"> • Small-scale interventions considered for priority sites contaminated with POPs/ PCBs
<i>Prevention</i>	<ul style="list-style-type: none"> • Mercury prevention options assessed (1. “Hospital Free of Mercury” – Possible target: 1 tonne mercury prevented. 2. “Dentists Free of Mercury” – no target yet (pending confirmation of Ministry’s agreement on pilot). • Options for prevention of new POPs assessed (1. “PFOS-PFAS Free Fire-Fighting”. 2. “HBCB Free EPS/XPS” and/or 3. “SCCP Free Lubricants” (pending confirmation of Ministry’s agreement, eligibility and further assessment).
<i>Other activities</i>	None
Regional activities	
<i>Measuring progress to impacts</i>	<ul style="list-style-type: none"> • TDA update • Improved integration and sharing of the existing research and monitoring data
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.2 “Mediterranean Pollution Hotspots Investment Project”

National activities	
<i>WWTP extension and upgrade (incl. reuse)</i>	<ul style="list-style-type: none"> • Extension and upgrade of 10 wastewater treatment plants (WWTP) in different cities nationwide including feasibility studies •
<i>Depollution of catchment areas</i>	<ul style="list-style-type: none"> • Site mercury depollution – SNCPA Kasserine • Preparation of wastewater management masterplans in regions concerned by the 10 WWTP
<i>Reduction and control of industrial pollution</i>	None
<i>Reduction of mercury releases</i>	<ul style="list-style-type: none"> • Mercury disposal options assessed – SNCPA, Kasserine (in coordination with EIB/ Child 1.1) • Site mercury depollution – SNCPA Kasserine

TUNISIA - Summary of national and regional activities in the MedProgramme

National activities	
<i>Other activities</i>	None
Regional activities	
<i>Environmental standards</i>	<ul style="list-style-type: none"> • Development of regional standards on desalination, aquaculture and wastewater and sludge management, for consideration in the BC framework
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events, IW and CW communities of practice

Child Project 1.3 “Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC)”

Due to the dynamic nature of the potential project pipeline for this Child Project, it is not possible at this stage to identify specific sites for EBRD’s interventions. Activities will be agreed upon with the countries in due course, based on EBRD’s investment criteria and the expected results set forth in the Programme Framework Document for the MedProgramme.

Component 2. Enhancing Sustainability and Climate Resilience in the Coastal Zone

Child Project 2.1 “Mediterranean Coastal Zones Climate Resilience, Water Security and Habitat Protection”

National activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • National assessment to support ratification of the ICZM Protocol • Stakeholder consultation to support ratification of the ICZM Protocol • National consultation to support the launch of an Inter-Ministerial Committee
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • For the Ras Jebel Coastal Aquifer: <ul style="list-style-type: none"> ○ In-depth assessment and characterization of the aquifer through the application of a multi-disciplinary indicator-based methodology ○ Identification and evaluation of coastal aquifer and ecosystems services ○ Analyses of saline intrusion processes ○ National Dialogues identifying potential conjunctive management solutions ○ Preparation of coastal aquifer management plan ○ Aquifer monitoring multi-purpose networks and protocols designed and field tested, and responsible personnel trained
Regional activities	
<i>Coastal Zone Management</i>	<ul style="list-style-type: none"> • Participation in the sub-regional training in support of ICZM Protocol implementation • Identification of national capacities, strengths and gaps regarding coastal observation, to feed into a conceptual framework and structure for a coastal observation system to support the implementation of

TUNISIA - Summary of national and regional activities in the MedProgramme

	<p>ICZM processes at national and local levels and to monitor progress towards achievement of good environmental status of the coast</p> <ul style="list-style-type: none"> • Access to and support for the MedOpen online training modules on ICZM, adaptation to climate change, building coastal resilience, marine spatial planning, and land use change analysis • Participation in annual Coast Day events
<i>Management of Coastal Aquifers and Related Ecosystems</i>	<ul style="list-style-type: none"> • Groundwater submarine discharge-related activities: <ul style="list-style-type: none"> ◦ Regional Assessment of Submarine Groundwater Discharges ◦ Two regional workshops for training and capacity-building on submarine groundwater discharge (English and French speaking countries) • Joint regional training modules on conjunctive surface water and groundwater management • Gender training on sex-disaggregated water data collection
<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events

Child Project 2.2 "Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem Nexus"

National activities (specific countries to be identified during the 2018 consultations)	
<i>Nexus assessments, related capacity building and institutional support</i>	<p>In three priority coastal areas:</p> <ul style="list-style-type: none"> • Nexus assessments conducted • Nexus strategies or action plans developed in collaboration with relevant stakeholders, with gender mainstreamed throughout • Establishment of nexus committees (building on new or existing interministerial or cross-sectoral committees) • Training events on the nexus approach delivered to national and local administrations and other key stakeholders • Nexus demonstration activities designed and implemented to reduce tension among the competing water uses identified in the nexus assessment
Communication and outreach	<ul style="list-style-type: none"> • Engagement in the national Information Communication and Outreach Strategy in the three priority coastal areas
Regional activities	
<i>Nexus assessments, related capacity building and institutional support</i>	<ul style="list-style-type: none"> • Three nexus regional dialogue meetings and one partnership conference organized to build countries' capacity on the nexus approach and foster relationships with potential financiers
<i>Identification of bankable nexus interventions</i>	<ul style="list-style-type: none"> • Three project fiches prepared for priority nexus interventions and/or investments in collaboration with interested countries and submitted for consideration to governments and international financing institutions

TUNISIA - Summary of national and regional activities in the MedProgramme

<i>Programme-wide communication and knowledge management</i>	<ul style="list-style-type: none"> • Engagement in the Regional Information Communication and Outreach Strategy for CP 2.2 • Engagement in the MedProgramme Knowledge Management Strategy and replication activities • Participation in IW LEARN events, communities of practice, etc.
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Component 4. Knowledge Management and Programme Coordination

Child Project 4.1 “Mediterranean Sea Basin Environmental and Climate Regional Support Project”

Regional activities	
<i>Knowledge sharing and dissemination of results</i>	<ul style="list-style-type: none"> • Cooperation in the identification and sharing of lessons learned and successful policies and practices (in support of the preparation of GEF Experience Notes, scientific publications, ...) • Contribution of thematic content for communications on MedProgramme results, designed for modern dissemination tools (programme website, videos, social media campaigns, international media coverage, YouTube, etc.) • Regular use of the MedProgramme Bulletin (published every six months) to remain informed of the results of all Child Projects • Contribution to IW LEARN website and events, as well as global IW and CW communities of practice
<i>Coordination and synergies</i>	<ul style="list-style-type: none"> • Participation in yearly stocktaking meetings with all Child Projects and countries, implementing and execution agencies, GEF, and other regional stakeholders, in view of generating synergies among the Child Projects

TUNISIA - Summary of national and regional activities in the MedProgramme

GEF Special Climate Change Fund Project (SCCF Project)

SCCF Project “Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas”

Regional activities	
<i>Stakeholder engagement, capacity building and cooperation</i>	<ul style="list-style-type: none"> • Training on climate change adaptation solutions, including ecosystem-based solutions, for technical experts and decision makers • Sub-regional workshops for international finance institutions, and the banking, insurance and private sectors to enhance the use of coastal climate risk and vulnerability in investment decisions
<i>Access to financing mechanisms for climate change adaptation</i>	<ul style="list-style-type: none"> • Development of methodological guidelines on preparation of financing plans for climate change adaptation in coastal areas including domestic, international and private sector investments • Countries invited to participate in the development of a full-fledged project proposal to access international financing support for climate change adaptation in coastal zones
<i>Knowledge management, communication and coordination</i>	<ul style="list-style-type: none"> • Regional meeting to share knowledge and lessons learned, and to discuss opportunities for replication at the national level in additional countries • Sharing of best practices as contribution to MedProgramme-wide Knowledge Management Strategy • Contribution of data and active use of the MedProgramme Knowledge Management Platform • Participation in IW LEARN events



The Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security

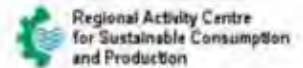
Report of the Second Regional Consultation

Paris, France
20 and 21 September 2018



Photo credit : Chloé Meyer (UNESCO IHP) and Lucilla Minelli (UN Environment/MAP)

Final version 25 October 2018



MedProgramme Report of the Second Regional Consultation (Paris, France – 20 and 21 September 2018)

Conclusions

1. The GEF Operational Focal Points (or their representatives) of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro and Tunisia confirmed the importance of the MedProgramme for their countries and for the region, and endorsed the proposals of UN Environment/MAP on (i) the timeline for finalization of the Child Projects of the MedProgramme and their submission to the GEF Secretariat for endorsement; (ii) the development of the overarching strategies for Knowledge Management and Gender Mainstreaming; and (iii) the arrangements for execution of the MedProgramme through the MedProgramme Coordinating Unit (MedPCU).
2. Following final comments from the GEF Operational Focal Points and the UN Environment Project Review Committee (PRC), Child Project 2.1 and the SCCF Project will be submitted to the GEF for endorsement in October 2018.
3. Child Projects 1.1, 1.2, 1.3, 2.2, 3.1 and 4.1 will be submitted to the GEF for endorsement between October and December 2018.

Next steps

	Action item	Responsibility	Deadline
1.	Circulate links to project documents and substantive annexes for Child Project 2.1 and the SCCF Project via DropBox	UN Environment/MAP	21/09/2018
2.	Circulate link to presentations via DropBox	UN Environment/MAP	21/09/2018
3.	Provide deadlines for comments on Child Project 2.1 and the SCCF Project	UN Environment/MAP	24/09/2018
4.	Initiate discussions with the GEF Operational Focal Points on co-financing for Child Projects 1.1, 2.2 and 3.1	UN Environment/MAP	24/09/2018
5.	Prepare and circulate draft report of the 2 nd Regional Consultation	UN Environment/MAP	28/09/2018
6.	Provide the list of national focal points for the UN Environment/MAP Regional Activity Centres to GEF Operational Focal Points	UN Environment/MAP	28/09/2018
7.	Provide Knowledge Management and Gender Mainstreaming Strategies to GEF Operational Focal Points and all partners for comments	UN Environment/MAP	08/10/2018
8.	Provide advanced draft of Child Project 4.1 to GEF Operational Focal Points and all partners for comments	UN Environment/MAP	15/10/2018
9.	Submit co-financing letters for Child Projects 1.1, 2.2 and 3.1	GEF Operational Focal Points	31/10/2018

Background information

1. The Second Regional Consultation was organized by the Coordinating Unit of the UN Environment Mediterranean Action Plan (UN Environment/MAP) and the implementing and executing agencies of the MedProgramme to update the GEF Operational Focal Points about progress on the preparation of the Child Projects, to present the main features of the MedProgramme’s overarching strategies for Knowledge Management and Gender Mainstreaming, and to agree on the next steps for the finalization of all project documents prior to their submission to the GEF for endorsement. The agenda of the Second Regional Consultation is provided in Annex 1.
2. The objective of the MedProgramme is to accelerate the implementation of agreed upon priority actions to reduce the major transboundary environmental stresses affecting the Mediterranean Sea and its coastal areas while strengthening climate resilience and water security, and improving the health and livelihoods of coastal populations. The MedProgramme was endorsed by the GEF Council in October 2016 with seven Child Projects contributing to the GEF’s focal areas of International Waters (IW), Chemicals and Waste (CW), and Biodiversity (BD) (Table 1). An additional project financed by the GEF’s Special Climate Change Fund (SCCF) was subsequently developed and is now also considered one of the Child Projects of the MedProgramme, in support of the GEF focal area on Climate Change (CC). Hence, there is a total of eight Child Projects in the MedProgramme.
3. Nine countries have endorsed the MedProgramme: Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco, and Tunisia. It will be executed over a period of five years starting in 2019.

Table 1 Overview of the MedProgramme components, Child Projects, Executing Agencies and GEF Focal Areas

Mediterranean Sea Programme (MedProgramme)			
MedProgramme Component	Child Project	Indicative lists of executing Agencies	GEF Focal Areas
1. Reduction of Land Based Pollution In Priority Coastal Hotspots, and measuring progress to impacts	1.1 Reducing Pollution from Harmful Chemicals and Wastes in Mediterranean Hot Spots and Measuring Progress to Impacts.	UN Environment/MAP	IW and CW
	1.2 Mediterranean Pollution Hot Spots Investment Project.	EIB, UN Environment/MAP	IW and CW
	1.3 Mediterranean Sea Finance for Water Systems and Clean Coasts (FINWACC).	EBRD, UN Environment/MAP	IW and CW
2. Enhancing Sustainability and Climate Resilience in the Coastal Zone	2.1 Mediterranean Coastal Zones Climate Resilience Water Security and Habitat Protection.	UN Environment/MAP, PAP/RAC, Plan Bleu, UNESCO-IHP, GWP Med	IW
	2.2 Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystem NEXUS.	GWP Med, UN Environment/MAP	IW
	SCCF Project: Enhancing Regional Adaptation to Climate Change in	UN Environment/MAP, PAP/RAC, Plan Bleu, GWP Med	CC

	Mediterranean Marine and Coastal Areas.		
3. Protecting Marine Biodiversity	3.1 Management Support and Expansion of Marine Protected Areas in Libya.	UN Environment/MAP IUCN, SPA/RAC WWF Med	BD
4. Knowledge Management and Programme Coordination	4.1 Mediterranean Sea LME Environment and Climate Regional Support Project.	UN Environment/MAP	IW and CW

Attendance

- The Second Regional Consultation brought together 50 participants, including representatives from eight of the nine countries that endorsed the MedProgramme and all 11 of the implementing and executing agencies. Also in attendance were representatives of the Permanent Delegations to UNESCO of Albania, Egypt, Lebanon, Montenegro and Tunisia. The complete list of participants is set forth in Annex 2.
- The names, titles and affiliations of the GEF Operational Focal Points of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro and Tunisia (or their nominated representatives) that participated in the regional consultation are provided in Table 2.

Table 2 Names, titles and affiliations of the GEF Operational Focal Points and the nominated representatives that participated in the Second Regional Consultation for the MedProgramme

Country	Representative(s)	Title and affiliation
Albania	Ms. Jula Selmani	Chief of Projects Unit, National Agency of Protected Areas, Ministry of Tourism and Environment
Algeria	Ms. Samira Hamidi*	Inspectrice Centrale de l'Environnement et du Développement Durable, Ministère des Ressources en Eau et de l'Environnement, Direction Générale de l'Environnement et du Développement Durable
Bosnia and Herzegovina	Mr. Senad Oprašić*	Head of Environmental Protection Department, Ministry of Foreign Trade and Economic Relations
Egypt	Mrs. Abir Abu Zeid	Undersecretary for International Cooperation and Technical Assistance at EEAA, Ministry of International Cooperation
Lebanon	Ms. Olfat Hamdan	Head of Protection of Urban Environment Department, Ministry of Environment
Libya	Mr. Mustafa Soliman*	Management Committee Member, Environment General Authority
Montenegro	Ms. Ivana Stojanovic	Advisor, Department for Mediterranean Affairs, Ministry of Sustainable Development and Tourism
Tunisia	Mr. Karim Sahnoun	Directeur du suivi des conventions et des projets de coopération avec les partenaires étrangers, Direction Générale des Relations Extérieures, Ministère des Affaires Locales et de l'Environnement

* GEF Operational Focal Point

Presentations

6. Presentations were delivered for the eight Child Projects of the MedProgramme, as well as a progress report on the preparation of all projects and interventions on the development of the MedProgramme's overarching strategies for Knowledge Management and Gender Mainstreaming. The present report does not attempt to summarize these presentations, but focuses rather on the discussions they prompted.
7. All of the presentations delivered during the Second Regional Consultation are available at: https://www.dropbox.com/sh/544agsnimsbag3m/AAB9dRSpwR9Ur5qRkTzNpPO_a?dl=0.

Welcoming remarks and initial discussions

8. Ms. Alice Aureli, Chief of the Section on Groundwater Systems and Settlements at UNESCO's International Hydrological Programme (IHP), welcomed participants on behalf of UNESCO and declared that the preparation of the MedProgramme was an excellent example of effective collaboration between countries, UN organizations, nongovernmental organizations and associations. Ms. Aureli recalled that implementing solutions to the complex environmental challenges in the Mediterranean will require a multi-sector, multi-disciplinary strategy, consistent with the programmatic approach used in the design of the MedProgramme.
9. Mr. Gaetano Leone, Coordinator of the UN Environment/MAP-Barcelona Convention Secretariat, welcomed participants and thanked UNESCO for hosting the event. Mr. Leone observed that the decision to prepare a multi-focal area programme with the GEF had been a risk, but one that was carefully considered and necessary to amplify the positive impacts of the work of the many stakeholders in the region that had joined forces in 2016 to realize a collective vision: "A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse contributing to sustainable development for the benefit of present and future generations". Mr. Leone recalled that the MedProgramme builds on the work undertaken in the region by the Contracting Parties, the UN Environment/MAP Regional Activity Centres and other partners, as well as on the foundations of an important set of tools developed in the framework of the Barcelona Convention, including its Protocols, the Transboundary Diagnostic Analysis, and regional and national action plans, amongst others. Mr. Leone recognized the GEF for its twenty years of investments in the region, many of which directly supported these activities. In closing, Mr. Leone informed participants that significant progress had been made since the First Regional Consultation in March 2018, noting that two Child Projects of the MedProgramme are ready for submission to the GEF, that two additional Child Projects are nearing finalization, and that the remaining four Child Projects will be completed by the close of 2018.
10. Mr. Yegor Volovic, the UN Environment GEF Portfolio Manager for International Waters (IW), declared that the MedProgramme was one of UN Environment's flagship initiatives due to its wide-reaching activities, its innovative programmatic approach, and its ability to convene a diverse set of stakeholders to design interventions on the ground, including international finance institutions, development banks, the MAP system with its Regional Activity Centres, and technical experts. He recalled that the implementation of actions on the ground represents one of the key comparative advantages of UN Environment and the Regional Seas Programme (RSP) that it administers. Mr. Volovic noted that the Barcelona Convention and the Mediterranean Action Plan, which form the legal and policy framework for the MedProgramme, were developed in the context of the RSP for the Mediterranean, one of the first that was established.

11. Ms. Eloise Touni, the UN Environment GEF Task Manager for Chemicals and Waste (CW), recalled that the MedProgramme’s activities on CW would support countries in efforts to meet their commitments on Persistent Organic Pollutants (POPs) and mercury under the Stockholm, Basel and Minamata Conventions and announced the corresponding targets for the MedProgramme: removal of 50 tons of mercury and 3,250 tons of POPs. In terms of progress with the development of the MedProgramme’s CW activities, Ms. Touni informed participants that quantities of wastes had been confirmed in the participating countries and that life cycle analyses had been undertaken to identify strategies for the prevention of new wastes, especially the new POPs recently added to the Stockholm Convention. Ms. Touni also highlighted a challenge concerning the mercury removal activities intended to assist countries meet obligations under the Minamata Convention: since the Convention only recently entered into force, many countries have still not ratified it, thereby affecting their ability to take part in the mercury removal activities foreseen under the MedProgramme. Ms. Touni asked the representatives of the participating countries to indicate any assistance they may require to ratify the Minamata Convention, and offered the full support of UN Environment in this regard.

Day 1 Agenda Item 1: GEF and the Mediterranean – 20 years of support, and expectations under GEF-7

12. Mr. Steffen Hansen, Environmental Specialist on International Waters for the Europe and Central Asia regional team at the GEF Secretariat (hereafter the representative of the GEF Secretariat), reconfirmed that the MedProgramme is a flagship for the GEF in the region and outlined the interventions leading up to its development that the GEF had financed in the Mediterranean over the past 20 years. These have included the preparation of the previous Transboundary Diagnostic Analyses (TDAs) and of the Strategic Action Programmes on pollution (SAP MED) and biodiversity (SAP BIO) in the Mediterranean. He noted that several factors were creating momentum that will increase the MedProgramme’s chances for success, including the update by countries of their National Action Plans (NAPs) for the prevention of land-based pollution; the scaling up of these action plans; and capacity building for institutional reforms. Responding to an earlier statement about the risk involved in developing an ambitious multi-focal area programme, the representative of the GEF Secretariat recalled that the GEF is committed to doing “what is difficult, what might fail” but to ensure that this process leads to positive results for countries.
13. In 2018, countries pledged US\$ 4.1 billion for the seventh replenishment of the Global Environmental Facility (GEF) trust fund. This new four-year investment cycle (GEF-7) will provide funds to protect the planet and human wellbeing through activities in the GEF focal areas of Biodiversity, Chemicals and Waste, Climate Change, International Waters, Land Degradation, and through other programs.
14. The GEF has set three strategic objectives for the International Waters focal area under GEF-7: (i) strengthening the Blue Economy opportunities, (ii) improving management in the Areas Beyond National Jurisdiction, and (iii) enhancing water security in freshwater ecosystems. Enhancing water security is one of the primary objectives of the MedProgramme, and is reflected in the Child Projects of Component 2 and the activities to promote the sustainable management of coastal aquifers, integrated water resources management, adaptation to climate change, and the nexus approach for evaluating competing demands for water, energy, food and ecosystem goods and services.
15. Further information about the GEF-7 programming framework and the associated global environmental benefits can be found in the GEF Council Document GEF/R.7/19 [GEF-7 Replenishment Programming Directions](#).

Day 1 Agenda Item 2: Remarks from the Permanent Delegations to UNESCO

16. The representative of UNESCO IHP opened the floor to interventions from the Permanent Delegations to UNESCO, recalling that one of the assets of UNESCO's participation in the MedProgramme was its direct voice with the representatives of the countries, who will be able to support implementation of the programme by providing information and facilitating contacts with institutions, scientist and technicians.
17. H. E. Mr. Ferit Hoxha, Ambassador Extraordinary and Plenipotentiary, Permanent Delegate of Albania to UNESCO, thanked the partners of the MedProgramme for their work to protect the Mediterranean Sea and its coastal areas, and confirmed that the activities of the MedProgramme would assist Albania in its efforts to achieve progress through sustainable development and protection of the environment. The Ambassador recalled that Albania was facing increasing risks associated with climate change and natural hazards and that the country's coastal zone was most vulnerable to these risks, which were affecting water supplies, agriculture and tourism in these areas. The Ambassador also cited a number of expectations for the MedProgramme, including strong coordination, effective exchange of information and opportunities for capacity building, increased resilience to climate change in coastal communities, assistance with the management of groundwater resources, and the protection of biodiversity.
18. H. E. Ms. Dragica Ponorac, Ambassador Extraordinary and Plenipotentiary of Montenegro to France, Permanent Delegate of Montenegro to UNESCO, also thanked the partners and expressed Montenegro's satisfaction with participating in the MedProgramme. The Ambassador underlined the importance of the MedProgramme to Montenegro, which is currently working to meet its obligations under Chapter 27 (Environment) for its accession to the European Union (EU), which will require more than US\$ 1.7 billion in investments. The Ambassador reminded participants that Montenegro is defined as an ecological state in its Constitution, and reiterated the country's commitment to meet the objectives of the MedProgramme especially through the activities foreseen in the hotspot areas of the Kotor Bay and the Bijela shipyard.
19. H.E. Mr. Ghazi Gherairi, Ambassador Extraordinary and Plenipotentiary, Permanent Delegate of Tunisia to UNESCO, thanked the partners for their collaboration to implement the MedProgramme, and expressed appreciation for the fact that the programme will address the role of the environment in ensuring security. The Ambassador noted that the overarching challenge for the region is to transmit a healthy Mediterranean to the next generation, and that Tunisia is aware of the stakes at hand and has placed environmental values at the heart of its strategy of growth for the future. The Ambassador also took the opportunity to recognize the IHP for its work with the Government of Tunisia. In closing, the Ambassador pledged the willingness of the Government of Tunisia to provide the tools necessary for the success of the MedProgramme.
20. The Coordinator of the UN Environment/MAP-Barcelona Convention Secretariat thanked the ambassadors for their remarks and recalled that the MedProgramme is being prepared under the leadership of the participating countries and that their guidance is important to move the programme towards success. The Coordinator highlighted that all participating countries of the MedProgramme are Contracting Parties of the Barcelona Convention, and many are participating in the Bureau including Egypt, Montenegro and Tunisia as well as Albania which currently holds the presidency. In closing, the Coordinator expressed gratitude to all countries present and contributing to the MedProgramme.

Day 1 Agenda Item 3: Setting the scene and objectives of the consultation

21. Mr. Lorenzo Galbiati, Project Pool Manager at the UN Environment/MAP-Barcelona Convention Secretariat (hereafter the Secretariat), reviewed the agenda of the consultation with participants and outlined the main objectives of the two-day event: (i) update the GEF Operational Focal Points on the status of the development of all Child Projects; (ii) request their feedback on outstanding issues; (iii) agree on the next steps for finalization of the preparation phase of the MedProgramme; and (iv) present the main features of the Knowledge Management and Gender Mainstreaming Strategies that will be applied to all Child Projects.
22. The Secretariat recalled that the MedProgramme builds on the strong foundations established in the region from more than US\$ 70 million in investments from the GEF over 20 years for activities supporting the implementation of the Barcelona Convention. These investments have led to the development of the initial Transboundary Diagnostic Analysis for the Mediterranean Large Marine Ecosystem (TDA-MED) as well as its 2005 update and 2015 supplement on coastal aquifers; Strategic Action Programmes to Address Pollution from Land-based Activities (SAP-MED) and for the Conservation of Biological Diversity (SAP-BIO), as well as their associated National Action Plans (NAPs); and the Protocol on Integrated Coastal Zone Management (ICZM).
23. The Secretariat also informed the participants about the delays encountered in the development of the Child Projects and explained that the period for submission to the GEF would be extended to December 2018. However, this should not affect the anticipated initiation of execution of the MedProgramme, which is foreseen in the first or second quarter of 2019.

Day 1 Agenda Item 4: Progress report on preparation of the MedProgramme Child Projects and their submission to the GEF

24. The Secretariat provided the milestones of the MedProgramme (Figure 1), an update on the status of action items from the First Regional Consultation in March 2018 (Table 3), the status of the development of each of the Child Projects (Table 4), the national and regional consultations foreseen between October and December 2018 (Table 5), the schedule for the completion of the preparation phase of the MedProgramme (Table 6) and the tentative timeline for the initiation of activities (Table 7).

Figure 1 Milestones of the MedProgramme (2016 – 2019)



Table 3 Status of action items from First Regional Consultation for the MedProgramme

Action item	Responsibility	Status
1. An overview of national and regional activities in each country	UN Environment/MAP	Complete
2. A responsibility matrix for the executing structure of each Child Project	UN Environment/MAP	Complete
3. Contact information for all implementing and executing partners	UN Environment/MAP	Complete
4. Instructions on the preparation of co-financing letters	UN Environment/MAP	Complete
5. An overview of national stakeholders engaged during project preparation	UN Environment/MAP	Ongoing
6. A list of national thematic experts for CW and IW that will review project documents	GEF Operational Focal Points	Complete
7. Letters of co-financing for Child Projects 1.2, 2.1 and 4.1	GEF Operational Focal Points	7 of 9 received
8. Support the GEF Operational Focal Points in the identification of initiatives that can constitute co-financing contributions to the Child Projects	Executing partners	Complete
9. Provide letters of co-financing for Child Projects 1.2, 2.1 and 4.1	Executing partners	Complete

Table 4 Status of the development of the Child Projects (CP) of the MedProgramme

Project	Draft application package complete? (Yes/No)	Final application package complete? (Yes/No)	Anticipated timeframe for PRC ¹	Anticipated timeframe for submission to GEF
CP 1.1	Yes	No	November 2018	December 2018
CP 1.2	Yes	No	November 2018	November 2018
CP 1.3	Yes	No	(Not applicable)	December 2018
CP 2.1	Yes	Yes	October 2018	October 2018
SCCF	Yes	Yes	October 2018	October 2018
CP 2.2	Yes	No	December 2018	December 2018
CP 3.1	Yes	No	December 2018	December 2018
CP 4.1	Yes	No	November 2018	November 2018

Table 5 National and regional consultations foreseen between October and December 2018

Project	Type of consultation	Timeframe
CP 1.1	Virtual (comments gathered via email)	November 2018
CP 1.2	Virtual (comments gathered via email)	October 2018
CP 1.3	Virtual (comments gathered via email)	December 2018
CP 2.2	Regional meeting for all countries	November 2018
CP 2.2	Virtual (comments gathered via email)	December 2018
CP 3.1	National meeting	October 2018
CP 4.1	Virtual (comments gathered via email)	October 2018

Table 6 Schedule for the completion of the preparation phase of the MedProgramme

Timeframe	Actions
September – December 2018	<ul style="list-style-type: none"> • Finalize all application packages • Complete all PRCs • Submit all application packages to GEF for review • Obtain GEF CEO endorsement • Prepare all final reports and expenditure statements for PPG
January – March 2019	<ul style="list-style-type: none"> • Close all legal agreements for PPG phase with implementing and executing partners • Formal closure of the PPG phase

¹ PRC: UN Environment's Project Review Committee, the internal review undertaken for all GEF projects prior to their submission to the GEF Secretariat for CEO endorsement. EBRD, as an implementing agency for the GEF, is not subject to this review.

Table 7 Tentative timeline for the initiation of activities of the MedProgramme

Timeframe	Actions
November – December 2018	<ul style="list-style-type: none"> • Establish the legal and procedural frameworks for the Programme execution • Evaluate needs for the new legal agreements that will be established with implementing and executing partners, national institutions, etc. • Prepare terms of reference for staff that will be involved in the Programme
January – March 2019	<ul style="list-style-type: none"> • Establish new legal agreements • Set an operative budget in the UN Environment Enterprise Resource Planning System (Umoja) • Allocate funds for each Child Project
April – June 2019	<ul style="list-style-type: none"> • Initiate preparation of the inception report and workshop • Arrange consultations with the countries • Staff the Child Projects

25. Ms. Olfat Hamdan, the representative of the GEF Operational Focal Point of Lebanon (hereafter the representative of Lebanon), inquired about one of the action items from the First National Consultation, namely the nomination by the GEF Operational Focal Points of national CW and IW focal points, indicating that Lebanon had not provided this information. The Secretariat informed that the selection of national focal points for CW and IW for the purposes of the MedProgramme was an internal matter for each country, and that all communications from the Secretariat regarding project development would continue to be directed to the GEF Operational Focal Point. As agreed at the First Regional Consultation, the GEF Operational Focal Point will coordinate the review of project documents with their national experts and provide a single set of comments to the executing agency that is responsible for the preparation of the Child Project.

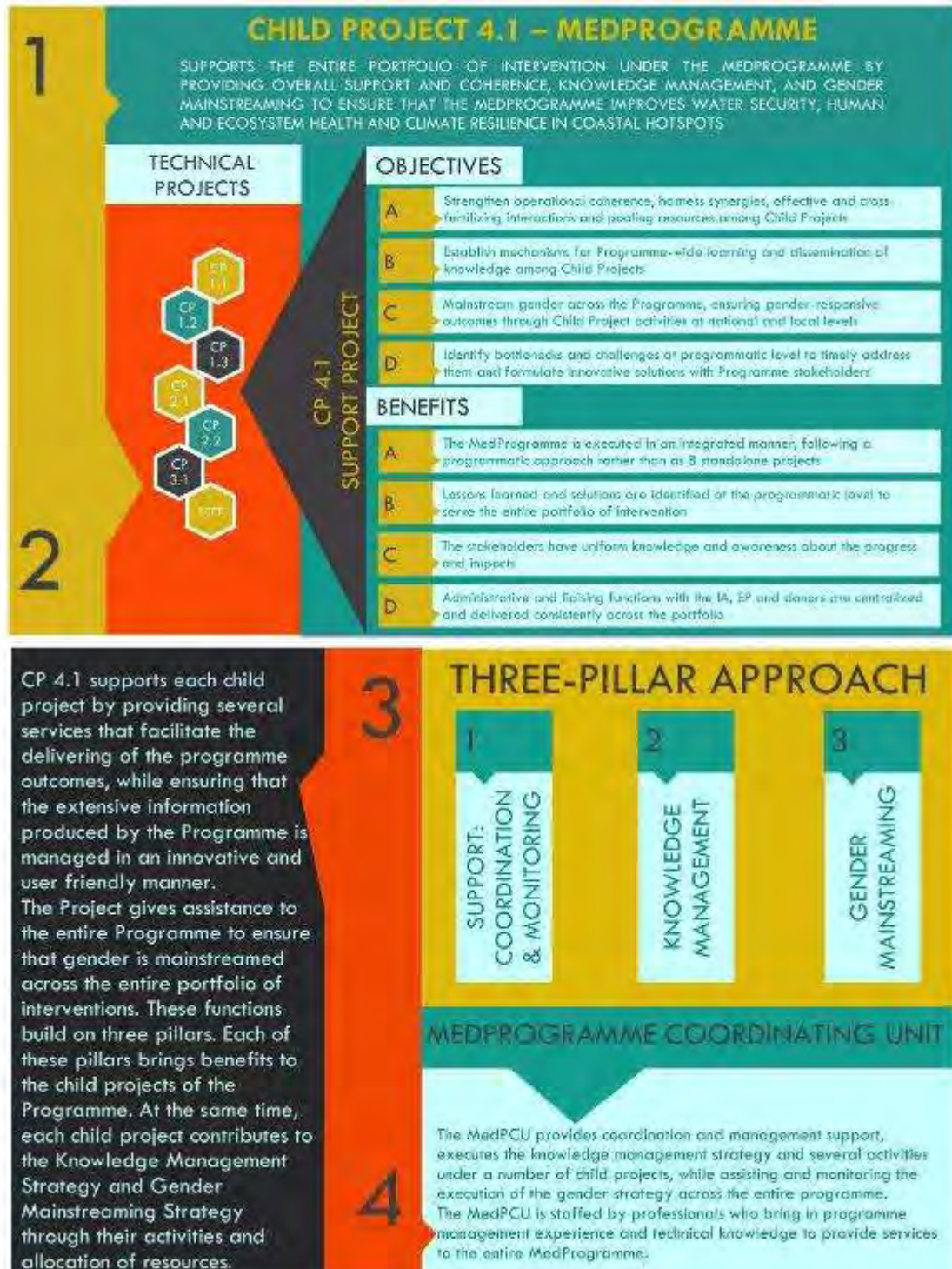
26. Mr. Karim Sahnoun, the representative of the GEF Operational Focal Point of Tunisia (hereafter the representative of Tunisia), asked for clarification about the national activities for Child Project 2.2 presented in the overview of national and regional activities of the Child Projects for each country. Mr. Dimitris Faloutsos, Deputy Regional Coordinator of GWP Med, the leading executing agency for this Child Project, explained that a nexus assessment for the North West Sahara aquifer was foreseen in the context of a project funded by Sida, and that this assessment would contribute to the overall results of Child Project 2.2, but that no GEF funds would be used to finance national level activities in Tunisia for this Child Project.

Day 1 Agenda Item 5: Update on Child Project 4.1

27. Child Project 4.1 will play a key role in the MedProgramme, as it will: (i) monitor the progress of the entire portfolio of projects towards the programme's overarching goal of enhancing environmental security, and (ii) provide essential support functions to all Child Projects of the MedProgramme through three main lines of action: coordination and monitoring; knowledge management; and gender mainstreaming. In addition, Child Project 4.1 will produce technical activities, including the development of databases, the implementation of the Knowledge Management Strategy, as well as preparation of communication materials and the Annual Stocktaking Meetings. A conceptual overview of the objectives, benefits and structure of Child Project 4.1 is provided in Figure 2.

28. The project document and substantive annexes for Child Project 4.1 will be provided to the GEF Operational Focal Points and the partners for comments by 15 October.

Figure 2 Infographic on the objectives, benefits and structure of Child Project 4.1 (Credit: Debasmita Boral)



29. The Secretariat emphasized that the development of programme-level strategies for knowledge management and gender mainstreaming has not been attempted before in the context of a GEF programmatic approach, and therefore represents an important innovation

for the GEF portfolio. These strategies for the MedProgramme will be provided to the GEF Operational Focal Points and the partners by 8 October for comments.

30. The representative of Lebanon confirmed that Child Project 4.1 has an important role in the MedProgramme, especially for overall coordination and to identify synergies with other initiatives and projects at the regional and international level. The representative of Lebanon then asked for clarification about the link between the MedProgramme Coordinating Unit (MedPCU) and the implementation of activities at the national level. The Secretariat explained that the national activities will be developed by the executing partners of the corresponding Child Projects and that the MedPCU – in the framework of Child Project 4.1 – will monitor progress on all Child Projects and help them to promote their knowledge tools at the level of the programme, in addition to providing other services. The specific modalities for execution of national level activities will be discussed during the inception phase of each Child Project. The Secretariat emphasized that the execution of activities with the relevant national and sub-national institutions for all countries will be coordinated by the executing partners (the approach successfully used in the MedPartnership) and that there was no expectation for the governments of the participating countries to create a national coordination structure for the MedProgramme.
31. Ms. Ivana Stojanovic, the representative of the GEF Operational Focal Point of Montenegro (hereafter the representative of Montenegro), expressed support for the cross-cutting approach proposed for the design of Child Project 4.1 and thanked the partners for reflecting the national priorities of Montenegro in the design of Child Project 2.1 and the SCCF Project. Making reference to the activities of Child Project 2.1 on coastal observation, the representative of Montenegro expressed her point of view about how these activities could be linked to Child Project 4.1. Given that the Child Project 2.1 could not address Montenegro's priority related to the development of a coastal database and observatory with the aim of connecting relevant stakeholders and managers of coastal data, Child Project 4.1 is therefore seen as an opportunity to assist the country with this request (in the context of the execution of the Knowledge Management Strategy and its development of knowledge tools).
32. The Coordinator of the UN Environment/MAP-Barcelona Convention Secretariat declared that a centralized approach to knowledge management for the MedProgramme would be more effective and yield more positive impacts than the decentralized approach employed for the MedPartnership, and stated that the knowledge management platform foreseen under Child Project 4.1 would be important to the MAP system during and after the lifespan of the MedProgramme.
33. Mr. Mohamad Kayyal, MED POL Programme Management Officer, observed that the management function of the MedPCU in Child Project 4.1 had been underemphasized with respect to coordination services, and that this management function would require significant efforts across the various Child Projects. The Secretariat explained that this was provided for in the design of the MedPCU, which would ensure traditional management functions for the Child Projects (such as establishment of legal agreements, financial management and procurement), as well as monitoring functions to measure progress to impacts and to prepare the Project Implementation Reports (PIR) of each Child Project for the GEF. The Project Management Cost (PMC) of each Child Project will support the overall management, coordination and monitoring functions delivered by the MedPCU. It was also noted that the MedPCU will execute technical activities under the Child Projects 2.1, 2.2, 3.1 and 4.1 as well as the SCCF Project. This is not the case for the Child Projects 1.1 and 1.2 where dedicated and specific technical assistance will be identified and supported by the project grants for the execution of the activities.

34. Prof. Michael Scoullos, the Chair of GWP Med, recognized the important step taken by the designers of the MedProgramme to coordinate knowledge in the region, and noted the challenge of harnessing all the knowledge generated by activities on the ground in many countries and with many partners. Prof. Scoullos asked what could be done to facilitate the understanding of the countries about the locations of activities and the potential for synergies. The Secretariat indicated that relevant information on this point would be provided during the presentation on the MedProgramme’s Knowledge Management Strategy.

Day 1 Agenda Item 6 – Knowledge Management in the MedProgramme

35. Ms. Lucilla Minelli, the Knowledge Management Expert for the preparatory phase of the MedProgramme, recalled that the overall objective for the Knowledge Management Strategy (KM Strategy) is to “provide a structured and centralized approach to leverage and share knowledge assets generated by the Child Projects of the MedProgramme with the intended beneficiaries and audiences.” The KM Strategy was developed through analysis of the Programme Framework Document and background documentation, surveys, exchanges with project designers, desk studies, and contact with relevant technical counterparts regarding performance and functionality of information technologies.
36. The representative of Lebanon recognized that a diverse set of ideas and activities must be accounted for under the KM Strategy and that it will be important to develop indicators to track the progress towards operational objectives and targets associated with specific knowledge management activities. The Secretariat explained that objectives and activities had been established for knowledge management and that an appropriate number of indicators for these would be reflected in the design of Child Project 4.1. The Secretariat reminded the participants, however, that the decision to implement a KM Strategy represents an additional task that goes above and beyond what is required by the Programme Framework Document approved by the GEF for the MedProgramme.
37. The Chair of GWP Med urged the Secretariat to ensure that the knowledge management tools of the MedProgramme are tailored to the needs of policy makers in particular, and not only to those of the coordinating and/or executing agencies. This sentiment was reiterated by Ms. Daria Povh Skugor, Senior Programme Officer at the Priority Actions Programme Regional Activity Centre (PAP/RAC), who also inquired about the source of the human and financial resources that would be necessary to implement the KM Strategy. The Secretariat confirmed that governments and policy makers are the primary client for the knowledge tools of the MedProgramme, and that the MedProgramme will dedicate sufficient resources to operationalize the strategy, including through the recruitment of a knowledge management expert for the MedPCU and through trainings for partners on how to generate and package data. The Secretariat reminded participants that the KM Strategy is modular in nature, and will start with simple tools and expand to meet the needs of the programme.
38. The representative of the GEF Secretariat noted that the KM Strategy represents an effective tool for the GEF to distill results from the MedProgramme, and asked if the knowledge products of the MedPartnership could be further disseminated via the Knowledge Management Platform, especially to private sector stakeholders. The Knowledge Management Expert confirmed that the results of the MedPartnership would be promoted on the platform, and that the private sector was a targeted audience and beneficiary of the KM Strategy, as well as a potential provider of knowledge. The Secretariat indicated that efforts could be made under the MedProgramme to create partnerships with the private sector.
39. The Chair of GWP Med added that the private sector holds a great amount of data (sometimes of higher quality than that of governments) and recommended that efforts be taken from the

onset of the MedProgramme to clearly define the requirements for data gathering, to determine with countries what data can be shared, and with whom. The representative of UNESCO IHP recalled that in the context of the Barcelona Convention stakeholders have rights to seek data from the private sector, and that the MedProgramme could support these efforts by creating awareness and encouraging the private sector to communicate more.

40. The Secretariat informed participants that the Integrated Monitoring and Assessment Programme (IMAP) of the Barcelona Convention would be considered in the design of the Knowledge Management Platform, and that relevant data from the MedProgramme would be integrated in the IMAP platform.
41. Ms. Abir Abu Zeid, the representative of the GEF Operational Focal Point of Egypt (hereafter the representative of Egypt), expressed satisfaction with the KM Strategy and its goal to integrate all projects and share lessons across the programme, adding that this will be important for all countries. In response to her question about how data would be collected at the national level, the Secretariat explained that the executing partner of each Child Project will have resources to develop activities with the countries and to support national institutions, and that each Child Project will have a dedicated budget for knowledge management activities to produce and manage harmonized data specific to the focus of each Child Project. This includes if appropriate, the use of raw data on specific issues provided by national institutions to contribute to the MedProgramme KM Strategy. The Secretariat reassured participants that data could be shared in an aggregated manner, but that raw data belonging to the countries would not be made available unless the owners of the data agreed to this.

Day 1 Agenda Item 7: Coordination with IW:LEARN and LME:LEARN

42. Mr. Mish Hamid, Project Manager for the GEF International Waters Learning Exchange and Resources Network (IW:LEARN), recalled that the IW:LEARN platform was created to provide knowledge management services to the GEF's International Waters project managers, since International Waters is the only GEF focal area for which an overarching convention or agreement does not exist. LME:LEARN is a cousin initiative of IW:LEARN, providing services to GEF IW projects in coastal and marine areas, with the goal of strengthening global governance of Large Marine Ecosystems (LME). Mr. Hamid outlined the main services of these initiatives, including knowledge sharing and partnership building, information management, programmatic support, and training (biennial International Waters Conferences, GEF project twinnings, ...). Further information on both initiatives is available at <https://iwlearn.net/>.
43. The Secretariat confirmed that the outputs of the Child Projects of the MedProgramme will feed into the IW:LEARN platform, and that information exchanges with IW:LEARN and LME:LEARN are foreseen in the KM Strategy.

Day 1 Agenda Item 8: Gender Mainstreaming in the MedProgramme

44. Ms. Debasmita Boral, the Gender Expert for the preparatory phase of the MedProgramme, provided a brief history of the evolution of gender considerations in development policies and described the benefits of gender mainstreaming before presenting the MedProgramme's Gender Mainstreaming (GM) Strategy. The GM Strategy comprises three lines of action: (i) address gender-blind hurdles with gender-differentiated consequences; (ii) mitigate gender-specific barriers and discriminatory norms; and (iii) scale up gender-sensitive policies and deliver gender-responsive outcomes. The MedProgramme is operationalizing the GM Strategy in the preparatory phase by conducting tailored gender assessments and preparing

costed gender action plans for each Child Project. Specific activities on gender will be defined and approved during the inception phase with all stakeholders.

45. The Secretariat recalled that Child Project 4.1 will ensure overall monitoring of the implementation of the GM Strategy and that executing partners will receive training on how to mainstream gender in project activities.
46. The Chair of GWP Med suggested that in some cases, project activities should also be designed to consider the specific needs of marginalized groups, in addition to considerations for gender.

Day 1 Agenda Item 9: Update on Child Project 2.1

47. Child Project 2.1 encompasses activities on Integrated Coastal Zone Management (ICZM), protection of coastal aquifers and groundwater-related ecosystems, as well as integrated management of water resources management, including conjunctive management of surface water and groundwater resources. A joint presentation on the development of the project and its activities was made by representatives of the four executing partners: PAP/RAC (Ms. Daria Povh), Plan Bleu (Mr. Antoine Lafitte), GWP Med (Mr. Dimitris Faloutsos) and UNESCO IHP (Mr. Youssef Filali-Meknassi).
48. Mr. Amr Abdallah Morsy, First Secretary of the Permanent Delegation of the Arabic Republic of Egypt to UNESCO, informed the Secretariat that the Government of Egypt will provide written comments to IHP to be reflected in the final version of the project document for Child Project 2.1.
49. The representative of Lebanon also indicated that Lebanon would provide comments on the project document and furthermore asked for clarification on the activities foreseen in the Damour area of Lebanon, including on the management approach that would be employed for the Damour area and on responsibilities for the implementation of the management that will be produced for this area. The executing partners confirmed that a river basin management approach will be used in the design of an integrated resources management plan for the Damour area (taking into account upstream activities that affect the coast) and that the implementation of the plan will be the responsibility of the country.
50. The representative of Montenegro raised a concern about one of the activities of Child Project 2.1 foreseen in Montenegro, "Preparation of the Management Plan for the Buna-Bojana Transboundary Aquifer", noting that the title of this plan was similar to the existing plan for the Buna-Bojana area prepared under the MedPartnership. The Secretariat promised to address this concern in the final project document, based on the comments that the representative of Montenegro will provide.
51. Ms. Samira Hamidi, the GEF Operational Focal Point of Algeria (hereafter the representative of Algeria) expressed a wish to see more reference in the project document to the activities on ICZM already undertaken in Algeria (preparation of a coastal strategy and a coastal plan for the Reghaia area) and to discuss the possibility of having activities on ICZM in Algeria that were more concrete than those described in the project document (support for ratification of the ICZM Protocol). The representative of PAP/RAC recalled that the adoption of the ICZM tools already developed in Algeria would support the adoption of the ICZM Protocol, and that efforts would be made to seek additional investments to support Algeria in this work. The Secretariat clarified that no promises could be made however at this stage about the development of bankable projects and access to loans under the activities of Child Project 2.1.

Day 1 Agenda Item 10: Update on the GEF Special Climate Change Fund (SCCF) Project

52. Mr. Matthew Lagod, Consultant for UN Environment/MAP, outlined the progress achieved on the preparation of the SCCF Project and its activities. The SCCF Project will enhance regional adaptation to climate change in Mediterranean marine and coastal areas through four lines of action: (i) stakeholder engagement and capacity building; (ii) application of best practices for climate resilience in the coastal zone; (iii) access to climate financing mechanisms; and (iv) knowledge management and project coordination. The project document for the SCCF Project is complete and will be submitted to UN Environment's Project Review Committee in October 2018.

Day 2 Agenda Item 1: Update on Child Project 1.1

53. A joint presentation on the development the Child Project 1.1 and its activities was made by representatives of the implementing and executing agencies – Ms. Eloise Touni of the Chemicals and Health Branch/ GEF Team at UN Environment and Ms. Marina Markovic of the UN Environment/ MAP – MED POL. Project activities under the CW component are designed to remove existing stockpiles of persistent organic pollutants (POPs) and mercury, and to prevent the generation of new wastes containing these pollutants. Disposal activities will be carried out in two phases. Phase 1 will target stockpiles verified during the current preparation phase of the project as being ready for immediate disposal, and Phase 2 will entail further inventories and data gathering to identify the remaining stockpiles that can be eliminated to meet the project's disposal targets. Prevention activities will focus on strategies for avoiding further generation of wastes containing mercury and two types of new POPs (PFOS and HBCD). An additional set of activities will be undertaken under the IW project component to produce an updated TDA for the Mediterranean (including gender assessment), a report on progress to impacts, a data sharing policy and an offshore monitoring strategy. The project document for Child Project 1.1 will be submitted to the GEF for endorsement in December 2018.

54. The representative of Lebanon inquired about the modalities for implementation of the activities, whether the new POPs targeted under the project could be expanded to include other chemicals (such as SCCP, a priority chemical for Lebanon), and also about how countries had been consulted about the International Waters (IW) activities. In terms of implementation modalities, Ms. Touni explained for each Phase 1 disposal site an environmental management plan (EMP) would be developed to establish responsibilities, identify national capacities and determine the need to bring in outside assistance. Regarding the possibility of considering additional new POPs for prevention activities, Ms. Touni indicated that it could be discussed, but recalled the existing proposals for Lebanon were designed to address the POPs identified in the country's NIP. Regarding the consultations on the IW activities, Ms. Markovic explained the meetings organized within the MAP system were used to consult the Contracting Parties of the Barcelona Convention (on, for example, national needs for IMAP – Integrated Monitoring and Assessment Programme – implementation, indicators and other relevant topics); proceedings of such meetings were used as a starting point in developing relevant sections of the project document. The Secretariat reconfirmed that the countries would have ample opportunity to review and comment on the project document prior to its submission to the GEF.

55. The representative of Egypt recalled that Egypt had expressed interest in participating in the national project activities, and had recently provided UN Environment with its NIP, the list of relevant national institutions and an indication of candidate companies for the development of prevention pilots. The representative of Egypt inquired about how the country could catch

up to the others in the project, about the possibility of reinforcing national capacities, and about the criteria for allocation of funds to the countries. She also expressed interest to receive more information on the forums used to consult the countries on the needs for the development of IW activities, in particular proceedings of the meeting held in July 2018 in Rome on the IMAP implementation. Ms. Touni, taking the questions in turn, explained that Egypt could not participate in Phase 1 for disposal but that this may be possible for Phase 2. In terms of enhancing national capacities, the EMP process for each disposal site will include an assessment of national capacities, and national experts will gain expertise by participating in execution of the EMP and inspection activities under the supervision of UN Environment consultants. Criteria for allocation of resources to priority sites is based on the presence of verified stockpiles that are ready for immediate disposal and also on the co-financing contribution that countries may bring to dispose additional quantities of waste. Priorities for disposal sites will be reviewed each year during the project's steering committee. Finally, Ms. Markovic assured that the requested information on the Rome meeting deliberations will be shared with the Government of Egypt.

56. The representative of Algeria underlined the importance of the project to the Government of Algeria, its wish to participate in the activities on mercury disposal and its need for capacity building with respect to mercury elimination and implementation of its NAP (National Action Plan). The representative of Algeria also informed participants that experts from UN Environment were currently being hosted in Algeria for a technical mission for the project and that all necessary information would be provided.
57. The representative of Montenegro confirmed that Montenegro's priorities for the project were well represented in the activities considered for the project, while inquiring whether the priorities for Phase 2 had been confirmed and expressing interest for hearing about possible synergies with Child Project 1.3. Ms. Touni responded that the project document would not make reference to sites for Phase 2. The first step of Phase 2 will be to confirm the presence of the chemicals reported in the national inventories/ accounted for in the project document, followed by decisions about site selection during the second or third steering committee meetings.
58. Mr. Roland Weber, Associated Expert of SCP/RAC, called on the GEF to consider activities on POPs that were not in NIPs but that were particularly dangerous, difficult and expensive to remove, and which are seriously affecting drinking water supplies.

Day 2 Agenda Item 2: Update on Child Project 1.2

59. Mr. Mark Pevsner, Senior Advisor – Strategy and Coordination Division Advisory Services Department/Projects Directorate of the European Investment Bank (EIB), explained that the primary objective of Child Project 1.2 is to prepare investments for physical infrastructure projects to reduce the discharges of untreated or partially treated wastewater that impact the sea. The target countries for Child Project 1.2 are Egypt, Lebanon and Tunisia, and the project document is nearly complete. The representative of UN Environment/ MAP – MED POL, Ms. Markovic, presented a component of the project that will support development of regional standards (wastewater management, sludge management, desalinization and aquaculture) for consideration and adoption by the Contracting Parties of the Barcelona Convention.
60. The representative of Tunisia recalled the country's strong involvement in the project. He asked about developments related to his recommendation (expressed at the First Consultation meeting from March 2018) for a coordinated approach in the implementation of the activities on mercury in Child Projects 1.1 and 1.2, including how Tunisia would benefit from these. Ms. Touni explained that analysis was ongoing about whether mercury activities

originally foreseen under Child Project 1.2 would be taken up by Child Project 1.1, whereas Child Project 1.1 is not aiming to facilitate access to investments for decontamination, but rather focuses on removal of mercury from those countries that had ratified the Minamata Convention. Child Project 1.1 activities in Tunisia will thus be limited to removal of mercury stockpiles. The representative of EIB added that EIB would consider granting a loan for any well-prepared project on mercury decontamination that a country was prepared to undertake. The Secretariat recalled that the priorities of the Child Projects are set in the Programme Framework Document for the MedProgramme approved by the GEF in 2016, and that the first priority is to meet the targets set forth therein for disposal/removal and co-financing.

61. The representative of Lebanon indicated that the country has an important need for wastewater projects and capacity building in this domain, and asked for capacity building activities to be included in the project. Regarding the regional standards to be developed under the project, the representative of Lebanon emphasized the high relevance of regional wastewater and sludge management standards for her country. As regards desalination, the advice was to also take into account/address small and medium sized enterprises in Lebanon and their small-scale desalination capacities.
62. The Chair of GWP Med stated that the Mediterranean region needed active encouragement to shift towards non-conventional water resources, and considered that the regional standards to be developed under the project could contribute to this shift. Ms. Maria Diamanti, Environmental Expert of EIB, agreed that water reuse is important but noted that society's perception of this was poor. EIB works to raise awareness about the quality of treated wastewater, but ultimately it is a country's choice to encourage acceptance for the use of treated wastewater. As water becomes more scarce, the public's opinion about the use of treated wastewater may change. The Chair of GWP Med noted that there has been a rapid shift in the mentality of people regarding non-conventional water resources – including through efforts of religious leaders that have expressed support for the use of these kinds of water resources – and that the partners and countries of the MedProgramme should collectively step up efforts to encourage the use of these resources.

Day 2 Agenda Item 3: Update on Child Project 1.3

63. Two representatives of European Bank for Reconstruction and Development (EBRD) – Ms. Astrid Motta, Principal, Energy Efficiency and Climate Change, and Ms. Claudia Neuschulz, Analyst – presented the progress on the development of activities for Child Project 1.3, which is designed to reduce land-based sources of pollution in hotspots through a combination of technical assistance and investment grants to rehabilitate wastewater treatment plants and increase the volume of wastewater treated in the region. Under the CW component of the project, activities are being developed aiming to reduce and prevent 1,250 t of POPs. Like UN Environment, EBRD is an accredited GEF agency and has its own modalities for project preparation. EBRD intends to submit the project document for Child Project 1.3 to the GEF by December 2018.
64. Two examples of existing on-the-ground support from EBRB were presented. The first is a technology transfer platform designed to assist countries adopt best technologies; EBRD provides a loan to the countries to finance the implementation of the technology and countries later recover up to 25% of the loan from grants. The second example is an infrastructure project preparation facility.
65. The representative of Egypt inquired about the business model for the implementation of Child Project 1.3. Ms. Motta indicated that the project will be implemented through a combination of technical assistance and investment grants. EBRD assists companies to

identify the best technologies for their needs and proposes loans to enable companies to finance implementation of these technologies (for example to shift to PBC-free production methods, to promote water efficiency, ...). Following successful implementation of the technologies, EBRD will reimburse a portion of the implementation cost. Countries are eligible for this assistance only if they are bankable (i.e., able to borrow money).

66. The representative of Lebanon asked for clarification about the specific activities foreseen in the project. The Secretariat responded that a portfolio of potential investments will be developed during the project preparation phase, but that it was not possible to commit to specific investments at present. The Secretariat also recalled that EBRD is an implementing agency of the GEF and as a development bank, has different working modalities than UN Environment regarding budgeting, reporting and execution of activities. In the MedProgramme, EBRD will also have its own project management budget which is separate from that of UN Environment. The management of projects in the UN Environment portfolio will be ensured through Child Project 4.1.
67. In response to a question from the representative of Egypt, the Secretariat clarified that the GEF funds provided for Child Project 1.3 are not for loans but rather for pre-investment studies to prepare investments. The representative of the GEF confirmed that the GEF provides seed money to institutions that can scale-up investments to deliver global environmental benefits.
68. The representative of Montenegro inquired about the consultations with countries for Child Project 1.3 that were announced during the First Regional Consultation, and indicated that the Government needed more details about activities (including on possible synergies between Child Projects 1.1 and 1.3) before preparing its letter of co-financing. The representative of EBRD explained that the consultations will take place in the coming weeks to inform the countries about the potential activities and the opportunities for investments/loans in the context of this project.
69. The representative of Tunisia asked whether the technical assistance activities of the project included pilot projects for the private sector to demonstrate the effectiveness of new technologies. The representative of EBRD confirmed that demonstration of new technologies is one of the key objectives for this work and that pilot projects could be financed.

Day 2 Agenda Item 4: Update on Child Project 3.1

70. Mr. Atef Limam, MedMPAnet Project Officer at SPA/RAC, described the main lines of action for Child Project 3.1, a project devoted to enhancing the management of Marine Protected Areas (MPAs) in Libya. These include capacity building for managers of MPAs in Libya, the revision of Libya's National Strategy on MPAs and its draft law on protected areas, and an inventory of marine and coastal sites of ecological importance. A consultation with Libyan stakeholders is planned for October 2018, and the project document will be submitted to the GEF in December 2018.
71. Mr. Mustafa Soliman, the GEF Operational Focal Point for Libya (hereafter the representative of Libya), indicated satisfaction with the proposed intervention in Libya and positive anticipation about the implementation of activities on the ground. Regarding the consultation with Libyan stakeholders, the representative of Libya indicated that his presence will be beneficial and that he will also extend the invitation to the Environment General Authority.
72. In response to a question raised about the possibility of MPAs imposing on navigation rights in the high seas, the representative of SPA/RAC confirmed that none of the MPAs in Libya are beyond national jurisdiction. However, efforts are underway in the context of the Barcelona

Convention to create a framework for the creation of MPAs that are beyond national jurisdiction.

Day 2 Agenda Item 5: Update on Child Project 2.2

73. Mr. Dimitris Faloutsos, Deputy Regional Coordinator of GWP Med, provided an overview of the design of activities for Child Project 2.2 and recalled its overarching objective: fostering water-food-energy security and the reduction of land based nutrient pollution and other pressures, through the adoption of the water-food-energy-ecosystems nexus approach. The project activities will follow four main lines of action: strengthening the capacities of institutions on the nexus approach; addressing nexus issues affecting the Mediterranean Sea LME; testing and upscaling nexus solutions; and engaging stakeholders in these processes. A consultation with the participating countries to confirm interest and priorities in the project will be organized in Beirut, Lebanon on the sidelines of the First MENA Nexus Roundtable that will take place from 26-28 November 2018.

Day 2 Agenda Item 6: Discussion

74. In summary, the representatives of Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro and Tunisia confirmed the importance of the MedProgramme for their countries and for the region, and endorsed the proposals of UN Environment/MAP on (i) the timeline for finalization of the Child Projects of the MedProgramme and their submission to the GEF Secretariat for endorsement; (ii) the development of the overarching strategies for Knowledge Management and Gender Mainstreaming; and (iii) the arrangements for execution of the MedProgramme through the MedProgramme Coordinating Unit (Med PCU).

75. Ms. Jula Selmani, the representative of the GEF Operational Focal Point of Albania (hereafter the representative of Albania), congratulated the partners and acknowledged the excellent quality of the workshop. She also indicated that although she had not been involved in the previous meetings and the development of the MedProgramme, she now had a clear vision of the process, thanks to the organization of the consultation. In closing, the representative of Albania declared that the strategy for the implementation of the MedProgramme appeared to be effective and would serve the needs of the countries.

76. The representative of Algeria asserted that the MedProgramme is an important opportunity for the region and predicted that it would result in success for countries and partners alike. She emphasized that the effective coordination among the countries and project partners during the preparation phase of the MedProgramme represented a positive start to the process. The representative of Algeria also announced that a coordination mechanism at the national level in Algeria will be implemented to ensure effective interaction with the regional coordination mechanism of the MedProgramme. In closing, the representative of Algeria confirmed that the country is committed to involving government institutions, the private sector and the media in the MedProgramme, and thanked the partners and the GEF for their assistance in depolluting the Mediterranean Sea.

77. Mr. Senad Oprašić, the GEF Operational Focal Point of Bosnia and Herzegovina (hereafter the representative of Bosnia and Herzegovina) thanked the partners for the excellent presentations and asserted that the two regional consultations had provided a solid foundation for the effective implementation of the projects of the MedProgramme. He furthermore recalled the priority that the Government of Bosnia and Herzegovina places on the alignment of all activities and results of the MedProgramme with national legislation, EU Directives and the requirements of EU acquis, as well as the SDGs. In closing, the

representative of Bosnia and Herzegovina wished success to all partners for the implementation of activities, and thanked UNESCO for hosting the meeting.

78. The representative of Egypt thanked the partners for the meeting and confirmed that the presentations had provided a clear indication of the links between the projects and how the MedProgramme is being implemented in a holistic manner. She promised to work to ensure effective communication among national partners involved in the activities, and expressed satisfaction with the fact that the countries sharing the Mediterranean were sitting around the same table and working together for the common good of the Sea. In closing, the representative of Egypt indicated her interest in the implementation of the Knowledge Management and Gender Mainstreaming Strategies and indicated her belief that these will assist countries in dealing with environmental challenges.
79. The representative of Lebanon thanked the partners for a fruitful meeting and reconfirmed the country's commitment to contribute to the MedProgramme and to share the necessary knowledge and information to support its successful execution. She underlined the importance of involving national stakeholders, of ensuring effective coordination and management, and of seeking synergies in the MedProgramme. In closing, the representative of Lebanon expressed her satisfaction with the progress achieved to date, and her positive anticipation for the initiation of the activities of the MedProgramme.
80. The representative of Libya recognized the partners for the progress achieved on the preparation of the MedProgramme, and confirmed that the consultation had been extremely useful for gaining a deeper understanding of the activities and how they will be carried out. He furthermore expressed appreciation for the chance to cooperate with the other countries in the region on the protection of the Mediterranean Sea. At the same time, the representative of Libya shared his concern about the MedProgramme's integrated approach to environmental challenges spanning several GEF focal areas, indicating that this can complicate activities on the ground. In closing, the representative of Libya wished all the partners success in the execution of their activities.
81. The representative of Montenegro thanked the partners for the all the work completed to date, and recalled that one of the benefits of a regional programme is the opportunity for activities covering many thematic areas at both the national and regional levels, which has great value for the countries. She recalled that Montenegro is in the stage of pre-accession to the EU and does not have the resources to finance all the corresponding obligations, and that for this reason it is important to identify additional sources of assistance. Besides the MedProgramme, the Government of Montenegro is also participating in the GEF Adriatic Project and the UN Environment Vienna biodiversity assessment in coastal and marine areas, which will lead to the establishment of three new MPAs in Montenegro. The representative of Montenegro also highlighted the synergies that were identified during the design of the MedProgramme, and notably the integration of activities between Child Project 2.1 and the SCCF Project in Montenegro, maintaining that without a programmatic approach this kind of synergy and integration would not have occurred. In closing, the representative of Montenegro acknowledged the effectiveness of the programmatic approach in terms of communication with partners on the design of activities, and her interest in the future implementation of the Knowledge Management and the Gender Mainstreaming Strategies.
82. The representative of Tunisia thanked the MedProgramme team for the progress achieved on the preparation of the projects and recalled the contributions of Tunisia throughout the process. He also underlined the importance of initiating efforts to establish the implementing modalities at the national level with the relevant institutions to avoid delays and to ensure that the objectives of the MedProgramme are achieved. In closing, the representative of Tunisia

stressed the need to identify synergies and complementarities among the activities of the MedProgramme, and more importantly, with other ongoing and future initiative in the region, such as Horizon 2020 and post-Horizon 2020 activities.

Day 2 Agenda Item 7: Conclusions and closing of the meeting

83. The Secretariat presented the conclusions and next steps recorded during the proceedings of the Second Regional Consultation and asked the GEF Operational Focal Points (or their representatives) for their comments and approval. The GEF Operational Focal Points (or their representatives) endorsed these conclusions and approved the next steps, which appear on page 1 of the present report.
84. The Coordinator of the UN Environment/MAP-Barcelona Convention Secretariat declared that the presentations and discussions had been illuminating and had helped to clarify for everyone once again the importance of the MedProgramme and the complex challenges that would be tackled by this ambitious and innovative joint initiative. He asserted that the overall level of buy-in and interest are high for the MedProgramme and assured that all the concerns raised by the Contracting Parties would be duly addressed in the final project documents, prior to their submission to the GEF Secretariat. The Coordinator thanked all participants for their continued commitment of energy, time and resources and expressed positive anticipation for the continued collaboration. In closing, the Coordinator recognized the contributions of the countries, the partners, the UN Environment team, the GEF and UNESCO, a gracious host for the event and an important partner of the programme.
85. The representative of UNESCO IHP expressed UNESCO's pleasure in hosting the participants of the consultation. Recalling that 21 September is the International Day of Peace, the representative of UNESCO IHP explained that people of all cultures and beliefs were present at UNESCO on this day to discuss peace, and declared that peace can also be built on science and environmental sustainability.
86. The Second Regional Consultation for the MedProgramme was closed at 17.00 on 21 September 2018.

Annex 1
Agenda of the Second Regional Consultation of the MedProgramme

Day 1: 20 September 2018	
9:00 – 9:30	<i>Registration</i>
9:30 – 10:00	Welcoming remarks: UNESCO-IHP, UN Environment/MAP and UN Environment/GEF
10:00 – 10:15	1. GEF and the Mediterranean Sea: 20 years of support and expectations under GEF-7
10:15 – 11:00	2. Remarks from the Permanent Delegations of UNESCO
11:00 – 11:30	<i>Coffee Break</i>
11:30 – 12:00	3. Setting the scene and objectives of the consultation: UN Environment/MAP
12:00 – 12:30	4. Progress report on preparation of the MedProgramme Child Projects and on their submission to the GEF: UN Environment/MAP
12:30 – 13:00	5. Update on Child Project 4.1: UN Environment/MAP
13:00 – 14:30	<i>Lunch</i>
14:30 – 15:00	6. Knowledge Management in the MedProgramme: UN Environment/MAP
15:00 – 15:30	7. Coordination with the GEF's established knowledge management platforms: IW:LEARN and LME:LEARN
15:30 – 16:00	8. Gender Mainstreaming in the MedProgramme: UN Environment/MAP
16:00 – 16:15	<i>Coffee Break</i>
16:15 – 17:00	9. Update on Child Project 2.1: GWP-Med, PAP/RAC, Plan Bleu and UNESCO-IHP
17:00 – 17:30	10. Update on the GEF Special Climate Change Fund Project: UN Environment/MAP
17:30 – 17:45	11. Conclusions of Day 1
17:45	<i>End of Day 1</i>

Day 2: 21 September 2018	
9:00 – 9:15	Opening remarks: UN Environment/MAP
9:15 – 10:00	1. Update on Child Project 1.1: UN Environment/Chemicals and Waste, MED POL, SCP/RAC, Plan Bleu
10:00 – 10:45	2. Update on Child Project 1.2: EIB and MED POL
10:45 – 11:15	<i>Coffee Break</i>
11:15 – 12:00	3. Update on Child Project 1.3: EBRD
12:00 – 12:30	4. Update on Child Project 3.1: SPA/RAC, WWF and IUCN
12:30 – 14:00	<i>Lunch</i>
14:00 – 14:30	5. Update on Child Project 2.2: GWP-Med
14:30 – 16:00	6. Discussion: <ul style="list-style-type: none"> • Added-value of GEF programmatic approach; • Complementarities among the Child Projects; • Feedback from the GEF Operational Focal Points.
16:00 – 16:30	<i>Coffee Break</i>
16:30 – 17:00	7. Conclusions and closing of the meeting – UN Environment/MAP, UN Environment/GEF and UNESCO-IHP
17:00	<i>End of the consultation</i>

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Meeting of the GEF Focal points and representatives of the GEF Focal Points on the MedProgramme Child Project 2.2 “Mediterranean coastal zones: Managing the Water Food Energy and Ecosystems Nexus” (Beirut, Wednesday 28 November 2018, Hilton Metropolitan Palace)

Main points of discussion and conclusions

Participants

GEF Focal Points and nominated representatives of GEF Focal Points:

- Mr. Nadim Mroueh, Chief of Service of Natural Resources, Barcelona Convention and MAP Coordinating Unit, Ministry of Environment, Lebanon
- Ms. Abir Abu Zeid, Undersecretary, International Cooperation & Technical Assistance, Egyptian Environmental Affairs Agency, Egypt
- Mr. Mustafa Soliman, GEF Operation Focal Point, Libya
- Mr. Najib Belmekki, Administrator, Secretariat of state for the Sustainable development, Morocco

Representatives of Nexus-related Ministries:

- Ms. Mona Fakhri, Water Director, Ministry of Energy and Water, Lebanon
- Ms. Afef Ben Rejeb, Sub-Director, Ministry of Agriculture, water resources and fisheries, Tunisia

Other participants:

- Mr. Vangelis Constantianos, Executive Secretary/Regional Coordinator, GWP-Med
- Mr. Dimitris Faloutsos, Deputy Regional Coordinator, GWP-Med
- Mr. Tassos Krommydas, Senior Programme Officer, GWP-Med
- Ms. Sarra Touzi, Senior Programme Officer, GWP-Med

Main points of discussion and conclusions

Mr. Faloutsos, GWP-Med, opened the meeting providing a broad overview of the MedProgramme and its background as well as a detailed description of the Child Project (CP) 2.2.

It was reminded that the CP 2.2 Project’s Outcomes, Indicators and Targets are described in the MedProgramme Framework Document endorsed by the beneficiary countries and approved by GEF. The Project Document of CP 2.2. will describe the way that these Outcomes, Indicators and Targets will be met.

The consultation process for the development of the Project Document (PD) was also presented. In addition to the presentation made earlier during the “1st Nexus Roundtable in the MENA and wider Mediterranean” (26-28 November 2018, Beirut, Lebanon), the PD was presented and discussed in a Nexus Regional Roundtable for South East Europe that was held in Skopje on 23-24 October 2018 as well as in a closed meeting of the representatives of Water, Agriculture, Energy and Environment ministries of the non-EU South East European countries (Skopje, 24 October 2018).

The background work for the development of the Project Document was explained including: (i) a “rapid nexus analysis” describing basic elements of the Nexus sectors in the beneficiary countries including description -at some degree- of interlinkages and trade-offs among sectors using information from the available strategic documents; (ii) a stakeholders’ mapping. GWP-Med is

working also for the mapping of international financing institutions and agencies on international development active in the Mediterranean.

The Project Components and Activities were presented including: a Mediterranean Nexus Dialogue; a Nexus Dialogue Assessment in three priority focus areas (region and countries) using qualitative and quantitative methods to identify interlinkages and trade-offs among the Nexus sectors and Nexus related issues as well as effects to water, energy, land and ecosystems under different scenarios; Development of Action Plans to address the trade-offs and the Nexus related issues; Activities to secure the financing of priority actions; Capacity Building activities; Stakeholders involvement and communication activities.

In terms of partners, there is initial agreement with the Joint Research Center of the European Commission for the latter to be involved in the development of the Nexus Analysis to be implemented in the framework of the Project.

A discussion followed; the main points and conclusions are given below:

- It was underlined that Nexus-related causes and impacts typically go beyond the strict borders of the coastal zones as the flow of water, energy and agricultural goods transcend the coastal and hydrological borders.
- It was clarified that selecting a sector -usually the most important one in terms of socio-economy- as an entry point for the nexus assessment and dialogue, does not mean that the sector will impose its priorities or targets to the other Nexus sectors.
- It was noted that strengthening existing inter-ministerial bodies is usually preferable rather than creating new ones. The Egyptian representative informed the meeting on the country's inter-ministerial Committee on climate change.
- The GEF Operational Focal Point of Libya and the representatives of the GEF Operational Focal Points of Egypt, Lebanon and Morocco validated the structure and the content of the CP 2.2.
- GWP-Med informed that State Secretary of the Minister of Tourism and Environment of Albania has requested to be the focus of a Nexus Dialogue and Assessments.
- The Libyan GEF Focal Point requested that Libya is included in the Regional Activities. It was agreed that an effort will be made during the project implementation so as participation from the Libyan side in the capacity building activities, covers geographically the total of the country.
- The representative of Ministry of Energy and Water (MEW) of Lebanon, requested that the Nexus Policy dialogue and assessments to be at country level and linked with the work to be done under Child project 2.1 for the development of a Coastal Zone Management Strategy. The MEW will consult with the Ministry of Environment with regard to the final position of Lebanon in this regard.
- The Egyptian representative informed the participants on a case of a wastewater treatment plant in the country where the treated water ends up in a polluted river. This case could present a basis for a demonstration activity supported by the project: treated water to be led to plantations in the desert for irrigation and addressing land degradation. The scale of this intervention is such that can't be supported by the Child 2.2. project alone. The Egyptian representative proposed joint action with the government financing infrastructure and commercial banks offering micro-financing for farmers to use the water. A concept note will be prepared and sent to UN Environment/MAP and GWP-Med to initiate discussions on a possible demonstration activity.
- GWP-Med explained that there have been initial discussions with Morocco for a Nexus Dialogue and Assessments to focus on the Tangier-Tetouan-Al Hoceima region, as part of the development of an ICZM plan for the Region. The latter will be prepared by PAP/RAC as part of the activities under Child Project 2.1. The Moroccan representative explained that he would consult with colleagues in the Ministry to confirm the above. GWP-Med will send a description of the activities to the Moroccan Ministry.

- The representative of Tunisia expressed interest for the activities of the project to focus also in Tunisia. A related letter of interest will be sent to UN Environment/MAP and GWP-Med after communication and agreement by the Ministry of Environment of Tunisia.

ANNEX R: Rapid Nexus Assessment in Southeast Europe and MENA countries of the Mediterranean

Disclaimer: The document adheres to the UN rules and policies regarding the names and international status of countries and/or other geographical areas etc. The use of characterizations, names, maps or other geographical statements in this document in no way implies any political view or positions of the Parties which are executing and implementing the Project.

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Introduction

This "Rapid Nexus Assessment" concerns the 9 countries (Albania, Algeria, Bosnia and Herzegovina, Egypt, Lebanon, Libya, Montenegro, Morocco and Tunisia) participating in the project *"Mediterranean coastal zones: Managing the Water Energy Food and Ecosystems Nexus"* to be submitted for approval by the CEO of the Global Environment Facility. It was prepared in the context of the development of the Project Document of this project and is an Annex to the Project Document itself.

For each of the participating countries, the "Rapid Nexus Assessment" provides an overview of the current status of the water, agriculture and energy sectors, as well as of the respective institutional, legislative and policy frameworks.

The Baseline Scenario – Morocco

1. The Water sector in Morocco

A. Current status

Surface Waters and related ecosystems – Size & characteristics

The total surface water availability in Morocco is estimated at 18 billion m³ per year of which nearly 8 billion are used.

In an average year, surface water supplies amount to a few million cubic meters for the poorest basins: Saharan Basin (25 Mm³), Souss Massa (625 Mm³), Ziz, Guir, Rhéris and Maïder (625 Mm³), and in billions of cubic meters for the most favored basins: Loukkos, Tangérois, Mediterranean Coast (3600 Mm³) and Sebou (5600 Mm³).

The main river in Morocco flowing into the Mediterranean is the Moulouya river.

The preliminary results of an inventory carried out in 2014 and still in progress shows that in the country there are more than 300 wetlands, located both on the coast and in the inland, that are very diverse in terms of their biodiversity. Among these twenty-four are on the RAMSAR list, covering a total area of about 272000 ha. About 25% of the surface area of these 24 areas was lost between 1978 and 1999.

Pressures

A coastal population density that is already high (more than 500 inhabitants/km²) and growing is driving coastal aquifer degradation. Other pressures on water resources include the lack of wastewater treatment plants, unregulated water use for irrigation, and the use of fertilizers. Growing salinization of groundwater – often beyond the limits for irrigation - is generalized and mostly linked to excessive extractions and continuing use for irrigation, interactions with saline surface waters (Bou Areg), and locally to seawater intrusion (Nador). Nutrient enrichment of surface water and groundwater is common in both agricultural and urban areas. The siltation of dams is an important constraint to the mobilization of surface water that results in the loss of nearly 75 Mm³ / year. The total loss by siltation is currently estimated at around 1740 Mm³. This capacity would be of the order of 3 billion m³ in 2030, almost equivalent to the total capacity of scheduled dams.

Climate projections established by the National Meteorology Directorate (MND), show an increase in temperatures of + 2 ° C to + 5 ° C depending on the region and a decrease in precipitation of -5 to -50% by the end of the century. Water inflows have already decreased by 20% on average since 1950, rainfall intensity and variability are increasing, generating floods and droughts. The 2008-2011 period witnessed a significant increase in the number of floods. Conversely, several drought sequences have affected some areas or all of Morocco in recent decades (State of the Environment of Morocco, 2015).

During the 2014-2015 hydrological year, the quality of the rivers was:

- excellent to good for 54% of sampled stations,
- average for 17%,
- degraded for 29%.

Despite the fact that the wastewater treatment rate in Morocco has significantly increased, from 6% in 2005 to around 34% in 2013 (28% in 2012 according to ONEE), only about a third (in 2013) wastewater collected are treated at the level of the treatment plants, the rest is poured into the environment without purification.

Moreover, eutrophication related to the amounts of fertilizer or organic matter carried by water and sediments, sometimes makes the waters unsafe or involves an additional cost in terms of the treatments needed to make them potable. This is a direct consequence of the releases of organic and mineral from agglomerations urban areas, industrial infrastructures or farms.

Exceptional floods have been accentuated during the period 2008-2011, in particular on a large northern half of the territory, with periods estimated return between 30 and 100 years.

Water infrastructure

Morocco disposes of 139 large dams totaling a storage capacity estimated at 17.6 billion cubic meters. 12 dams are currently under construction to mobilise additional surface water, for a total of about 600 million cubic meters per year (the total capacity of these dams is approx. 3.04 billion cubic meters). In addition, the construction of 38 large dams is planned for a total capacity of about 4.3 billion m³, that will allow to mobilize an additional volume of nearly 1 billion cubic meters per year by 2030.

About 100 small dams and hill lakes have also been built and 20 are under construction to meet local needs for drinking water, irrigation and livestock watering. The total capacity of these small dams is estimated at nearly 100 Mm³.

The access to drinking water in urban areas is 100%, while the access in rural areas has reached in 2016 a rate of 94.5%, varying among provinces from almost 63% to 100%.

Concerning sanitation, in urban areas the connection rate to the wastewater network is estimated at 74% and the level of wastewater treatment around 38% in 2014.

In rural areas the connection rate to the wastewater network does not exceed 10% and the wastewater treatment rate does not exceed 3%.

Flood protection works have been carried out at around a hundred sites most exposed to flood risks.

Trends

The average water availability per inhabitant has fallen to less than 700 m³ / person / year, which is close to the threshold of 500 m³ / person / year commonly accepted as a scarcity threshold. This availability would fall below 500 m³ / person / year as early as 2025: this is the so-called "absolute shortage" threshold. In 2020, 35% of the Moroccan population will be below this threshold of "absolute shortage".

To cope with the increased demand new dams and hill lakes are being built, as mentioned above, while the national water strategy estimates the volume of water that can be mobilized in 2030 from unconventional water resources to nearly one billion cubic meters. This includes the reuse of wastewater, the artificial recharge of groundwater and the production of freshwater by desalination of seawater or of brackish water.

The climatic trends already mentioned above, involving precipitation decrease and increase in evaporation, would lead to great water deficits in the different basins of Morocco and a further reduction on the water level in dams. Irrigated agriculture is already facing a water deficit that farmers are trying to fill through the use of groundwater.

The depollution rate recorded at the treatment stations managed by ONEE's Water Division, passed from 5% in 2003 to almost 51% in 2012, which particularly encouraged the reuse of treated water for irrigation of agricultural areas and golf courses. The number of wastewater treatment plants increased from 2 in 2003 to 51 in 2012 and the nominal capacity of the WWTPs has passed from almost 3,000 m³ / d in 2003 to 214,000 m³ / d in 2012, their performance has also improved (tertiary treatment). In addition, 50 other wastewater treatment plants are underway to serve 52 centers cities and towns for a population of around 3 million inhabitants.

Hot spots

The two main rivers of Morocco, Sebou and Oum Er Rbia, regularly experience critical situations of pollution during several periods of the year. In summer, the industrial waste of the sweets in the wadis constitute a problem during periods of low water due to the decrease in the self-purification power because of the low flow.

The quality of surface water has become a concern on certain sections of waterways such as the Sebou where the quality of the water is very deteriorated between Fez and Kenitra.

The Sebou basin (which concentrates organic pollution rejected by sweets and oil mills and chromium from tanneries), the Loukkos basin, and Oum Er Rbia and Sous basins (where effluents rich of heavy metals from tanneries are discharged) are the most affected by pollution.

Aquifers and related ecosystems

Morocco is geologically and hydrologically diverse with 50 hydrogeological catchments (FAO 2009). 126 aquifers are likely identified within the Country – about half are shallow aquifers (less than 200m below sea level). The aquifers of Morocco's Mediterranean coast are relatively small (<200 km²), all of alluvial type and mostly unconfined. Growing salinization –often beyond the limits for irrigation - is generalized and mostly linked to excessive extractions and continuing use for irrigation, interactions with saline surface waters, and locally to seawater intrusion. Nutrients enrichment is common in both agricultural and urban areas.

In particular, the coastal aquifers are important for the local rural economy and constitute a source mainly for agriculture, but also for local domestic water supply and industrial uses. Groundwater contributes about 60% of the supply to domestic and industrial users. However, as the population continues to grow the groundwater contribution is now decreasing because of over-exploitation. In rural areas, groundwater supplies up to 70% of all water needs (FAO 2009). Thus, high and growing coastal population density (> 500 inhabitants/km²) drives coastal aquifer degradation, compounded by lack of WWTPs, unregulated use for irrigation, and the use of fertilizers.



Figure 1 Main Coastal Aquifers in Morocco (UN ENVIRONMENT/MAP AND UNESCO-IHP, 2015)

B. Policies and Strategies

The National Charter for the Environment and Sustainable Development (2010) is the first environmental charter of its kind in the Arab and Muslim world. The Charter forms the framework for future national environmental laws and policies aiming to ensure that all projects will adhere to environmentally-friendly specifications. It was developed through a unique nationwide, public consultative process.

More info on the Charter is available at the government's dedicated website:

<http://www.chartenvironnement.ma>

The National Strategy of Sustainable Development 2030 (2016), following the earlier one with a horizon to 2020, is a transversal policy document framing the actions required to achieve the transition to a low-carbon economy.

It is structured around the following 7 issues, each accompanied by separate strategic axes:

- Consolidating the governance of sustainable development
- Successful transitioning to a green economy
- Improving the management and enhancement of natural resources and strengthening the conservation of biodiversity
- Accelerating the implementation of the national policy to fight against climate change
- Providing special vigilance to sensitive territories
- Promoting human development and reducing social and territorial inequalities
- Promoting a culture of sustainable development

The Strategy is available through this webpage:

<http://www.environnement.gov.ma/fr/strategies-et-programmes/sndd>

The National Water Plan (NEP) is a planning instrument that sets the basic guidelines for water policy and constitutes the reference framework for this policy. It is established for a period of at least thirty (30) years and it may be subject to periodic revisions every 10 years, except in exceptional circumstances requiring a change in its content before this period. The main strategic orientations proposed in the framework of the PNE project were also established in accordance with the guidelines of the National Charter of the Environment and Sustainable Development and the National Initiative for Human Development, and considering the recommendations of the major international conferences. These guidelines are based on the following principles:

- Prioritize the management of water demand and the valorisation of water already mobilized
- Consolidate the approach for integrated water resources management
- Take into account the environmental dimension

The Integrated Master Plan for Water Resources Management (PDAIRE) is a planning instrument that sets the basic guidelines for an integrated management of water resources for each basin or set of water basins taking into account the strategic orientations and prescriptions of the NEP. It is established by the Basin Organisation, in coordination with other administrations for a period of at least 30 years. It may be revised every 10 years, except in exceptional circumstances requiring a change in its content before this period. It includes the following elements:

- assessment of water resources in terms of quantity and quality and the state of development and use of water resources;
- assessment of water demand presented by sector and by category of use;
- allocation of water resources that can be mobilized to different potential uses;
- the objectives to be attained in terms of water quality as well as the deadlines and

- appropriate measures to achieve them;
- proposing patterns of mobilization and management of conventional and unconventional water resources and aquatic environments, respecting the principles of integrated water resources management and bringing together the technical, economic and environmental measures to be taken, with a view to ensure (i) the satisfaction in a sustainable and cost-effective manner of domestic, industrial, agricultural and other economic and social water demands, (ii) the quantitative and qualitative preservation of ground and surface and aquatic environments, and (iii) the prevention and management of water-related risks.

Local Water Management Plans (PLGE) can be established by the Basin Organisations to specify the measures to be taken to implement the PDAIRE requirements at the local level. The PLGE must define specific objectives and indicators for monitoring the achievement of these objectives.

Priority needs

- Improve the governance of the water sector through increased stakeholders involvement, responsibilities and public participation;
- Enhance the coordination of different departments/bodies at the river basin level;
- Reorganise the water sector to avoid overlapping and improve coordination
- Improve the functioning of coordination and concertation bodies.
- Improve water knowledge and research.
- Make more effective the water police
- Preserve the existing water resources (underground, water quality, water infrastructures)
- Rationalise the use of water resources in the different sectors
- Develop non-conventional water sources to cope with increased demand

Planning and management for Aquifers in particular

Coastal aquifers exploitation and management represent a major concern in Morocco, due to the conflicts between privately individual and collective use. In this context, the Moroccan Water Strategy aims to:

- Water demand management and valorization of water resources
- Management and development of water offer
- Preservation and protection of water resources, natural habitats and fragile areas
- Reduce vulnerability to natural water risk and adaptation to climate change

In the field of Environment and in relation with the Chart of the Environment and the Sustainable Development among the main national priorities there are:

- Reinforcement of the protection and preservation of the natural resources and environments and the fight against the pollution and nuisance;
- Integration of the sustainable development in the sectoral public policy and adoption of a national strategy of sustainable development
- Harmonization of the national legal framework in the field of environment
- Reinforcement of the mitigation and adaptation measures for climates changes and fight against desertification.

C. Legislative framework

A new Water Law (No. 36-15) was adopted in 2016 and introduced reforms aimed primarily at consolidating decentralized, integrated, and participatory management and planning of water resources (basin-wide management, the "polluter-pays" principle and the "taker-payer" principle. It stressed in particular on:

- the creation of councils at the level of the hydraulic basins. The purpose of these

- consultative bodies is to examine and give an opinion on the PDAIRE of the basin and on any question related to the management of water resources;
- the establishment of a legal framework for seawater desalination. The provisions of the draft law specify the persons authorized to carry out seawater desalination projects and the concession scheme. to which these projects are submitted;
- the obligation for owners or managers of hydraulic structures to maintain a minimum flow downstream of these structures to allow the circulation and reproduction of animal and plant species;
- the obligation to provide urban agglomerations with sewage schemes that take account of rainwater and the requirements for the possible use of wastewater. These agglomerations must also be equipped with sewage systems and sewage treatment plants. In addition, the law makes the discharge in these networks subject to authorization and the payment of a fee;
- the establishment, as part of the participatory management of water resources, of rules relating to the procedure for the establishment of participatory management contracts, the rights and obligations of the administrations, public institutions and users;
- the establishment of a comprehensive legal framework for flood prevention and protection. It includes aspects related to the determination of flood zones, detection, monitoring and warning devices and the establishment of national committees

A draft law has also been prepared to increase the safety of the dams and of the dykes and facilities attached to them. To this end, it proposes a reform of the legal regime governing the establishment and exploitation of these works.

D. Institutional framework

The High Council for Water and Climate (CSEC) brings together the various stakeholders in the water sector, namely decision-makers, elected officials and users and public and private actors and has the fundamental mission of formulating the general orientations of the water and climate change policies. The Interministerial Commission on Water (CIE), created in 2001, examines and implements the necessary provisions to ensure coherent and concerted development of the water sector, to ensure and monitor the implementation of CSEC recommendations. It is made up of representatives of all the ministerial departments concerned with water issues.

Water management is the responsibility of the Ministère Délégué Chargé de l'Eau (MDCE) that is in charge for the assessment and monitoring of water resources and their qualities; the development and monitoring of the implementation of the National Water Plan; the construction, maintenance and rehabilitation of hydraulic structures for mobilizing water resources; the construction of flood protection works; the development of legal and regulatory texts related to water resources management. These missions are carried out through different Directions and other establishments attached to the Ministry:

- the Directorate of Research and Water Planning,
- the Directorate of Hydraulic Improvements,
- the Directorate of Administrative and Financial Affairs.
- the Directorate of National Meteorology;
- the River Basin Agencies (ABH), autonomous public institutions, 9 in total, concerning the basins of Oum Er Rbia, Moulouya, Loukkos, Sebou, Bou Regreg and Chaouia, Tensift, Souss-Massa-Draa, Guir-Ziz -Rhéris and Sakia El Hamra and Oued Eddahab.
- ONEE-Branche Eau, an autonomous public institution under the supervision of the Ministry of Energy, Mines, Water and the Environment;
- the Water Services which represent the MDCE and the provincial services of the National Meteorology.

Water management also concerns other sectors, such as agriculture, industry, health, the interior (local communities), spatial planning (urban planning), tourism and forests: In the Ministry of Agriculture and Marine Fisheries, the Department in charge of Agriculture rationalizes the use of

water resources in irrigation. The Ministry of Interior controls local public water and sanitation resources. The Ministry of Health contributes to the global definition of priority objectives on programmes concerned with drinking water supply and sanitation. The National Agency for Drinking Water ensures domestic water supply, controls of water pollution for domestic use and, in some cases, sanitation. Nine regional agencies across Morocco are concerned with agricultural development, entitled to authorize water abstraction (but not drilling a well) for irrigation, and to control law enforcement.

Other cross-sectoral bodies relevant to water management are:

- Permanent Interdepartmental Commission of the Rural Spaces and Mountain Areas Development
- Office of the High Commissioner for Water and Forests and combat Desertification.
- The National Council of the Environment (CNE)
- The Prefectural and Provincial Water Commissions (CPPE)

The “Office National de l’Électricité et de l’Eau potable” (ONEE), was born from the merger in 2012 of the Office National de l’Eau Potable (ONEP) and the Office National de l’Électricité (ONE). It is the pillar of the energy strategy and the main actor in the drinking water and sanitation sector in Morocco. In the water and sanitation sector, ONEE is in charge of planning the supply of drinking water; programming investments in drinking water and in sanitation; managing on behalf of the municipalities drinking water distribution and sanitation services; controlling the quality of produced and distributed water; assisting in the elaboration of legislative and regulatory texts and technical studies.

2. The Agriculture sector in Morocco

A. Current status

Situated at the mouth of the Mediterranean Sea, the country can be divided into three physiographic regions:

- The coastline with plains (800 km) (they are narrow along the Mediterranean and wide along the Atlantic) which are well-watered and fertile, supporting cultivation of citrus fruits, vegetables and grain crops.
- The Atlas and Rif mountain ranges which are covered with a barren steppe situated in the east of the country.
- The southern coast stretches to the edge of the Western Sahara where water gradually peters out in the endless sand and stony wastes of the desert, and life is only possible within the sanctuary of the oases.¹

¹ Fnack web, <https://fanack.com/>



Figure 2: Agriculture in Morocco

Existing irrigation schemes

The potential of irrigable land is 1,664,000 ha. The post-independence agricultural policy has directed the bulk of public budgets for large-scale hydropower over the long term. As a result of this effort, the irrigated sector, which grew from 90,000 hectares in 1961 to 218,000 hectares in 1966 and 1,458,000 hectares in 2004, has acquired a real strategic dimension².

The areas managed in a modern or traditional way for perennial irrigation amounted to 1,458,160 ha at the end of 2011, of which 1,016,730 ha were developed by the public authorities and 441,430 ha by the private sector³.

Types of products

Various crops are being planted in Lebanon, such as maize, potato, wheat, onion, tobacco, water melon as field crops, tomato, cabbage and other green vegetables as market crops and apple, grape, pear, citrus, cherry and olive as perennial/fruit crops. In order to grasp water requirement for irrigation, those crops are simply categorized into three, namely cereals represented by winter wheat, vegetables and fruit trees.

Harvested irrigated cropped areas as of 2011 are given in the following Table:

Crops	Area (ha)
Total harvested irrigated cropped area	1,711,000
Temporary crops: total	1,042,000
- Cereals	540,000
- Sugar beet	44,000
- sugarcane	11,000
- Vegetables	209,000
- Feed	200,000
- Other crops	23,000
Permanent crops: total	669,000
- Fruits	147,000
- Citrus	101,000
- Olives	330,000
- Date palm	70,000
- Feed	21,000

² FAO Morocco country profile 2015

³ FAO Morocco country profile 2015

Fishing⁴

The fisheries sector can be subdivided into two distinct sectors: maritime and continental:

- Marine fishing includes extractive activities deployed at sea, from the coast as well as in the lagoons.
- Inland fishing is a fishery that is practiced on land, in rivers, wadis, dams, etc.

On the other hand, aquaculture is any activity of breeding or cultivation of aquatic organisms such as fish, crustaceans, mollusks and marine plants. It can be marine (sea or open lagoon) or continental (river, dams or ponds closed).

In Morocco, activities related to sea fishing and marine aquaculture are managed by the Ministry of Agriculture, Rural Development and Maritime Fisheries (Department of Maritime Fisheries) and inland fisheries falls under the competence of the High Commission Waters and Forests.

B. Policies and Strategies

Strategies related to irrigation

National Water Strategy (SNE) (2009): In 2009, Morocco adopted an innovative and ambitious National Water Strategy (SNE), which allowed the State to have a global roadmap for the management of water resources and targets by 2030. This strategy is based on the following themes: demand management and the valorisation of water resources, the preservation and protection of water resources, reducing vulnerability to water-related risks, adapting to climate change, pursuing regulatory and institutional reforms, modernizing information systems and strengthening means and skills.

The National Water Plan (NEP): The National Water Plan (NEP) defines the national priorities for the mobilization and use of water resources, the program and the schedule for the realization of hydraulic installations at a national scale. The NEP is established for a period of not less than twenty (20) years and may be subject to periodic revisions every five years, except in exceptional circumstances (requiring a change in its content before that period). The NEP is drawn up by the ministerial department responsible for water based on the results and conclusions of the Watershed Management Master Plans (PDAIRE). It is approved by decree, after opinion of the High Council for Water and Climate (CSEC).

The planning of Morocco's water resources is decentralized to the watersheds of the big wadis, based on participatory and territorial approaches and on the participation of users.

Strategies related to agriculture, agricultural trade & land use management

The Green Morocco Plan (Plan Maroc Vert (PMV)): In April 2008, the Ministry of Agriculture, Rural Development and Maritime Fishing launched the Green Morocco Plan (PMV) setting out the agriculture development strategy through 2020. It has two pillars:

- The accelerated development of modern and competitive agriculture, vital for the national economy, through the realization of thousands of new projects, with a focus on high-value agriculture.
- Support to small-holder agriculture through the implementation or professionalization of 545 projects of small farms in difficult rural areas, thereby promoting greater productivity, greater recovery of production and sustainability of farm income. This second pillar also seeks the conversion of cereal crops to higher-value alternatives and as well as value-added processing.

⁴ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - Morocco

Strategies related to aquaculture

A national approach to the management and sustainable use of fisheries resources has been developed and implemented. This approach, which aims to consolidate the policy of responsible fishing and sustainable exploitation of resources and their marine ecosystem, should strengthen Morocco's position as a country with a vocation as a fishery-industrialist and a country providing the world market in quality products with high market value. The strategic orientations are mainly related to:

- optimization of production,
- maximizing socio-economic benefits, and
- consolidation of the proximity policy.

Policy interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
National Water Strategy (SNE) (2009)	Supportive	Supportive	Supportive	Supportive
The National Water Plan (NEP)	Supportive	Supportive	Supportive	Supportive
The Green Morocco Plan	Supportive	Supportive	Supportive	Supportive
Strategies related to aquaculture	Supportive	Supportive	-	Supportive

C. Legislative framework

The Water Law No. 10/95: The Water law has fixed the following objectives:

- consistent and flexible planning of water use, both at national and watershed levels;
- optimal mobilization and rational management of all water resources, taking into account the priorities set by the National Water Plan;
- water resources management within a geographical unit; the watershed (which is an important innovation for implementing decentralized management of water resources);
- protection and quantitative and qualitative conservation of the hydraulic public domain as a whole;
- a valorization of the water resources and a profitability of related investments while taking into consideration the rights to water acquired.

Gaps in the Current Legal/Regulatory Setup

- Difficulties in application of regulations
- Gaps in the regulatory and legislative texts;
- Entanglement of missions and competition between local institutions;
- Lack of coordination between regional administrations;

D. Institutional Framework

Responsible institutions related to irrigation

The Ministry of Energy, Mines, Water and Environment (MEMEE): Its departments and specialized public institutions under their tutelage more particularly involved are:

- The Department of Water (DE): Its mission is: research, evaluation, planning, development, and management of water resources, as well as weather monitoring on climate change.
- Watersheds Agencies (ABH): established by the Water Law/1995.

Responsible institutions related to agriculture

The Ministry of Agriculture and Fisheries: The Department of Agriculture is responsible for developing and implementing the Government policy concerning Agriculture and Rural Development. It is in charge to ensure the Secretariat of the Permanent Interdepartmental Commission of the Rural Spaces and Mountain Areas Development.

The General Council for Agricultural Development: was created in 1993 (Decree No. 2-93-24 of 13 May 1993) as part of the reorganization of the Ministry of Agriculture. Organically attached to the Minister and detached from day-to-day management and direct administration.

Regional Offices of Agricultural Development (ORMVA): created in 1966, are responsible for planning and agricultural development of irrigation schemes of large hydro. Their three fundamental missions: planning, agricultural development and water service.

The Provincial Directorates of Agriculture (DPA): are responsible for the realization and monitoring of small and medium hydraulic schemes outside ORMVA action areas, on the basis of centralized planning at the level of the Administration. rural engineering. They intervene in the management of irrigation networks only to ensure heavy maintenance work.

The Agricultural Development Agency (ADA): The Agency for Agricultural Development of Morocco (ADA) is a national public entity based in Morocco, which provides action plans and value-added solutions to address agricultural needs at the local and national levels. Its mandate, under the national green plan in place since 2008, is to contribute to social and economic development through more resilient and productive agriculture. ADA has developed a comprehensive portfolio of climate change related projects and programmes worth approximately US\$ 33 million, which has been financed by bilateral and multilateral organizations. It has implemented projects and programmes in land protection and agricultural management through:

- Expanding agricultural areas and adding value to crop development;
- Promoting the development of agricultural products through new irrigation systems, farm equipment, packaging and marketing;
- Promoting agricultural investments, through for example implementing different partnerships; and
- Promoting local products.

National Office for Food Safety (ONSSA): located within the Ministry of Agriculture, Fisheries, Rural Development, Water, and Forests, is the competent authority in charge of implementing regulations and agreements related to biotechnology.

National Agronomic Research Institute (INRA): Morocco is actively engaged in agricultural biotechnology research and development as a means for addressing the country's food security challenges. This work is led by the National Agronomic Research Institute (INRA) and focused on finding solutions for Morocco's major crops, including cereals, forage, date palm, citrus, and olives.

Responsible institutions related to aquaculture

National Institute for Fisheries Research (INRH): National Institute for Fisheries Research has mission to undertake experimental studies, research and continuous assessment of national fisheries resources.

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Ministry of Energy, Mines, Water and Environment (MEMEE)	Government institution	Irrigation	Infrastructure development, Policy and strategy

Name	Type	Sectors	Activities
Department of Water (DE) - child of: Ministry of Energy, Mines, Water and Environment	Government institution	Irrigation	Infrastructure development, Policy and strategy
Watersheds Agencies (ABH) - child of: Ministry of Energy, Mines, Water and Environment	Government institution	Irrigation	Policy and strategy
Ministry of Agriculture and Fisheries	Government institution	Agriculture	Infrastructure development, Policy and strategy
General Council for Agricultural Development	Government institution	Finances	Policy and strategy
Regional Offices of Agricultural Development (ORMVA)	Government institution	Natural resources	Infrastructure development, Policy and strategy
Provincial Directorates of Agriculture (DPA)	Government institution	Irrigation	Policy and strategy
Agricultural Development Agency (ADA)	Government institution	Agriculture	Infrastructure development, Policy and strategy
National Office for Food Safety (ONSSA)	Government institution	Irrigation	Policy and strategy
National Agronomic Research Institute (INRA)	Government institution	Agriculture	Research and Training and development
National Institute for Fisheries Research (INRH)	Government institution	Agriculture	Research and Training and development

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Energy, Mines, Water and Environment (MEMEE)	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Department of Water (DE) - child of: Ministry of Energy, Mines, Water and Environment	Cross-institution	Cross-institution	-	-
Watersheds Agencies (ABH) - child of: Ministry of Energy, Mines, Water and Environment	Cross-institution	Cross-institution	-	-
Ministry of Agriculture and Fisheries	Cross-institution	-	-	-
General Council for Agricultural Development	Cross-institution	-	-	-
Regional Offices of Agricultural Development (ORMVA)	Cross-institution	-	-	-
Provincial Directorates of Agriculture (DPA)	Cross-institution	-	-	-
Agricultural Development Agency (ADA)	Cross-institution	-	-	-
National Office for Food Safety (ONSSA)	Cross-institution	-	-	-
National Agronomic Research Institute (INRA)	Cross-institution	-	-	-

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
National Institute for Fisheries Research (INRH)	Cross-institution	-	-	-

Interlinkages with Water/Energy/Ecosystems

Inter-ministerial coordination	Agriculture sector	Water sector	Energy sector	Ecosystems
High Council for Water and Climate	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Interministerial Commission on Water	Cross-institution	Cross-institution	-	Cross-institution
Permanent Interdepartmental Commission of the Rural Spaces and Mountain Areas Development	Cross-institution	Cross-institution	-	Cross-institution
Office of the High Commissioner for Water and Forests and combat Desertification	Cross-institution	Cross-institution	-	Cross-institution
National Council of the Environment	Cross-institution	Cross-institution	-	Cross-institution
Prefectural and Provincial Water Commissions	Cross-institution	Cross-institution	-	Cross-institution

3. The Energy sector in Morocco

A. Current status

Energy production⁵

Morocco has essentially no fossil fuel reserves and has to rely on imports to meet its energy needs, importing crude oil and oil products as well as coal and natural gas for electricity generation.

Energy consumption⁶

Primary energy consumption in Morocco has been increasing by 3.1% on average in the period 2006-2016 reaching 19.6 mtoe in 2016. In terms of total final consumption, in 2015 oil had a share of 73.3%, electricity 17.3% and biomass 9%.

Focus on the electricity sector⁷

Electricity generation in Morocco has been increasing with an annual growth rate of 4.2% in 2006-2016. Morocco has the most diversified energy mix in the region regarding its fuel for electricity generation. In 2015 54.8% of its electrical energy was produced by coal, 18.5% by natural gas, 7.3% by hydro plants and 12.2% from other renewables, mainly wind (8.1%).

The Moroccan electricity system is part of the Maghreb regional interconnection, together with Algeria and Tunisia. Since the late 1990s Morocco is also interconnected to Spain (the only country in North Africa currently directly interconnected with the European system) making the region's system synchronized with the pan-European high-voltage transmission network. Morocco imports a significant part of its electricity needs, predominantly from Spain. In 2015 imports amounted to 5.14 TWh out of total consumption of 36.19 TWh.

⁵ Source: BP Statistical Review of World Energy 2018

⁶ Source: International Energy Agency – online statistics

⁷ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin

Coal-fired power plants in Morocco have a total installed capacity of 2.9GW, with additional 2.7 GW expected to come online by 2021. The two largest coal plants are located on the Atlantic coast (near Casablanca and El Jadida), with a third one is near Oujda, close to the north-east borders with Algeria. Natural gas power plants have a total installed capacity of 2.6 GW. Two are located near Casablanca, two near Tangiers and hybrid gas-solar plant is near Oujda. Morocco has many hydro plants with a total installed capacity of 1.8 GW. The largest one (465MW) is a pumped-storage plant in Afourer on the El Abid river. The Al Wahda plant (240 MW) is located on the Ouergha river and the Allal al Fassi (240 MW) is on the Sebou river.



Figure 3: Location of major Gas (G), Oil (O), Coal (C) and Hydro (H) plants in Morocco⁸

Morocco was the first country in the region to embark on an ambitious programme for renewable energy. In 2016 it had wind parks with a total capacity of 1 GW as well as 180 MW of solar. The Ouarzazate Solar Power Station, currently under construction, when completed will have a capacity of 580 MW. Since 2015, Morocco has a target of meeting 52% of its electricity needs by renewable energy by 2030, a target which entails the addition of 4.6 GW of solar, 4.2 GW of wind and 1.3 GW of hydro power.

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Morocco from 1971-2015:

⁸ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

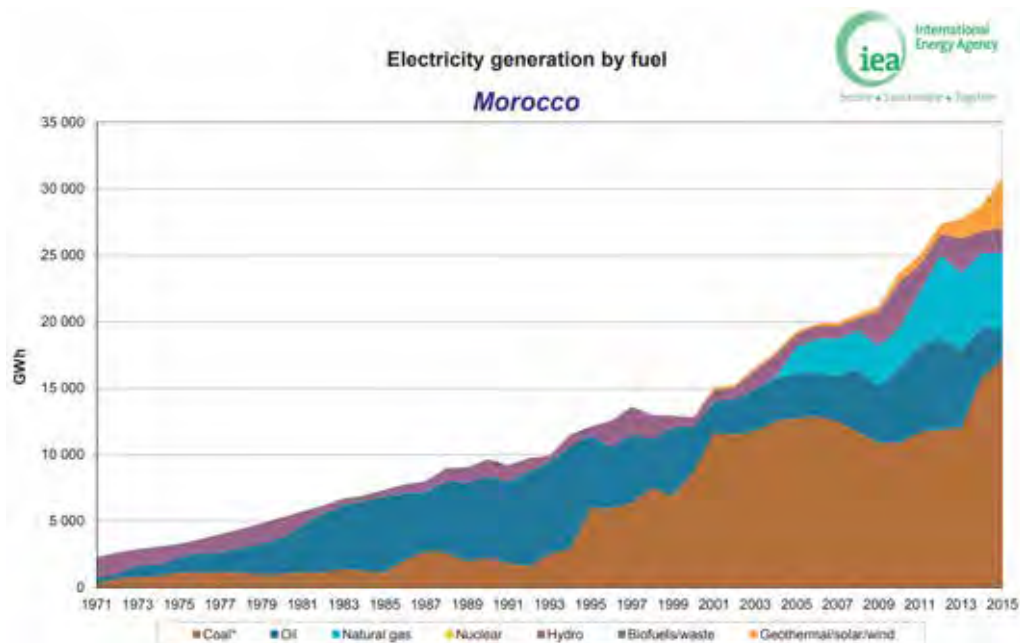


Figure 4: Evolution of electricity generation by fuel in Morocco 1971-2015 (Source: IEA)

Progress towards SDG 7

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "Tracking SDG7: The Energy Progress Report"⁹ with data for 2015, Morocco has achieved access to electricity for 100% of its population and access to clean fuels and technologies for cooking for 97% of its population. However, the share of renewable energy in total final energy consumption has been reduced from 14.4% in 2010 to 11.3% in 2015. The energy intensity of the Moroccan economy is quite good at least relative to other countries in the Region, with 3.2 MJ/USD in 2015, improved from 3.4 MJ/USD in 2010.

B. Policies and Strategies

Morocco's first Nationally Determined Contribution (NDC) to the Paris Agreement, submitted to the UNFCCC on 19 September 2016, is an update of its Intended NDC that had been submitted in 2015 in view of the COP 21 in Paris. The NDC includes a commitment to reduce GHG emissions by 42% below business as-usual (BAU) levels by 2030, conditional on international support. Its unconditional target is 17% below BAU levels by 2030.

These targets rely in large part on the transformation of the country's energy sector, reducing the country's heavy reliance on imported energy sources and increasing the share of renewable energy. The document also present individual aims and targets, including:

- Reaching at least 52% share of renewable sources in electricity consumption by 2030.
- Reducing energy consumption by 15% by 2030, compared to BAU.

⁹ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

- Substantially reducing public fossil fuel subsidies, building on reforms already undertaken in recent years.
- Substantially increasing the use of natural gas, through infrastructure projects allowing liquefied natural gas imports

Of the actions mentioned in Morocco's NDC, the following are of direct relevance to a Nexus perspective:

- Development of a 350 MW Pumped-Storage Power Plant (PSPP) at the Abdelmoumen site, 300 MW for another PPSP and 125 MW at the El Menzel hydroelectric facility
- Development of multiple micro-hydro power plants, reaching a capacity of 100 MW by 2030
- Desalination of seawater reaching a capacity of 500 million m³ per year by 2030
- Development of solar water heaters reaching 1,700,000 m² by 2030
- Utilisation of biogas from wastewater treatment plants for electricity generation

Morocco's NDC is available here: <http://www4.unfccc.int/ndcregistry/pages/Party.aspx?party=MAR>

C. Legislative framework

I. Law No. 13-09 relating to renewable energies (2010)

This law provided a legal framework for the development of renewable energy projects in Morocco by addressing legal gaps, encouraging investments in such projects and establishing a project authorization regime.

The law was updated in 2015 by Law n° 58-15 (see below)

II. Law No. 16-09 on the National Agency for the Development of Renewable Energy and Energy Efficiency (2010)

This law transformed the mandate of the Renewable Energy Development Center into a National Agency for the Development of Renewable Energies and Energy Efficiency, as an operational institution for the implementation of policies on renewable energies and energy efficiency.

III. Law No. 48-15 on the regulation of the electricity sector (2015)

The law was elaborated in consultation with all the stakeholders of the electricity sector and based on the national scheme of regulation of the electricity sector adopted in 2012. Its provisions include:

- Public service principles guaranteeing everyone the supply of electricity throughout the territory;
- Creation of an independent entity dedicated to the management of the national electricity transmission network within ONEE;
- Creation of an independent National Regulatory Authority of the electricity sector.

IV. Law n° 58-15 amending and supplementing the law n° 13-09 Relative to the renewable energies (2015)

Main provisions of this law include:

- Increasing the capacity threshold for excluding hydro projects from the law's scope, from 12 to 30MW
- Opening of the electricity market of renewable sources also at the Low Voltage, thus allowing the development of small and medium-sized installations, in particular for photovoltaics, and the associated creation of jobs.

- For any hydro project, the granting of the authorization will also be subject to the opinion of the relevant water basin and not only to the technical opinion of the manager of the national water network.
- Introduction of a net metering scheme for solar and wind power plants connected to the high-voltage grid, with private investors in renewables being allowed able to sell their surplus output to the grid, up to 20% of their annual production.

V. Law n° 47-09 on energy efficiency (2015)

This law sets criteria of minimum energy performance for appliances and electrical equipment. It makes mandatory energy audits for companies and institutions in the production, transmission and distribution of energy, as well as the performance of an energy impact study for new construction and urban projects. It also defines the role of energy services and facilities, and establishes technical control.

D. Institutional Framework

I. Ministry of Energy, Mining, Water and Environment (MEMWE)

MEMWE is the responsible Ministry for the development and implementation of government policy in the energy sector. It supervises the businesses and public institutions that fall under its jurisdiction. Website: www.mem.gov.ma

II. National Office of Electricity and Drinking Water (Office National de l'Electricité et de l'Eau Potable - ONEE)

ONEE, fully owned by the government, is the main player in the power sector in Morocco, operating throughout all the segments of the Electricity System (generation, transmission, distribution, supply). It has the status of single buyer of electricity produced, except for renewable energies, where the law allows transactions between private entities. Website:

<http://www.one.org.ma/>

III. National Energy Regulatory Authority (Agence Nationale de Regulation de l'Electricité - ANRE)

ANRE, established in 2016, is responsible for regulating access and use of the medium and high voltage grids and for setting tariffs for their use. It will also manage any conflicts between operators and network users. ANRE is expected to become operational during 2018.

IV. Energy Investment Company (Société d'Investissements Énergétiques - SIE)

SIE was established in 2010 with the main mission of supporting national renewable energy programmes as a lender, investor or project co-developer. It is essentially the financial arm of the state in the context of the objectives of the national strategy for renewable energies. Website:

<https://www.siem.ma/>

V. Moroccan Agency for Sustainable Energy (MASEN)

MASEN, previously responsible for the implementation of the Moroccan Solar Plan, was restructured in 2016 as the Moroccan Agency for Sustainable Energy, becoming an associated company with a Board of Directors, responsible for the development of renewable energy projects as well as planning, financing, management and maintenance. It is envisaged that by 2021 all renewable energy assets of ONEE will be transferred to MASEN. Website: <http://www.masen.ma>

VI. Moroccan Agency for Energy Efficiency (Agence Marocaine pour l'Efficacité Energétique - AMEE)

AMEE is the successor to the National Agency for the Development of Renewable Energy and Energy Efficiency (ADEREE), and now focuses only on energy efficiency. Website:

<http://www.amee.ma>

The Baseline Scenario – Algeria

1. The Water sector in Algeria

A. Current status

Surface Waters and related ecosystems

The total surface water availability in Algeria is estimated at 10.2 billion m³ per year (Experts Consultation on wastewater Management in the Arab World – contribution by the Ministry of Water resources in Algeria).

Surface water mobilization capacity was estimated at 7,1 billion m³ in 2010, with an objective of increasing this mobilization to 9,1 billion m³ by 2014.

Apart from some coastal rivers, the only river in Algeria is the Cheliff (725 km long), which has its source in the Tell Atlas and flows into the Mediterranean. There are no permanent rivers in the south of the Tell region. The many lakes present in the desert regions are temporary lakes, most of them salty (Chott ech Chergui, Chott el Hodna).

The country hosts 1,451 wetlands in its territory, distributed from north to south over three million hectares, more than 1% of the country's surface. 50 sites are currently on the List of Wetlands of International Importance (Ramsar Sites), with a total area of 2,991,013 hectares.

Pressures

The country is facing a water balance deficit. The availability of conventional water resources is affected by growing water demands and the deterioration of surface and groundwater quality. Moreover, climate change is further exacerbating the situation with significant impacts on weather patterns, precipitation, and the hydrological cycle, affecting surface water availability, as well as soil moisture and groundwater recharge. The climate change and dryness which occurred for several decades in Algeria have negatively affected the water resources of the country. The current situation is characterized by imbalance between the needs and the available resources.

Also, years of drought have depleted dam reserves that, combined with siltation, has resulted in the loss of nearly 50 million m³ year out of a total dams' capacity of 8 billion m³ per year.

Moreover, pollution of the water resources by the domestic, agriculture, and industrial wastes exceeds by far the processing capacities of the available treatment systems.

Additionally, Algeria suffers from substandard management of water utilities and other existing networks.

Water infrastructure

Algeria disposes of 75 dams of a total capacity of 8 billion m³. 9 dams are in progress with a capacity of 519 hm³ and two additional dams are planned. The reserves stored in the 75 dams are 4.08 billion m³, corresponding to a filling rate of 60%.

In 2015, in Algeria 84% of the population had access to "improved" water, 84% and 82%, in urban and rural areas, respectively, while there were still around 7 million lacking access to "improved" water. Regarding sanitation, 88% of the population had access to "improved" sanitation, 90% and 82%, in urban and rural areas, respectively.

The Algerian government states (in 2015) that access to drinking water supply is 93% at the National level and that 86% of the population are connected to sewer networks (2011).

In April 2011 123 sewage treatment plants were operating in the country. The National wastewater treatment capacity was of 600 Mm³ /an out of a volume of discharged wastewater of 750Mm³ /an

Trends

The Algerian population is about 40 million people and is expected to reach 45 million by 2020. Due to its geographical position and climatic characteristics, Algeria is highly vulnerable to climate change. Even a small rise in temperature would lead to various socio-economic problems that hinder the development of the country. The models predict that rainfall events are less frequent but more intense, while droughts are more common and longer. The spatial and temporal distribution of rainfall will also change. The analysis of climate data from 1931 to 1990 in northern Algeria reveals a rise in temperature of 0.5 °C that would reach an increase of 1 °C by 2020. A temperature rise of 2 °C is expected by 2050 as well as a decrease of 10-15% in rainfall (Climate Change in Algeria: Vulnerability and Strategy of Mitigation and Adaptation). The decrease of water resources, declining agricultural yields, encroaching desert, the challenge of planning and the energy consumption for air conditioning are only the initial impacts to which Algeria must find answers supportable economically and socially.

Hot spots

The highlands and the Saharan regions that occupy a large part of the national territory (93%) and receive only 10% of the total flow in Algeria. With additional climate change impacts these areas are expected to become even more vulnerable.

MEHSIP (2008) mentions considerable pollution problems in Algeria's coastal zone (a coastal band with a width of 40 km) representing 1.8% of the country's surface and hosting approximately 12.5 million people (1998) or 45% of the country's population. Most urban effluents are discharged untreated directly into the sea. Industrial activity is also concentrated on the coastal zone and industrial effluents are discharged into the coastal marine environment. Also, petroleum hydrocarbon pollution is very common along the Algerian coastline because of maritime oil traffic lines passing close to the Algerian coast.

B. Policies and Strategies

Existing or in progress

The 2030 water sector development strategy is drawn by the updated National Water Plan (PEN), which identifies a set of projects and structural programs to be implemented in five-year periods. It foresees the further mobilization of water through the construction of dams, transfers and development downstream of desalination plants and highlights the requirement of saving and valuing water through the rehabilitation of water supply, sanitation and irrigation systems as well as improving the performance of public water services.

Based on the strategy by 2030, the country's water infrastructure will be structured in regional and integrated hydraulic systems according to their spatial projection. They will maximize the mobilization of conventional and unconventional water resources in order to ensure and secure the long-term coverage of the water demand of the populations and agricultural and industrial activities thanks in particular to the constitution of strategic reserves at the level of dams of great capacity.

The Ministry of Water Resources has structured the preparation of the Five-Year Plan 2015-2019 around the following strategic axes:

- Continuing and consolidating the mobilization of conventional and unconventional water resources to ensure the coverage of water needs, targeting priority deficit areas and highlands with a territorial equity objective in line with the policy of territorial Development.

- Rehabilitation, modernization and extension of the irrigation systems to support the food security strategy and reach at the end of this program an area of 2.1 million ha.
- Rehabilitation and extension of water supply, sanitation and flood protection systems to increase access to water, improve living conditions and preserve water resources.
- Maintenance of hydraulic infrastructures to ensure their sustainability and optimize the performance of water management operators.
- Consolidation of water governance through institutional support measures encompassing the legal framework and organizational arrangements.

The Algerian strategy related to Climate Change is based primarily on three pillars:

- Adaptation to climate change,
- Ensuring the sustainable development of the country;
- Mitigation of GHG emissions.

This national strategy is based on the following main sector programs:

- National Plan of action and adaptation to climate change (PNA-ACC) 2003,
- Programme of sector integrated water management policy,
- National Programme of Energy Conservation (PNME),
- National Program of integrated municipal solid waste management (PROGDEM),
- National Action plan against desertification (PAN-LCD),
- Program of Renewable Energy and Energy Efficiency

Algeria is committed to developing and implementing a wetland strategy (2015-2030) based on an ecosystem approach and Management Plans. Listed in the framework of the National Spatial Planning Scheme (SNAT), this strategy has also to help guide economic, social and cultural development actions and contribute to combating desertification, mitigating the effects of climate change or adaptation to it. As a last resort, it contributes to the food and water security of the country.

Priority needs

Based on the objectives of the 5-year plan (2015-2019) the following needs are identified:

Mobilization:

Increased resource mobilization of 1.2 billion m³ or 16% of the current capacity of 7.4 billion m³ to meet the needs of water supply and support agriculture through the realization of 26 dams totaling 985 million m³, desilting of 10 dams with a total capacity of 45 million m³ and the construction and equipment of 680 boreholes for the mobilization of 172 million m³ / year.

Drinking water supply:

Realization of 2440 km per year of pipelines and of 17 treatment stations, 136 reservoirs as well as the rehabilitation of 1680km / year of pipes, intended for the improvement of the public service of water and to enhance the distribution frequency by increasing the time window to more than 12 hours per day.

Sanitation:

With regard to the sanitation program, it is planned to build 60 WWTPs and lagoons with a purification capacity of 4 million eq.inhab, as well as 6000 km of collectors. It is also planned to protect 200 localities against floods and the management of 300 km of wadi's beds.

Agriculture water related infrastructures:

It is planned to implement 32 large irrigation schemes totaling an area of 232,000 hectares as well as 219 hill reservoirs mobilizing a volume of 60 million m³ which will allow the irrigation of 15,000 hectares.

C. Legislative framework

Algeria has a water law, Law n ° 05-12, that has been modified and completed by Law n ° 08-03. Its purpose is "to establish the principles and rules applicable to the use, management and sustainable development of water resources as a national community property" (Article 1). Among its main objectives (Article 2), the law sets a priority for the domestic use of water, and the watering of livestock, before agriculture, industry and other economic activities. It advocates the valorization of unconventional waters and the control of floods. Among its principles, the law recognizes the right of access to water and sanitation. It fixes the watershed or the aquifer system as a unit for the planning of water mobilization and distribution of water resources. It recognizes the need to consider the real costs of domestic, industrial and agricultural water supply services and sewage collection and treatment services through tariff systems. The law fixes the systematization of practices of economy and valuation of water. It recognizes the participation of users in dealing with water use and protection issues and water management, at the level of natural hydrographic units and at the national level.

Moreover, Algeria has also a law on the protection of the environment (law n ° 03-10 of July 19th, 2003) within the framework of sustainable development. This law includes a section on the protection of fresh water (Section 2, Chapter 3). Its purpose is to satisfy the requirements of the water supply while ensuring the equilibrium of aquatic ecosystems and receiving environments, the practice of recreation, and the conservation and disposal of water (Article 48). An inventory of all water resources and their degree of pollution is provided by law (Article 49). Finally, the law prohibits the discharge of wastewater or waste of any kind in water intended for groundwater recharge, in abandoned wells, boreholes or catchment galleries (Article 51). This law is currently being revised to incorporate international developments and new principles and concepts in environmental law.

D. Institutional framework

The Ministry of Water Resources (MRE) holds the main responsibility in the provision of water infrastructure and services. The MRE is responsible for policy orientation, planning, the water resources studies, hydraulic schemes regulation, and the development of water resources plans and supervision of activities. Other agencies are responsible for the planning, design, construction, and maintenance of infrastructure, and water supply and sanitation and irrigation services delivery. Five organizations have been established:

- Algerian Energy Company (AEC): Responsible for forming joint ventures with foreign companies for the implementation of desalination projects.
- National Agency of Dams and Large Transmission Mains (ANBT): Responsible for implementing surface water resource and water transfer projects.
- Algeria Water Company (ADE) for the distribution of drinkable water: Responsible for providing water services.
- Office of National Sanitation (ONA): Responsible for providing wastewater services including wastewater treatment.
- Office of National Irrigation and Drainage (ONID) and National Agency of Water Resources (ANRH): Responsible for water resource planning.

In addition to the above mentioned, five watersheds agencies (Agences de Basins Hydrographiques, ABH) were created in August 1996, these agencies translate into practice the principle of joint and integrated management of water resources throughout the watershed.

2. The Food / Agriculture sector in Algeria

A. Current status

Algeria can be divided into four physiographic regions:

- The mountains to the north the Tell Atlas and Saharan Atlas.
- The mountains to the south the Hoggar Mountains.
- The coastal plains along the Mediterranean Sea.
- The Sahara Desert occupies around 87% of the total land area.

Some forest region, agricultural and cultivated land, meadows and permanent pastures can also be found, all of which are mainly concentrated in the northern part of the country ¹¹.

Arable lands are mainly concentrated in the northern area, as can be seen in the figure below¹². In 2013, 3.1% of the land was arable land, 0.4% was permanent cropland and 13.9% permanent meadows and pastures. Although it has been steadily increasing since the beginning of the 2000s, the % of agricultural land that is irrigated was only 2.63% in 2013¹³.

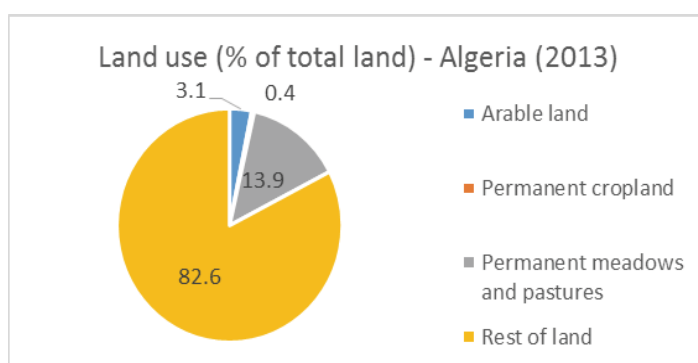


Figure 5: Land use in Algeria¹⁴

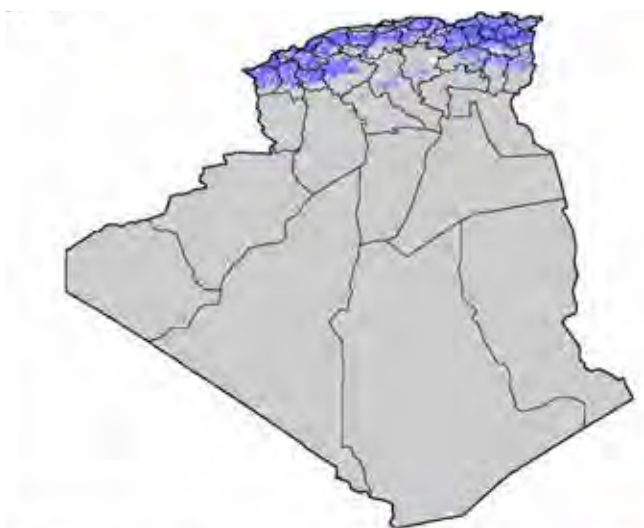


Figure 6: Location of arable lands in Algeria (in purple)¹⁵

¹⁰ Ezilon Regional Maps. (2015). Physical Map of Algeria. <http://www.ezilon.com/maps/africa/algeria-physical-maps.html>

¹¹ FAO. (2015). "AQUASTAT – Algeria". http://www.fao.org/nr/water/aquastat/countries_regions/DZA/index.stm

¹² FAO. (2015). "AQUASTAT – Algeria"

¹³ The World Bank. "World Development Indicators". <http://data.worldbank.org/indicator>

¹⁴ Ministry of Agriculture (2014) "Memento de la pomme de terre". <http://onfaa.inraa.dz/index.php/marches-et-filieres/rapport-annuel.html>

¹⁵ FAO. (2015). "AQUASTAT - Algeria"

Main agricultural areas

Out of the land used for agriculture in Algeria, most of agricultural land is located in the Coastal strip (northern area). Cereal and potato production take most of the agricultural land.^{16, 17}

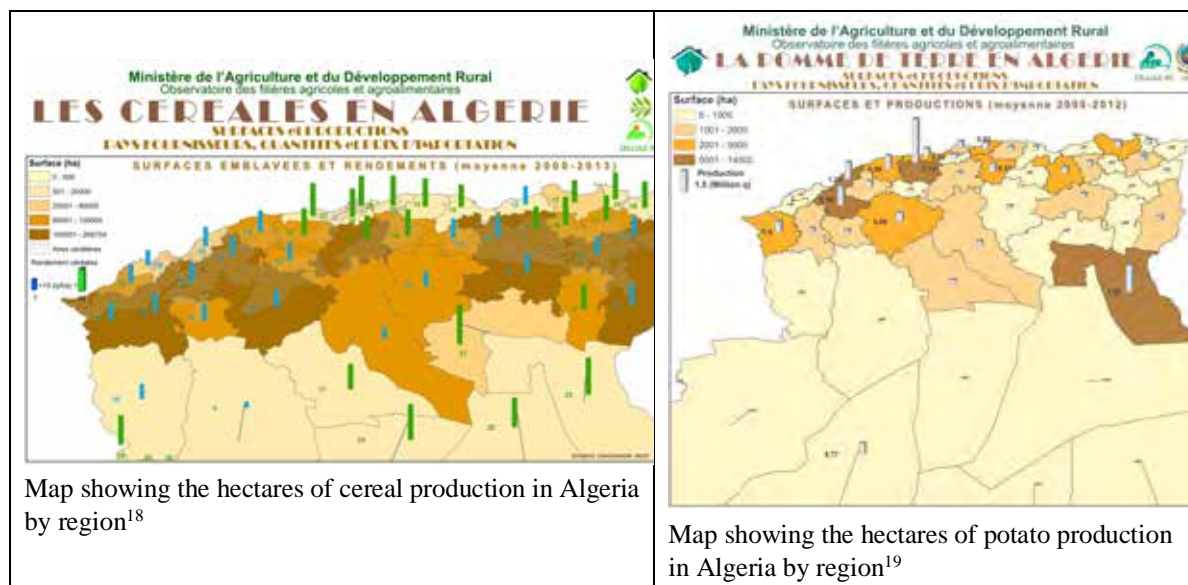


Figure 7: Cereal & potato production in Algeria by Region

Existing irrigation schemes

Algeria's agriculture is mostly rain fed, and often suffers from drought over consecutive years. Only 12 percent of this arable land is irrigated. About 51 percent of the total arable land is dedicated to field crops, mostly cereals and pulses, 6 percent to arboriculture, and 3 percent to industrial crops. About 70 percent of agricultural farms are of small scale with less than 10 hectares, and 80 percent of these farms are individual farms.

2.2 million ha are irrigable considering only the nature of the soils including 137,000 ha in the Saharan regions. But only 1.3 million ha are suitable for irrigation without stone removal, drainage or leaching.

The implementation of the Water Economy Action Plan and the investments made by the state have enabled a sharp increase not only in the equipped areas but also in the actually irrigated areas from 350,000 in 2000 to 816,898 ha in 2008 (including 53,000 ha equipped for flood irrigation) and 1,228,111 ha in 2014. Of these 1,229,907 ha fully controlled in 2012 (1,176,907 ha - 53,000 ha flooded), 58 percent is irrigated by surface irrigation, 23 percent by sprinkler and 19 percent by localized irrigation. Surface irrigation is gradually being replaced by pressure system irrigation (sprinkler and local), which has increased from 21 percent in 2000 to 42 percent in 2012 and 49 percent in 2014 (FAO, 2015).

Irrigated areas are subdivided into large irrigation schemes and small and medium irrigation schemes. The large irrigation have a total equipped area of 229,907 ha in 2012. In 2014, 5 new schemes were under construction to reach a total of total area 260,600 ha. However, only 97,310 ha were actually irrigated in 2012, or 42 percent of the equipped area. This difference comes partly

¹⁶ *Agricultural clusters*. (Algiers, Algerian Ministry of Agriculture, 2016).

http://www.minagri.dz/Reunions_des_Cadres/Reunion_des_cadres_02_06_2016/Poles_agricoles.pdf

¹⁷ Ministry of Agriculture (2014) "Memento de la céréaliculture". <http://onfaa.inraa.dz/index.php/marches-et-filières/rapport-annuel.html>

¹⁸ *Agricultural clusters*. (Algiers, Algerian Ministry of Agriculture, 2016). Available from:

http://www.minagri.dz/Reunions_des_Cadres/Reunion_des_cadres_02_06_2016/Poles_agricoles.pdf

¹⁹ Ministry of Agriculture (2014) "Memento de la céréaliculture". <http://onfaa.inraa.dz/index.php/marches-et-filières/rapport-annuel.html>

from the water deficit and the other from the degradation of networks and / or soils (salinization). In 2008, about 57,000 ha required rehabilitation, while about 24,270 ha were considered "lost", that is to say where rehabilitation was not enough. In 2013, the volume of water allocated to large irrigation schemes was 663 million m³ (FAO, 2015) from surface water stored in large dams.

In 2012, out of 69 percent of the area equipped for irrigation, the source of water was groundwater, from boreholes (41 percent), wells (26 percent) and springs (2 percent). In addition, 1,200 ha are irrigated with 10 million m³ of direct use of treated wastewater in 2012.

Key comments on the existing irrigation schemes

- Irrigation is the largest water consumer, with very limited metering, preventing volumetric charges
- Lack of awareness on water consumption and conservation
- High reliance on undeclared groundwater

Types of products, harvested area and production

The areas under irrigated crops are dedicated more than 40 percent to fruit trees, palm trees, citrus fruits, olive trees and vines. Tomatoes, onions, beans, peppers, peas and cucurbits accounts for more than a third of the irrigated area harvested.

Harvested irrigated cropped areas as of 2008 are given in the following Table

Crops	Area (ha)
Total harvested irrigated	858,152
Temporary crops: total	380,492
- Cereals	82,545
- Vegetables	273,191
- Cultures industrielles	20,409
- Other crops	4,347
Permanent crops: total	477,660
- Fruits	160,412
- Citrus	41,879
- Olives	48,319
- Vines	9,037
- Date palm	140,212
- Feed	77,801

Livestock

Red meat marketed and consumed in Algeria consists essentially of mutton and beef. The production of Camlin red meat is however marginal. Goat meat production is mainly carried out within the steppe mountains areas. Red meat production is estimated at 320,000 tons per year while more than 330,000 locally produced cattle are slaughtered for food, making a total meat of nearly 120,000 tons. In addition, approximately 9,000,000 head of sheep produced locally are slaughtered for food, making 200,000 tons meadows.

Dairy

Local milk production estimated at 2.5 billion liters was provided largely (nearly 80%) by cattle; the rest is represented by sheep and goat milk. Camel milk production was marginal while goat milk production was performed under extensive farming system primarily within the steppe mountain areas. Milk production in Algeria does not allow self-sufficiency. This was generally due to the fact that dairy policy was virtually non-existent during the various development plans. The few measures taken to increase the quantities of milk produced has not created the necessary impact. From 1995, government has implemented incentives for the production of milk on farms under the rehabilitation program of national milk production. This program gave farmers subsidies for milk delivered to dairies, allowing the increased number of dairy cows meadows 560,000 in 1997 to over

1,00,0000 in 2014. In regards to milk collection, it is minimal compared to the quantities of milk produced not exceeding 25% of total production. The consumption needs in milk and milk products in Algeria are estimated at over 3.8 billion liters per year. The level of collection remains low; nearly 25%, relative to the potential of national production, estimated at over 2.5 billion liters of raw milk per year.

Fishing

The Ministry of Fisheries and Fish Resources drafted the National Fisheries and Aquaculture Development Master Plan adopted in 2007, which relies in terms of administrative organization on a territorial division and in economic organization on poles of economic activities, defined according to the biogeographical variations. Nine clusters of economic activity have been identified:

- Farming.
- Shellfish.
- Marine fish farming.
- Crustacean farming.
- Exploitation of natural resources.
- Freshwater fish farming
- Inland fisheries.
- Seaweed.
- Ornamental fish farming.

B. Policies and Strategies

General Development Strategies involving the agriculture sector

National Action Plan on the Environment and Sustainable Development (Plan National d'Action sur l'Environnement et le Développement Durable (PNAE-DD)) (2002)²⁰

The PNAE-DD recommendations suggest the use of high impact strategic lending, with contributions supporting water and wastewater, urban, and rural development, including natural resource management, incorporating environmental objectives, but focused on fundamental challenges that address public sector efficiency and governance, private sector development, and water management.

National Scheme of Land Planning 2030 (SNAT 2030):

SNAT 2030, adopted in 2010, is a territorial development instrument within an optic of sustainable development and economic social equity. This Scheme aims to organize urban development according to strategic directions ensuring sustainability, rebalancing, attractiveness, competitiveness and territorial equity²¹.

Strategies related to irrigation

National Water Plan (Plan National de l'Eau (PNE)) and National Irrigation Plan (Plan National d'Irrigation (PNI))

The strategic orientations in the field of irrigation are included in the National Water Plan (PNE) and in the National Irrigation Plan (PNI). These are based on four main axes, namely, the development of large irrigation schemes, the management of small and medium hydraulic schemes, the use of unconventional water in irrigation, training and extension. Irrigation and water saving methods are also factors of innovation in the new Felaha 2019 agricultural policy to promote competitiveness and boost production. The rational and economical management of water resources is also a

²⁰ Plan National d'Action sur l'Environnement et le Développement Durable PNAE-DD 2002

²¹ National Report on Housing for the Conference on Housing - Habitat III 2014

priority within the PNI, in a context of scarcity of the resource and increased risks of pollution. Watershed protection at the dams level, support for sustainable irrigation systems and the promotion of conservatory water and soil management methods are all actions advocated by this new policy.

The Five-year Master Plan for Water Resources Development (PDARE)

PDARE is a main tool for water resources and watersheds planning.

The National Water Development Scheme (2006-2025): The main policy relating to hydraulics is the National Water Development Scheme 2006-2025, adopted in 2007 and integrated into the National Spatial Planning Scheme (SNAT). It constitutes the frame of reference of the water policy. Its objective is to satisfy all the country's water needs in the normal year and in case of drought, all the needs of drinking water and 60 per cent of those of irrigation. It is declined in the shorter term into the National Water Plan (NPP) and Master Plan for Water Resources Development (PDARE).

Strategies related to agriculture, land management & agricultural trade

National Agricultural Development Program (PNDA) (2000)

The PNDA evolved to include a rural dimension in 2002 and became the National Agricultural and Rural Development Program (PNDAR). The new agricultural policy objectives included the development and modernization of farms, the intensification and expansion of irrigated areas, the development of agricultural production and productivity through substantial investments and the appropriate and sustainable use of natural resources. The PNDA was accompanied by supporting measures such as supervision, follow up, evaluation, and technical guidance from extension services. It reflects government's vision is to orient agriculture towards intensive models particularly in the grain sector and create modern agricultural complexes to facilitate the use of public agricultural land. The Ministry of Agriculture has granted land to investors. The cultivation of this land would increase the arable land to 9 million hectares by 2020.

The new five-year program (2015-2019) (Felaha 2019)

Launched by the Ministry of Agriculture, Rural Development and Fisheries (MADRP) in June 2016, the Felaha 2019 initiative reinforces the ongoing Public Investment Programme 2015-19 and aims to achieve a reduction in the country's agricultural import bill of \$2 billion by 2019. The plan intends to restructure the government's agricultural and rural policy, and organise itself along three axes: agriculture and husbandry; forests and water basins; fisheries and aquaculture. The Felaha 2019 plan aims to foster 5% average annual growth in the agricultural sector by 2019, irrigate up to 2 million ha. As a result, the MADRP expects to export close to \$1.1 billion worth of domestic products by 2019 and create around 1.5 million jobs – including 40,000 new jobs in the fishing industry - on top of safeguarding 80,000 existing positions.²²

The Agricultural and Rural Renewal Policy (2008)²³

These various plans are reorganized in 2008 to form this new policy of Agricultural and Rural Renewal, entrusted to the Ministry of Agriculture and Rural Development. A law of agricultural orientation is promulgated in August with ambitious objectives. Focusing on strengthening national food security, it aims to reduce vulnerabilities in the framework of a public-private partnership and, thanks to the involvement of the various actors, to lead to the emergence of a new governance in the agricultural policy, this through the accompaniment of:

- increased domestic production of consumer products;
- modernization and diffusion of technological progress in agricultural holdings;
- the modernization and organization of networks for the collection and marketing of production;
- the establishment of interprofessional regulatory systems;
- the extension of agricultural irrigation systems (objective 1.6Mha);

²² FAO. (2015). "AQUASTAT - Algeria"

²³ <http://agriculture.gouv.fr/algerie>

- a balanced, harmonious and sustainable development of rural areas.
- Agricultural and Rural Renewal policy is based on three complementary pillars:
- Agricultural Renewal;
- Rural Renewal;
- the Program of Human Capacity Building and Technical Support for Producers (PRCHAT).

Strategies related to aquaculture

The National Fisheries and Aquaculture Development Master Plan (2007)²⁴

Aquaculture development has been identified as a strategic priority by the Government which has recently launched an ambitious development programme aiming to create 10,000 direct jobs in the sector in the next five years, and up to 50,000 indirect ones by 2025, by putting 100,000 hectares under cultivation for a target production of 30,000 tonnes per year for export and domestic consumption. Particular emphasis has been given to the development of aquaculture in the desert and arid lands of the country. The main issues affecting aquaculture development are related to: feed availability; limited aquaculture experience by scientists and farmers; production and distribution of seed, and for freshwater aquaculture, high water temperature especially during summer months.

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
National Action Plan on the Environment and Sustainable Development	Supportive	Supportive	Supportive	Supportive
National Scheme of Land Planning 2030 (SNAT 2030)	Supportive	Supportive	Supportive	Supportive
National Water Plan (Plan National de l'Eau (PNE)) and National Irrigation Plan	Supportive	Supportive	Supportive	Supportive
The Five-year Master Plan for Water Resources Development (PDARE)	Supportive	Supportive	Supportive	Supportive
The National Water Development Scheme (2006-2025)	Supportive	Supportive	Supportive	Supportive
National Agricultural Development Program (PNDA) & (PNDAR)	Supportive	Potential conflict	Potential conflict	Potential conflict
The new five-year program (2015-2019) (Felaha 2019)	Supportive	Potential conflict	Potential conflict	Potential conflict
The Agricultural and Rural Renewal Policy (2008)	Supportive	Potential conflict	Potential conflict	Supportive

Planning and management

In the new five-year program 2015-2019, the state aims to increase the country's irrigated area to a total of more than 2 million ha, ie about one million additional ha the remaining 1/3 in GPI. To do this, the state plans to both enhance the value of existing equipped areas and create new perimeters (FAO, 2015).

The National Water Development Scheme 2006-2025 whose priorities are:

- The increase in water mobilization to 11,000 million m³/year in 2025 against 7,400 million m³/year in 2014, almost all renewable water.
- Rehabilitation of the drinking water system to achieve a connection rate of 98 percent in 2025, up from 84 percent in 2012

²⁴ FAO Fisheries & Aquaculture - National Aquaculture Sector Overview - Algeria 2006

- The development of the sanitation network to achieve a target of 98 percent by 2025, with increasing share of treated wastewater reused in agriculture.

According to the OECD-FAO agricultural outlook, cereal production is expected to increase by 20% by 2025. Nonetheless, the expected increase in hectares harvested is negligible, which means that there will be a higher production yield per hectare²⁵. On the other hand, the Algerian government in its five-year plan 2015-2019 set a target of doubling cereal production from 3.4 million tonnes in 2015 to 7 million tonnes in 2019, which is a much more aggressive increase than predicted by the OECD-FAO outlook.

C. Legislative framework.

Legal framework related to irrigation

The management of Algeria's water sector is mainly governed by the 2005 Water Law (Law No. 05-12). It replaces the law of 1983 (Law No. 83-17) bearing the Water Code, completed in 1996 (No. 96-13). Other promulgated texts relating to water:

- Decree No. 96-100 of 1996 defining the river basin and fixing the standard status;
- Decree No. 2000-324 of 2000 fixing the attributions of the MRE;
- Interministerial decree of 2005 determining the standard specifications relative to the concession of the management, the operation and the maintenance of the works and infrastructures of the small and medium agricultural hydraulics;
- Decree no. 07-270 of 2007 fixing the conditions and modalities of establishment of the pricing system of the irrigation water service.

Regarding wastewater:

- Decree No. 07-149 of 2007 laying down the terms and conditions for granting the use of treated wastewater for irrigation purposes as well as the standard terms of reference relating thereto.
- Interdepartmental Order of 2012 setting specifications for treated wastewater used for irrigation purposes, as well as the list of crops that can be irrigated with this treated wastewater.

The actual focus of Water Authorities is on water supply only with virtually no wastewater and irrigation activities performed so far. No irrigation or wastewater responsibilities have been mandated yet.

Legal framework related to agriculture and agricultural trade

Cooperative Societies Law: In 1987, the State decided to deeply reform the so-called "self-managed" agricultural sector. Thus, members of self-managed farms become free to organize themselves by co-opting to form new, smaller production co-operatives (now called "co-operative farms") which are no longer subject to guardianship of the Ministry of Agriculture as were the former self-managed farms.

On January 7, 2018, the Algerian Government issued a decree temporarily suspending 851 products, of which 576 are agricultural. This decree is one of many new measures taken by the government of Algeria to control government spending and offset the fall in energy earnings.

Legal framework related to aquaculture

²⁵ OECD-FAO. "Agricultural Outlook 2015-2025." Information available from: https://stats.oecd.org/Index.aspx?DataSetCode=HIGH_AGLINK_2012

The legal and regulatory framework was strengthened by the drafting and enactment of Act No. 01-11 of 3 July on fisheries and aquaculture. Many Executive Decrees have been developed currently in force relating to this law governing aquaculture.

D. Institutional framework

Ministry of Water Resources (MRE): The MRE is responsible for the development and implementation of the National Water Policy. Its main departments concerned with irrigation are:

- Directorate of Studies and Hydraulic Development (DEAH),
- Directorate of Water Resources Mobilization (DMRE)
- Directorate of Agricultural Hydraulics (DHA) which includes:
 - Subdivision of Large Perimeters (SDGP)
 - PMH Sub-Directorate (SDPMH)
 - Agricultural Hydraulics Operations Branch (SDEHA)
- National Office of Irrigation and Drainage (ONID), created in 2005 by integrating both the former National Agency for the Implementation and Management of Hydraulic Infrastructure for Irrigation and Drainage (AGID) and the Perimeter Offices irrigated (OPI) responsible for the management of irrigated perimeters. ONID is therefore responsible for the management of irrigation schemes of the state and local communities, as well as the hydraulic efficiency of these perimeters.
- National Agency of Hydraulic Resources (ANRH), in charge of studying and evaluating the resources in irrigable waters and soils
- National Agency for Dams and Transfers (ANBT), responsible for mobilizing and transferring water resources
- National Institute of Soils for Irrigation and Drainage (INSID).

Ministry of Agriculture, Rural Development and Fisheries (MADRP): proposes the elements of the national policy in the fields of agriculture, forests and fisheries and ensures their implementation, in accordance with the laws and regulations in force. Within the MADRP, the most important directorates-general dealing directly with water at the national level are:

- The Directorate of Land Organization and Patron Protection
- The Directorate of Agricultural Development in Arid and Semi-Arid Zones
- The Direction of Regulation and Development of Agricultural Productions
- The Directorate of Plant Protection and Technical Control
- The Veterinary Services Directorate
- The Directorate of Programming, Investments and Economic Studies
- The Directorate of Agricultural Statistics and Information Systems
- The Directorate of Training and Research and Extension
- The Directorate of Legal Affairs and Regulatory Affairs
- The Directorate of Administration of the Means
- The General Directorate of Forests
- The Directorate General of Fisheries and Aquaculture.

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Ministry of Water Resources (MRE)	Government institution	Irrigation	Infrastructure development, Policy and strategy
Directorate of Studies and Hydraulic Development (DEAH) - child of: Ministry of Water Resources	Government institution	Irrigation	Policy and strategy
Directorate of Water Resources Mobilization (DMRE) - child of: Ministry of Water Resources	Government institution	Irrigation	Infrastructure development, Policy and strategy
Directorate of Agricultural Hydraulics (DHA) - child of: Ministry of Water Resources	Government institution	Irrigation	Infrastructure development, Policy and strategy
National Office of Irrigation and Drainage (ONID) - child of: Ministry of Water Resources	Government institution	Irrigation	Infrastructure development, Policy and strategy
National Agency of Hydraulic Resources (ANRH) - child of: Ministry of Water Resources	Government institution	Irrigation	Infrastructure development, Policy and strategy
National Agency for Dams and Transfers (ANBT) - child of: Ministry of Water Resources	Government institution	Irrigation	Infrastructure development
National Institute of Soils for Irrigation and Drainage (INSID) - child of: Ministry of Water Resources	Government institution	Irrigation	Policy and strategy
Ministry of Agriculture, Rural Development and Fisheries (MADRP)	Government institution	Agriculture	Infrastructure development, Policy and strategy, Licensing and allocation, Statistics and monitoring

Institutional Interlinkages among Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Water Resources (MRE)	Cross-institution	Cross-institution	-	-
Directorate of Studies and Hydraulic Development (DEAH) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-
Directorate of Water Resources Mobilization (DMRE) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-
Directorate of Agricultural Hydraulics (DHA) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-
National Office of Irrigation and Drainage (ONID) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-
National Agency of Hydraulic Resources (ANRH) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
National Agency for Dams and Transfers (ANBT) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	Cross-institution
National Institute of Soils for Irrigation and Drainage (INSID) - child of: Ministry of Water Resources	Cross-institution	Cross-institution	-	-
Ministry of Agriculture, Rural Development and Fisheries (MADRP)	Cross-institution	-	-	Cross-institution

Inter-ministerial coordination

The National Advisory Council for Water Resources, created in 2008, coordinates the various aspects of water policy between the various institutions.

3. The Energy sector in Algeria

A. Current status

Energy production²⁶

Algeria is a major producer and exporter of hydrocarbons. It has the third-largest proven oil reserves in Africa, behind Libya and Nigeria, with 12.2bn barrels at the end of 2017. Algeria also has the third-highest levels of oil production in Africa, behind Nigeria and Angola, with an average output at 1.54m barrels per day. In terms of natural gas, Algeria has the second-largest proven gas reserves in Africa, after Nigeria, ranking 10th in the world, with some 4.3trn cubic metres of reserves. It is also the largest producer of natural gas in Africa and the ninth-largest internationally, producing 91.2bn cu metres in 2017, achieving a share of 2.5% of global production. Algeria does not produce any energy from coal or nuclear and only insignificant amounts of hydro and other renewables.

Energy consumption²⁷

Primary energy consumption in Algeria has been increasing by 5% on average in the period 2006-2016 but has remained flat in 2015-2017 at 53.2 mtoe. In 2017 natural gas accounted for 63% of Algeria's primary energy consumption and oil for the remaining 37%.

In terms of total final consumption, in 2016 oil had a share of 49%, natural gas 39.5% and electricity 11.5%.

Focus on the electricity sector²⁸

Electricity generation in Algeria has been increasing with an annual growth rate of 7.3% in 2006-2016. Essentially all electrical energy is produced by natural gas (98.4% in 2015). Oil had a share of 1.3%, hydro 0.2% and other renewables 0.1%. Algeria has very small trade of electricity with neighbouring countries. In 2016 it exported 880GWh and imported 537GWh, out of total consumption of 59,423GWh.

Natural gas-fired power plants in Algeria have a total installed capacity of 18.4GW, and oil-fired ones of 0.4GW. The large majority of them are located along its Mediterranean coast. The country's

²⁶ Source: BP Statistical Review of World Energy 2018

²⁷ Source: International Energy Agency – online statistics

²⁸ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin

only large hydro plant has installed capacity of 24MW and is located in the Ighil Emda Dam, close to the city of Setif.



Figure 8: Location of major Gas (G) and Hydro (H) plants in Algeria²⁹

Even though Algeria has huge potential for renewable energy sources, so far it has remained largely untapped, with solar installations of total capacity of 344MW and a wind park of 10MW.

In 2015 Algeria adopted the update to its Renewable Energy and Energy Efficiency Development Plan until 2030, which puts greater focus on large-scale solar installations and onshore wind, aiming to install 4500 MW of new renewable energy projects until 2020, reaching 22,000 MW in 2030 when the renewables' share in total power generation of Algeria will reach 27%. The Programme envisages individual targets per technology: 13,575 MW for photovoltaics, 5,010 MW for wind, 2,000 MW for solar thermal and 1,000 MW of biomass.

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Algeria from 1971-2015:

²⁹ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

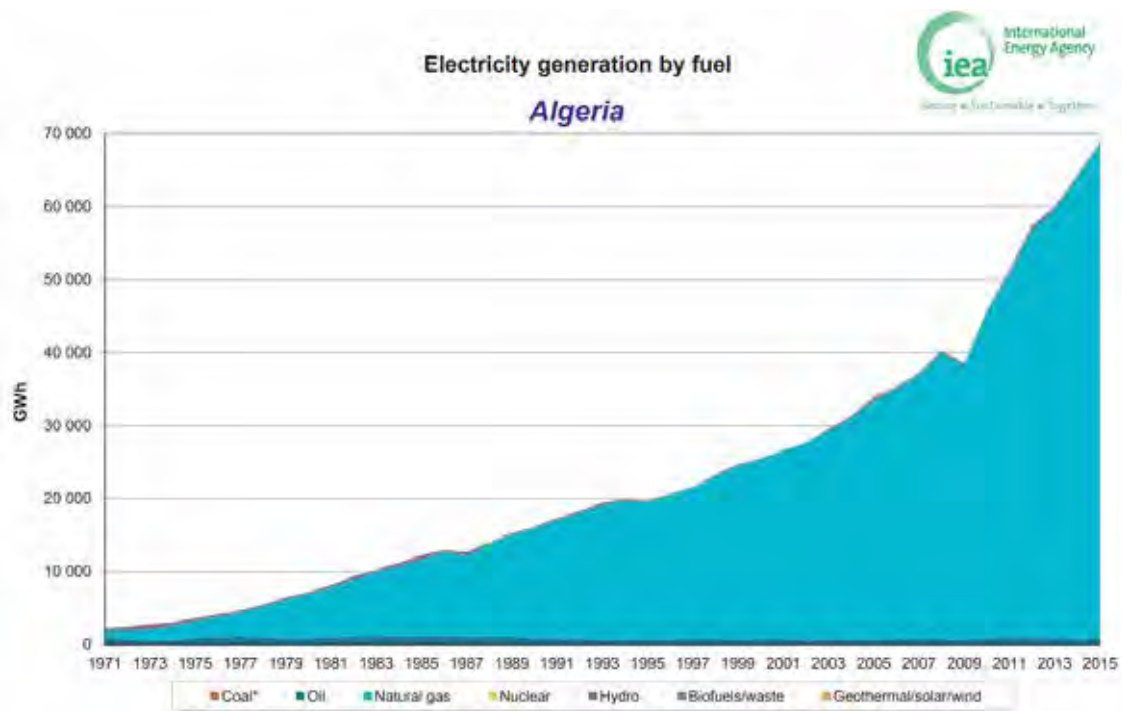


Figure 9: Evolution of electricity generation in Algeria by fuel, 1971-2015 (Source: IEA)

Progress towards SDG 7

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "Tracking SDG7: The Energy Progress Report"³⁰ with data for 2015, Algeria has achieved access to electricity for 99% of its population and access to clean fuels and technologies for cooking for 93% of its population. However, the share of renewable energy in total final energy consumption is only 0.06%, even lower than in 2010 (0.26%). Furthermore, even the energy intensity of the Algerian economy is worsening: 4.1 MJ/USD in 2015, up from 3.6 MJ/USD in 2010.

B. Policies and Strategies

I. Renewable Energy and Energy Efficiency Development Plan to 2030 (2015)

In 2015 Algeria adopted an update to its earlier Renewable Energy and Energy Efficiency Development Plan adopted in 2011. The updated Plan aims to have 27% of the national electricity consumption covered by renewable sources by 2030, and puts greater focus on deployment of large-scale solar PV installations and onshore wind due to the large reduction of costs that were observed in recent years.

The targeted capacity split for 2030 is as follows:

Solar PV:	13,575 MW
Wind:	5,010 MW
Solar thermal:	2,000 MW

³⁰ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

Biomass: 1,000 MW
Cogeneration: 400 MW
Geothermal: 15 MW

II. Intended Nationally Determined Contribution (2015)

In September 2015 and ahead of the COP21 in Paris, Algeria submitted to the UNFCCC its Intended Nationally Determined Contribution where it outlines the current status and the planned policies and measures in the fields of climate mitigation and adaptation. The actions in the waste sector include “energy recovery and recycling of methane from landfill sites and waste water treatment plants”.

C. Legislative framework

I. Law 04-09 on Renewable Energy Promotion in the Framework of Sustainable Development (2004)

The Law established a set of tools to promote the development and use of renewable energy. A Certification of Origin system was established to attest to the source electricity produced by renewable energies. A National Observatory for the Promotion of Renewable Energies was also established to promote renewable energy. A financial incentive framework, to be determined annually in the national Finance Law, was also created to promote research and development in or deployment of renewable energy.

II. Law 04-92 on the Diversification of Power Generation Costs (REFIT) (2004)

The Law introduced a Feed-in Tariff mechanism, the first such one in Africa, financially supported by Algeria’s Renewable Energy National Fund, to speed up renewable energy deployment. The purchaser of the energy produced is the state-owned utility Sonelgaz. The scheme applies to installations with a capacity less than 50 MW. The feed-in tariff levels are differentiated by technology.

D. Institutional framework

I. Ministry of Energy and Mines (MEM)

The Algerian energy sector is politically represented by the MEM, which is responsible for the elaboration and implementation of policies and strategies in the context of research, exploitation, production and usage of minerals and energy sources. <http://www.energy.gov.dz>

II. The National Climate Change Agency (Agence Nationale des Changements Climatiques – ANCC)

ANCC, created in 2005, is the government’s central instrument for the implementation of the national climate change policy. Its aim is to promote the integration of climate change dimensions into all national development. It is also responsible for promoting awareness and for preparing studies on the national emissions and sequestration of greenhouse gases, on adaptation and mitigation policies and on the socio-economic impacts of climate change.

ANCC has an important cross-sectoral role for coordinating climate-related actions in all sectors, ensuring synergies with other environmental objectives and strengthening national climate-related capacities in different sectors. <http://www.ancc.dz/>

III. National Fund of Renewable Energies and Cogeneration (Fonds National des Energies Renouvelables et la Cogénération - FNER)

FNER, supervised by MEM, has as main task to provide financial support to actions under the “Renewable Energy and Energy Efficiency Development Plan” and other eligible renewable projects. It is financed by 1% of the revenues from the export of fossil fuels.

IV. Groupe SONELGAZ

The state-owned Groupe SONELGAZ is responsible for the production and commercialisation of electricity and the national distribution of natural gas. The Société Algérienne de Production de l'Electricité (SPE), a part of the SONELGAZ group, is in charge of electricity production, whereas the electricity transportation is mainly carried out by the Société Algérienne de Gestion du Réseau de Transport de l'Electricité (SGTE). The distribution of electricity is carried out by four companies, each responsible for the geographical areas of West, East, Centre and Alger.

<http://www.sonekgaz.dz/>

V. Regulation Commission for Electricity and Gas (Commission de régulation de l'électricité et du gaz - CREG)

CREG, an independent body with a legal status and financial autonomy was created in 2002. Its main missions are to control the public service, to advise authorities on the organisation of the electricity and gas markets and to supervise the respect of laws and regulations.

<http://www.creg.gov.dz>

VI. Center for the Development of Renewable Energies (Centre de Développement des Energies Renouvelables - CDER)

CDER is a Public Scientific and Technological Establishment responsible for developing and implementing research and development programs in the field of renewable energies.

<https://www.cder.dz/>

VII. National Center of Cleaner Production Technologies (Centre National des Technologies de Production plus Propre – CNTPP)

CNTPP is a public establishment of industrial and commercial nature established in 2002 as an instrument for the implementation of national policies for the protection of the environment, the reduction of industrial pollution and the environmentally sound use of natural resources, including water. Its objectives include the exchange of technical know-how and experience in cleaner production and the emergence of a competitive national environmentally friendly industry.

<http://www.cntppdz.com>

The Baseline Scenario – Tunisia

1. The Water sector in Tunisia

A. Current status

Surface Waters and related ecosystems – Size & characteristics

The inter-annual average of surface water supplies is estimated at 2700 Mm³ per year, 80% of which comes from the northern regions of the country. The country has more than two hundred fifty-six (256) wetlands, many of which are of international importance. The majority is located in the North, especially near the coast. Currently 40 wetlands are listed in the Ramsar Convention.

The surface water mobilization rate is around 92%. At the end of 2016, Tunisia had 36 dams with a total holding capacity of 2,239 Mm³, making 94% of the forecasts for the year, with an increase of more than 100 Mm³.

Pressures

The siltation of dams is an important constraint to the mobilization of surface water that resulted in the loss of 20% of the original dams' capacity.

Water pollution is another important issue that has to be faced. Among the main causes are the misuse or improper use of mineral fertilizers and phytosanitary treatment products in agriculture, resulting in high level of nitrates and pesticides, wastewater effluents, the lack of rural sanitation and solid waste mismanagement.

Moreover, the significant interannual rainfall variability results in extreme events, either prolonged droughts or large floods.

Recent climate projections carried out by the National Institute of Meteorology show a drop in precipitation of -5% to -20% by 2050 depending on the region, which would gradually increase to -10% and -35% in 2100. This reduction in precipitation is expected to exacerbate the pressure on water resources, accentuated by human exploitation, which will increase under the effect of the rise in temperature (1.2 to 2.3 ° C by 2050) and which would reach 2.9 ° C and 4.3 ° C by 2100 depending on the region. This will worsen, in the coming years, the structural water stress situation in Tunisia, with a decline in conventional water resources estimated at around 28% by 2030.

The decrease in surface water would be around 5%, resulting in a decrease in dam reserves.

Water infrastructure

Drinking water is principally provided from surface water (377.4 Mm³) and renewable aquifers (276Mm³). Surface water comes mainly from dams located in the north of the country, the largest of which are interconnected and are part of the transfer network North-South (with a capacity of about 800 Mm³).

The development of the urban water supply system has been keeping pace over the last three years, with 80,000 new connections in 2016 and 1250 km of network's extension.

However, more than a quarter of the existing network (that exceeds 53,000 km) is old and its overall performance needs to be improved.

Progress has been registered in rural water supply with a number of projects already carried out and many other on-going. The coverage rate reached 92.9% in 2016.

Trends

Population growth (1.0% per annum of a current total population of 11 million), urban development (67.7% of the population is urban with an annual rate of increase of 1.6%), changes in personal hygiene have led to an increase in the consumption of drinking water. Water withdrawal increased by 52% over 10 years for both surface and groundwater (2003-2013 period). The volume provided by SONEDE is currently evolving by almost 2.5% per year.

To cope with the increased demand new dams and hill lakes are being built, and additional projects for the transfer of the water resources are carried out, while several projects are underway to control floods.

The climatic trends already mentioned above, involving increasing drought periods would also particularly affect rainfed as well as irrigated crops resulting in the reduction of areas and yields.

Aquifers and related ecosystems

Coastal aquifers occupy about the 15% of the Tunisian territory and the majority of them are exploited for agriculture purpose. In general, sedimentary deposits of clay, sand, constitute the majority of coastal aquifer with a local presence of sandstone layered and mixed. Coastal aquifers are often in hydraulic connection with the sea leading to coastal or submarine springs or to seawater intrusion phenomena.

Salinization of groundwater is widespread in Tunisia, due to the geochemical nature of geological deposits, to intensive exploitation, and sometimes to leaching of irrigation water. Salinity generally increases towards the south and in older (fossil) groundwater: much of the groundwater in the south and parts of the centre of the Country has total dissolved solids (TDS) of more than 3 g/l whereas moving toward the centre and north Tunisia, TDS is typically between 1.5 and 3 g/l.

Furthermore, coastal aquifers are vulnerable to climate change, and in fact, a modest increase in sea levels can result in significant salt-water intrusion. Increased water needs caused by economic and social development have led Tunisia to begin an effort to keep a more precise inventory of its valuable water resources and to put in place an infrastructure system for collecting and transferring water.

The hotspots identified by the Country and proposed as a pilot for the present project are the Ghar el Melh and Gromalia aquifers.

B. Policies and Strategies

Existing or in progress

Since the 1970s regional water planning schemes have been developed for each natural/hydrological region (north, south and centre) laying the basis for the national water policy and defining mobilisation and transfer programs to satisfy all sectors' needs with priority given to drinking water. Confronted with the limitation of its water resources and the rapid growth of demand in a context of climate change, Tunisia has adopted more recently the concept of Integrated Water Resources Management (IWRM) with demand management considered as an essential element in IWRM. The priority given to the application of this concept is confirmed with progress at the strategic and institutional level, including, among others, the engagement for the preparation of a new Water Code and the Water Strategy 2050 aiming to ensure the proper management of the country's water resources up to 2050 and increase water security.

Aquifers Planning and management

A strategy for water resources mobilization was undertaken in Tunisia (DGRE, 1990) to optimize surface and groundwater resources management, e.g. developing artificial recharge using treated wastewater and salty waters. Lebanese representatives suggest a better evaluation of groundwater

resources by means of regional hydrogeological characterization creating databases, performing groundwater monitoring, geophysical campaigns, and geochemical analysis. Since the information related to deep groundwater resources are still scarce, the implementation of hydrogeological modelling can be adapted to predict groundwater resources variation according different scenarios of recharge and extraction same as solute transport modelling can be useful in the management of seawater intrusion into aquifers.

C. Legislative framework

The Water Code -adopted in 1975- modified in 1995 - constitutes the pillar of the water legislative framework in the country. In 2001 it was amended (law 116/2001) to include mainly 2 principles: extend the water resources development concept to non-conventional resources and introduce sustainable development and preservation obligations considering water resources as national wealth. In addition, several laws and regulations have been adopted, particularly during the last decade, to address new concerns including environmental issues (Decrees 1261 & 1262/87 for Water Users Associations (WUA) establishment and operation, Decree 1047/89 for treated water reuse in agriculture, etc). The recently initiated reform of the Water Code aims to review and update the overall water legislation and ensure its coherence and integration with other legislations. The new water code stipulates the creation of regional water councils establishing a participative approach in water management and favouring new relationships with the water management groups. This code aims to decentralize water management, put an end to overexploitation of water reserves, preserve water resources from pollution, and take into consideration the contribution of civil society to the field of water management and water governance. New water and soil conservation techniques will be implemented, in addition to those related to water saving in the agricultural sector, reduction of pressure exerted by citizens on forests and the involvement of stakeholders in all stages of decision-making.

Legislative tools have been also put in place for the Conservation of Water resources and Soils (CES), whose central element is the CES Code (Law 95-70 of 17 July 1995), considered too demanding and poorly implemented.

D. Institutional framework

The Ministry of Agriculture, Hydraulic Resources and Fisheries is in charge of water management: it develops plans and programmes for mobilizing water resources and their use for the needs of the country, for the development of non-conventional water resources and for water savings.

Within the MoA, three directorates play an important role in water management:

- The Bureau of Planning and Hydraulic Studies (BPEH): directly attached to the cabinet of the Minister is in charge of strategic studies of the water sector and determines the various allocations.
- The Directorate General of Water Resources (DGRE): monitors the measurement networks, ensures the estimation of the resources withdrawal and prepares the studies for the evaluation of water resources.
- The Directorate General of Rural Engineering and Water Exploitation (DGGREE): it is in charge of agricultural water
- The Directorate General of Dams and Hydraulic Works (DGBGTH) in charge of the studies of surface water mobilization, as well as the building and operation of dams.

- The Directorate General of Planning and Conservation of agri-lands (DGAFTA) in charge of the preservation of natural resources including water, soil and agri-lands. DGAFTA is also in charge of building and operating the lake hills.

In addition to the Ministry of Agriculture, the Ministry of the Local Affairs and Environment is involved in the water sector mainly in terms of water pollution, through the National Agency for the Protection of the Environment (ANPE) which carries out water quality control to monitor surface water and provides environmental police.

Nevertheless, salinization and nitrate pollution remain the responsibility of the Ministry of Agriculture.

In the governorates (24), the Regional Commissions for Agricultural Development (CRDA) apply the policy defined at the central level.

2. The Agriculture sector in Tunisia

A. Current status

The country can be divided into four physiographic regions:

- The mountains to the north-west, which lie to the east of two mountain ranges, the Atlas El-Talli and the Saharan Atlas, extending from Morocco through Algeria to Tunisia and whose summit stands at 1,500 m in Tunisia. This region is crossed by permanent rivers.
- The mountains to the south, sloping east to the coastal plains and west to desert plains covered with sand dunes.
- The coastal plains, which are vast plains along the Mediterranean Sea.
- The desert plains, which are the northern limit of the great Sahara Desert. Several chotts are present in this plain, the largest being the Shat El-Jarid with an area of 5 000 km² and located at 15 m below sea level.

The area cultivated (annual and permanent crops) is estimated at 5.25 million ha, or 32 percent of the total area of the country. In addition, the country also has about 4.8 million hectares of rangeland and permanent grassland, 1.6 million ha of forest, scrub and steppe, and about 4.7 million ha of uncultivated land (wetlands, desert land and land built)³¹.

Arable lands are mainly concentrated in the northern area, as can be seen in Figure 10 below.

³¹ The World Bank. "World Development Indicators".



Figure 10: Location of arable lands in Tunisia (in purple)³²

Tunisia is one of the world's biggest producers and exporters of olive oil, and it exports dates and citrus fruits that are grown mostly in the northern parts of the country. The centre of the country is used largely to raise cattle, the Sahel region is famous for its olive groves, and the southern part of the country is known for its date production.

Existing irrigation schemes³³

The 2002 Tunisia Irrigation Study (IME, 2002) estimates the irrigation potential at 560 000 ha considering the water resources allocated to the agriculture sector.

From 2001 to 2011, the area equipped for irrigation rose from 394,000 ha to 459,570 ha (ONAGRI, 2011), an average annual increase of 1.4 percent. This equipment consists of:

- 243,170 ha of public perimeters
- 216,400 ha of private perimeters carried out by the farmers themselves

The areas actually irrigated during the 2010-2011 crop year amounted to 379,990 ha, distributed over 188,560 ha in public irrigated areas and 191,430 ha in private irrigated areas.

In addition, there is also 27,000 ha of flood irrigation in Central Tunisia and supplementary irrigation depending on the availability of resources.

In 2012, surface areas equipped for surface irrigation were 189,370 ha, including 90,000 ha for improved surface irrigation and 99,370 ha for traditional surface irrigation; the areas equipped for sprinkler irrigation amounted to 115,200 ha, while 155,000 ha had localized irrigation systems. The latter occupied only 6,000 ha in 1991 and 62,000 ha in 2001.

Comments on the Existing irrigation schemes

- Irrigation is the largest water consumer, with very limited metering, preventing volumetric charges
- Lack of awareness on water consumption and conservation
- High reliance on undeclared groundwater

³² WACDEP, Integration of Climate Change Impacts In The NWSAS Water Resources Management. Report of phase A: Definition of the baseline and choice of climatic scenarios. (Programme Eau, Climat et Développement pour l'Afrique, 2015)

³³ FAO 2015 AQUASTAT country profile - Tunisia

Types of products³⁴

The areas under irrigated crops under total control are half dedicated to arboriculture and market gardening. Arboriculture is represented in particular by the Mediterranean type species: olive oil and table, citrus (oranges-maltese, clementines) and date palms in the south. The stone and seed species have expanded considerably since the 1980s. Market gardening remains dominated by tomatoes, peppers, potatoes and cucurbits. This type of crop is under irrigation in most irrigated areas.

Cereals (durum and soft wheat, barley) and fodder account for 17.6 per cent and 17.5 per cent, respectively, of all irrigated crops harvested. The small area irrigated with cereals is remarkable. Indeed, this type of crop, present mainly in the north, is not totally irrigated and depends a lot on autumn rains. Government encouragement of dairy farming has led to a shift in irrigation towards fodder crops.

Area and production per product³⁵

Harvested irrigated cropped areas as of 2011 are given in the following Table

Crops	Area (ha)
Total harvested irrigated cropped area	419,030
Temporary crops: total	258,280
- Wheat	49,010
- Barley	23,630
- Other cereals	1,170
- Potatoes	21,970
- Sugar beet	4,880
- Feed	57,330
- Vegetables	96,470
Permanent crops: total	160,750
- Fruits	29,350
- Citrus	21,970
- Olive	62,380
- Date palm	30,920
- Feed	16,130

Livestock

The number of sheep livestock in Tunisia increased from 6.3 million in 1991 to 7 million in 2011. The number of goats remains stable (1.3 million in the same period)³⁶.

Dairy

Dairy farms are generally of small size and sometimes combined with agricultural activities. Intensive dairy breeding has also developed in recent years, based on imported animal feed. The production of dairy products (and consumption) has markedly increased over the past 10 years owing to active government support including subsidies on imported animal feed, and encouragement to investment in dairy cattle breed through financial measures (e.g. credit), infrastructure (e.g. milk collect centres), and the development of the milk industry. As a result, current milk and other dairy products output is practically sufficient to meet domestic demand, except in - rather rare - bad years where animal productivity is decreased³⁷.

Fishing

³⁴ FAO 2015 AQUASTAT country profile - Tunisia

³⁵ FAO 2015 AQUASTAT country profile - Tunisia

³⁶ FAO Tunisia Case Study State of the World's Forests 2016 (SOFO) 2015

³⁷ FAO, WFP Secondary data analysis of the food security situation in Tunisia 2011

The fishery in Tunisia is mainly maritime. The cumulative production of aquaculture, lagoons, reservoirs of dams and the growth of bluefin tuna represent only 2% of the total national production recorded in 2003. The aquaculture production recorded in 2003 is 2,130 tonnes, of which 49% is marine aquaculture and 42% is from dams and freshwater reservoirs³⁸.

Planning and management

The Government continues to boost cereal production as part of its 11th five-year Plan for Agricultural Policy, since 2008. The government is allocating natural resources for cereal grains production; providing extension services and loans to producers to meet expenses, and supporting prices to producers through minimum guarantee prices. In 2015–16, the Government revised farm-gate (production) prices for wheat and barley aligned with to international prices and local conditions. The Government's goal is to reach an average annual production of 2.7 million metric tonnes (MT) for cereals, of which 1.5 million MT is durum wheat, in order to achieve self-sufficiency³⁹.

In order to achieve the above-mentioned goals, the government implemented the following measures:

- Increasing the total acreage dedicated to irrigated wheat from 80 000 hectares to 120 000 hectares;
- Increasing the yield in irrigated land from 3.5 to 5 MT per hectare;
- Maintaining the farm-gate price policy for wheat and barley at a relatively high level to encourage local production;
- Increasing farmers' use of certified seeds to 450 000 quintals by maintaining price subsidies for certified varieties of cereal seeds;
- Giving a 25 percent subsidy for the cost of buying agricultural machines and a subsidy of 40 to 50 percent of the cost of irrigation equipment in order to promote private investment for cereal production; and
- Improving access to credit for small and medium-sized agricultural producers – smallholder farmers represent 62 percent of the cereals producers and operate on 21 percent of the total agricultural land allocated to cereal production.

B. Policies and Strategies

General Development Strategies involving agriculture sector

During the review period, the Government has developed a number of national economic and social plans and strategies to address agriculture and food and nutrition security⁴⁰:

National Development Plan 2016-2020 (Plan National de Développement 2016-2020)

A five-year plan launched in 2016, the Plan aims to achieve an annual growth rate of over 4 percent by 2020. It defines a new vision of social and economic development based on highly qualified human resources and first-class infrastructure. This plan aims to have a significant impact on the agriculture sector and rural development:

- a. Improvement of Tunisian farmers income and modernization of farms (20 000 in 5 years);
- b. Contribution of the agricultural GPD (+11 percent);

³⁸ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - Tunisia 2005

³⁹ FAO Country fact sheet on food and agriculture policy trends – Tunisia 2017

⁴⁰ FAO Country fact sheet on food and agriculture policy trends – Tunisia 2017

- c. Strengthening agricultural production;
- d. Creating jobs in rural areas; and
- e. Improving national food security.

The Economic and Social Development Strategy (2012–2016)

The Strategy focuses on six pillars:

- i. governance, social accountability and citizens' participation;
- ii. improved public sector performance;
- iii. integration into the global economy;
- iv. human development and social and regional inclusion;
- v. employability, job creation and economic sophistication; and
- vi. improving conditions for financing the economy.

Strategies related to irrigation

The 2002-2011 water mobilization strategy

It aims at:

- i. developing conventional infrastructure (mainly dams and groundwater) as well as non-conventional sources (recycling of used and saline waters),
- ii. protecting existing infrastructures (see also soil/water conservation), and
- iii. promoting water savings (particularly in irrigation schemes).

11 new dams have been completed or are under construction under the 10th Plan, and 11 others (mainly for water storage) are planned under the 11th and 12th Plans. Other water-mobilisation investment includes the recharging (under the 10th Plan) of a number of groundwater sources and the construction of hill dams and deep wells.

Strategies related to agriculture & land management

The Development Strategy (2012–2016)

It aimed to enhance agriculture competitiveness and the development of biological agriculture products. It also promoted investments in agriculture and highlighted the sustainable use of soil and water, while recognizing the special role of agriculture in the development of certain regions.

The 11th five-year Plan for Agricultural Policy (2010–2014)

It was based on four main pillars:

- i. improving food security as a national sovereignty vector;
- ii. improving the competitiveness of the sector;
- iii. promoting exports as an engine of growth; and
- iv. promoting natural resources as a basis for sustainable agricultural development.

National strategy on organic farming in Tunisia

It aims to maximise the benefits of organic farming and to increase credibility and international recognition of Tunisian products for export and to maintain and increase access to international markets.

Strategies related to agricultural trade

Tunisian export development strategy for processed fruits and vegetables (Stratégie de développement des exportations tunisiennes des fruits et légumes transformés) (2011)

The project for the development of Tunisian fruit and vegetable exports was led by the Ministry of Trade and Handicrafts, with the support of ITC - Geneva. It started in December 2009 and involved all public and private sector actors in Tunisia.

Strategies related to aquaculture

The 10th Plan for the Development of the Fisheries and Aquaculture Sector

It aimed at consolidating the qualitative leap that the sector has begun to register and generating an overall increase in production⁴¹.

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
National Development Plan 2016-2020	Supportive	Supportive	Supportive	Supportive
Economic and Social Development Strategy (2012-2016)	Supportive	Supportive	Supportive	Supportive
National Strategy for Green Economy (2014)	Potential conflict	Potential conflict	Potential conflict	Supportive
The 2002-2011 water mobilization strategy	Potential conflict	Supportive	Supportive	Potential conflict
The Development Strategy (2012–2016)	Supportive	Supportive	Supportive	Supportive
The 11th five-year Plan for Agricultural Policy (2010–2014)	Supportive	Potential conflict	Potential conflict	Potential conflict
National strategy on organic farming in Tunisia	Supportive	Supportive	Supportive	Supportive
Tunisian export development strategy for processed fruits and vegetables	Supportive	Supportive	Supportive	Supportive
The 10 th Plan for the Development of the Fisheries and Aquaculture Sector	Supportive	Supportive	-	Supportive

C. Legislative framework.

Legislative framework related to irrigation

The Water Code (1975) (Law 75-61)

It was amended and supplemented in 1987, 1988 and 2001 (by Laws 87-35, 88-94 and 2001-116 respectively) and constitutes the basic legislative text that governs any intervention in the field of water. The initial provisions of this code relating to the agricultural use of water concern particularly the introduction of the right of use, the saving of water and the fight against waste, the obligation of the valorization of the water. water, the conditions for reuse of treated wastewater for agricultural purposes, and the pricing of water. The 2001 amendment focuses on improving the availability of water resources through the development of unconventional resources such as desalination. The amendment also introduced the concept of water saving. A new revision is expected (DGRE, 2012), but with no known deadline.

The Water Code was consolidated by the creation of two advisory bodies⁴²:

⁴¹ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - Tunisia 2005

⁴² WACDEP – Phase A - 2015

- National Water Committee, whose composition and functioning are defined by Decree n ° 78-419 of April 15, 1978;
- Commission of the Public Hydraulic Domain (DPH) whose composition and functioning are defined by Decree No. 78-557 of 24 May 1978.

In 1987 an amendment to the Water Code, by Law No. 87-35 of July 6, 1987, reactivated the creation of users associations in the hydraulic field, called associations of collective interest (AIC) giving it an important role in the management of irrigated perimeters (AIC PI) and the drinking water supply (AEP AIC). The reforms continued in 2001 through the Act of 26 November 2001.

Law No. 99-44 of 10 May 1999, amended by Law No. 2004-24 of 15 March 2004 has now specified the operating mode and the prerogatives of GIC / GDA by removing any gainful activity of GDA.

At the same time, more sectoral policies have also contributed to the growth of irrigated agriculture and current water management:

- The presidential programs (2004-2009 and 2009-2014) aimed at restructuring agricultural production around irrigated areas through agricultural water saving;
- Ten-year water and soil conservation strategy 1991-2000 and 2002-2011;
- Adaptation Strategy for the Agricultural Sector and Ecosystems to Climate Change.

Legislative framework related to land management

Tunisian law recognizes four forms of land tenure:

- i. Private land (terres privées): This legal form was introduced in 1885. 4.7 million hectares are held as private property, a figure increasing at the rate of around 70,000 ha per year.
- ii. Collective land (terres collectives): This legal form, defined in 1901, integrated the concept of tribal land tenure within the framework of colonial French law. The Tunisian law of January 4, 1964, incorporated many of the provisions of earlier legislation on collective land, giving tribal collectivities legal personality and exclusive land rights. It also facilitated the conversion of collective land into private or forest tenure (terre soumise au regime forestier).
- iii. Habous land (terres Habous): Habous land tenure was historically created by religious endowments. Habous land incomes financed religious and social activities implemented by the Djemai'a des Habous.
- iv. The state estate (terres domaniales): This was the dominant form of land tenure during the colonial era. 820,000 in 1964, it now covers around 500,000 ha of highly fertile land. It is farmed by pilot farms, "agro-combinats" and cooperatives farming under the Office of the State Lands (Office des Terres Domaniales). By law the state can not alienate such land. But Government can delegate it (affectation) to public institutions, lease it, or grant the usufruct to young farmers and agricultural graduates.

The Code of Planning and Urban Development (Code de l'Aménagement du Tenitoire et de l'Urbanisme) of 28 November 1994 provides a legal basis, among other things, for a rational distribution between the rural and urban areas.

Legislative framework related to aquaculture

The main text governing the fisheries and aquaculture sector in Tunisia is the law 94- 13 of 31 January 1994 on the practice of fishing. Its purpose is "to organize the fishing effort in the different fishing areas, to rationalize the exploitation of aquatic species, to protect them and to preserve their living environment". The practice of fishing in Tunisian waters is subject to the obtaining of an authorization for which the conditions for granting and the royalties relating thereto are fixed by regulation. After having established the general provisions (Title I) and the provisions relating to

fishing in Tunisian waters (Title II), the law successively deals with the provisions relating to the organization of fishing operations (Title III) and the finding and prosecution of fishing offenses (Title IV). In Title III, the law refers to aquaculture as "fixed fisheries" which include "bodies of water in the public domain on which are established facilities, gear and equipment that may be exploited for the purpose of peach"⁴³.

If possible for each of the above, identification of key cross-references, overlaps or potential conflicts among these acts of legislation (reference of one field/sector of focus to the other fields/sectors of focus).

Gaps in the Current Legal/Regulatory Setup

- Difficulties in application of regulations
- Gaps in the regulatory and legislative texts;
- Entanglement of missions and competition between local institutions;
- Lack of coordination between regional administrations;
- Lack of will on the part of users and GIC / GDA to evolve towards full empowerment;
- Persistence of the dependence of GIC / GDA vis-à-vis the state;
- A faulty participatory management.

D. Institutional framework

Responsible institutions related to irrigation

Ministry of Agriculture and Water Resources (Ministère de l'agriculture et des ressources hydrauliques - MARH): missions related to water management, in particular its mobilization and use, and is therefore the main operator in the field of water.

Within the MARH, the most important directorates-general dealing directly with water at the national level are:

- The Directorate General for Water Resources (Direction générale des ressources en eau (DGRE)), responsible for the evaluation, protection and monitoring of water resources.
- The General Directorate of Dams and Major Hydraulic Works (Direction générale des barrages et des grands travaux hydrauliques (DGBGTH)), whose main activities are the construction of dams and major hydraulic works, the operation and management of large dams.
- The Directorate General of Rural Engineering and Water Exploitation (Direction générale du génie rural et de l'exploitation des eaux (DGGREE)), who is responsible for irrigation and drainage infrastructure, and drinking water in rural areas, and agricultural water management.
- The Office of Planning and Hydraulic Balance (Bureau de Planification et des Équilibres Hydrauliques (BPEH)).

Ministry of the Environment and Sustainable Development (Ministère de l'environnement et du développement durable - MEDD): The missions are related to impact studies and monitoring of the aquatic environment.

⁴³ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - Tunisia 2005

The Agency of Agrarian Reform of Irrigated Public Perimeters (Agence de la Réforme Agraire des Périmètres Publiques Irrigués): reconfiguring land ownership in public irrigation schemes.

Responsible institutions related to agriculture & land management

Ministry of Agriculture and Water Resources (Ministère de l'agriculture et des ressources hydrauliques - MARH):

Within the MARH, the most important directorate-general dealing directly with agriculture at the national level is:

- General Directorate of Agricultural Production (Direction Générale de la Production Agricole (DGPA))
- The General Directorate of development and conservation of farmland (Direction générale de l'aménagement et de la conservation des terres agricoles (DGAFTA)), responsible for the preparation of watershed management studies and the monitoring and control of the execution of water and soil conservation projects.
- The Regional Commissions for Agricultural Development (Commissariats régionaux de développement agricole (CRDA)), public institutions in each governorate also attached to the MARH, which among their many responsibilities, fulfill the water resource management missions, and in particular the development and management of irrigated public perimeters.
- General Directorate of Studies and Agricultural Development (Direction Générale des Etudes et du Développement Agricole (DGEDA))
- National Center for Agricultural Studies (Centre National des Etudes Agricoles (CNEA))

The Agricultural Land Agency (Agence Foncière Agricole) reconfiguring land ownership in public irrigation schemes. They do it by expropriating private land, transferring it into the state estate and then reissuing it to private owners. New legislation in 2000 widened the AFA's mandate. If requested by 75% of the owners, it can reconsolidate landholdings in privately irrigated or productive rainfed areas. Since 2000, the AFA has processed 12,000 - 14,000 hectares per year, out of a publicly-irrigated area of 200,000 ha.

The Agency for Promotion and Agricultural Investments (Agence de Promotion et des Investissements Agricoles (APIA))

The Agricultural Research and Higher Training Institute (Institut de Recherche et d'Enseignements Supérieur: IRESA) was created in 1990, and regrouped 4 research institutes, 9 higher training centers, 5 regional research and development poles and their experimentation networks. IRESA includes 590 researchers and professors, including 270 full time researchers. IRESA has created national programming and evaluation commissions to program and budget agricultural research in 10 priority areas.

The National Agronomic Institute of Tunis (Institut National Agronomique de Tunis (INAT))

The National Observatory of Agriculture (Observatoire National de l'Agriculture (ONAGRI))

The Agricultural Extension and Training Agency (Agence de Vulgarisation et de Formation Agricole (AVFA)) was created in 1990 and is responsible for all extension. Its central services are in Tunis. At regional level, under the Regional Centre for Agricultural Development (CRDA), are the Territorial Extension Cells (Cellule Territoriale de Vulgarisation (CTV)) at governorate level and the Agriculture Sector Cells (Cellules de Rayonnement Agricole (CRA)) at sector level. Some Offices, some Inter-professional Groups (GIP) and some technical Centres also have their own specialized extension services. To complete the picture, there is an Association of Private Farm Advisors, composed mainly of retirees from the Ministry of Agriculture.

Responsible institutions related to agricultural trade

The Cereals Board (Office des Céréales) has monopoly rights on the import of durum wheat, soft wheat, and barley, and may if it chooses also import maize and soya cake.

The Office of Commerce has a de facto monopoly on the importation of sugar, and also imports several other food products, including tea, coffee, and potatoes.

The National Office of Oils (Office National des Huiles) imports edible oils and exports olive oil. It does not have sole legal rights to olive oil exports, but does control access to EU quotas, and uses this to maintain its virtual monopoly of this market. The “rents” from controlling access to high EU prices cross-subsidize its other activities, and the lack of transparency in the way that quota is allocated between producers may discourage investment.

Responsible institutions related to aquaculture

Ministry of Agriculture and Water Resources (Ministère de l'agriculture et des ressources hydrauliques (MARH)):

Within the MARH, the most important directorate-general dealing directly with aquaculture at the national level is the Directorate General for Fisheries and Aquaculture (La Direction Générale de la Pêche et de l'Aquaculture (DGPA)) which is responsible to:

- Develop fisheries and aquaculture development strategies and plans and specific programs for the protection and recovery of fisheries resources and ensure their implementation and evaluation.
- Evaluate investment opportunities in the sector and especially in the means of production and services.
- Design incentives and technical support to the sector and ensure their implementation in collaboration with relevant agencies.
- Participate in the development of research, training and extension programs in fisheries and aquaculture and contribute to the valorisation of the results of these programs.
- Ensure the rational exploitation of living fish resources and implement any measure aimed at preserving and ensuring the sustainability of these resources.
- Promote and implement international cooperation projects of interest to the fisheries and aquaculture sector in collaboration with the relevant services.

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Directorate General of Rural Engineering and Water Exploitation (DGGREE) - child of: Ministry of Agriculture and Water Resources	Government institution	Irrigation	Infrastructure development
General Directorate of Dams and Major Hydraulic Works (DGBGTH) - child of: Ministry of Agriculture and Water Resources	Government institution	Dams	Infrastructure development
General Directorate of Studies and Agricultural Development (DGEDA) - child of: Ministry of Agriculture and Water Resources	Government institution	Agriculture	Infrastructure development
Agricultural Land Agency (AFA)	Government institution	Agriculture	Infrastructure development
Agency for Promotion and Agricultural Investments (APIA)	Government institution	Finances	Infrastructure development
General Directorate of development and conservation of farmland (DGAFTA) - child of: Ministry of Agriculture and Water Resources	Government institution	Natural resources	Infrastructure development, Policy and strategy

Name	Type	Sectors	Activities
Office of Planning and Hydraulic Balance (BPEH) - child of: Ministry of Agriculture and Water Resources	Government institution	Irrigation	Licensing and allocation, Statistics and monitoring
General Directorate of Agricultural Production (DGPA) - child of: Ministry of Agriculture and Water Resources	Government institution	Agriculture	Policy and strategy
Directorate General for Water Resources (DGRE) child of: Ministry of Agriculture and Water Resources	Government institution	Irrigation	Policy and strategy
Agricultural Research and Higher Training Institute (IRESA)	Government institution	Agriculture	Research and Training and development
National Agronomic Institute of Tunis (INAT)	Government institution	Agriculture	Research and Training and development
National Observatory of Agriculture (ONAGRI)	Government institution	Agriculture	Statistics and monitoring
Agricultural Extension and Training Agency (AVFA)	Government institution	Agriculture	Training and development
National Centre for Agricultural Studies (CNEA) - child of: Ministry of Agriculture and Water Resources	Government institution	Agriculture	Training and development
Directorate General for Fisheries and Aquaculture (DGPA) - child of: Ministry of Agriculture and Water Resources	Government institution	Fishing and aquaculture	Policy and strategy
Regional Commissions for Agricultural Development (CRDA) - child of: Ministry of Agriculture and Water Resources	Government institution	Agriculture	-
General Directorate of Studies and Agricultural Development (DGEDA) - child of: Ministry of Agriculture and Water Resources	Government institution	Agriculture	Policy and strategy

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Directorate General of Rural Engineering and Water Exploitation (DGGREE) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	-
General Directorate of Dams and Major Hydraulic Works (DGBGTH) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	Cross-institution	-
General Directorate of Studies and Agricultural Development (DGEDA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	-
Agricultural Land Agency (AFA)	Cross-institution	-	-	-
Agency for Promotion and Agricultural Investments (APIA)	Cross-institution	-	-	-
General Directorate of development and conservation of farmland (DGAFTA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	-	-	-
Office of Planning and Hydraulic Balance (BPEH) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	Cross-institution	Cross-institution
General Directorate of Agricultural Production (DGPA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	-
Directorate General for Water Resources (DGRE) child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	Cross-institution	Cross-institution

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Agricultural Research and Higher Training Institute (IRESA)	Cross-institution	-	-	-
National Agronomic Institute of Tunis (INAT)	Cross-institution	-	-	-
National Observatory of Agriculture (ONAGRI)	Cross-institution	-	-	-
Agricultural Extension and Training Agency (AVFA)	Cross-institution	-	-	-
National Centre for Agricultural Studies (CNEA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	-	-	-
Directorate General for Fisheries and Aquaculture (DGPA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	Cross-institution
Regional Commissions for Agricultural Development (CRDA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	-
General Directorate of Studies and Agricultural Development (DGEDA) - child of: Ministry of Agriculture and Water Resources	Cross-institution	Cross-institution	-	Cross-institution

Inter-ministerial coordination

The National Water Council (Conseil national de l'eau) established in 2010, assists MARH on management to give on the mobilization and use of water resources. It is advisory and inter-ministerial. The Public Hydraulic Domain Commission is responsible for giving a technical opinion on any question pertaining to the public hydraulic domain.

3. Energy sector in Tunisia

A. Current status

Energy production⁴⁴

Tunisia has some small hydrocarbon reserves. Its average oil output was 53K barrels per day. Its annual natural gas production in 2015 was 2.8 bn cubic metres. Tunisia also produced 1 mtoe from biomass and waste and smaller amounts from other renewables.

Energy consumption⁴⁵

In terms of Tunisia's total final consumption, in 2015 oil products had a share of 55.2%, natural gas 16.4%, electricity 16.9% and biomass 11%.

Focus on the electricity sector⁴⁶

Electricity generation in Tunisia has been increasing steadily reaching 19.7 TWh in 2015, up from 10 TWh in 2000. By far most of Tunisia's electrical energy is produced by natural gas (91.4% in 2015). Oil had a share of 4.6%, wind 2.3%, hydro 0.3% and solar 0.2%. Tunisia has a small and quite

⁴⁴ Source: BP Statistical Review of World Energy 2018

⁴⁵ Source: International Energy Agency – online statistics

⁴⁶ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin

balanced trade of electricity with neighbouring countries. In 2015 it exported 500GWh and imported 403GWh.

Thermal power plants in Algeria have a total installed capacity of 5.85 GW most of which are located along its coast. There are 7 small-scale hydro plants in Tunisia, all located in the country's north-west, with a total installed capacity of 62MW. The largest one is Sidi Salem (33MW).



Figure 11: Location of major Gas (G) and Hydro (H) plants in Tunisia⁴⁷

Tunisia has a few wind parks with total installed capacity of 240 MW and solar installations totalling 46 MW.

According to the Intended National Determine Contribution (INDC) report submitted by Tunisia to the UNFCCC before COP21 in 2015, the country's target for 2030 is to have installed renewable energy capacity of 3,815 MW in 2030, including 1,755 MW for wind power, 1,610 MW for solar photovoltaic (PV) and 450 MW for concentrated solar power (CSP).

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Tunisia from 1971-2015:

⁴⁷ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

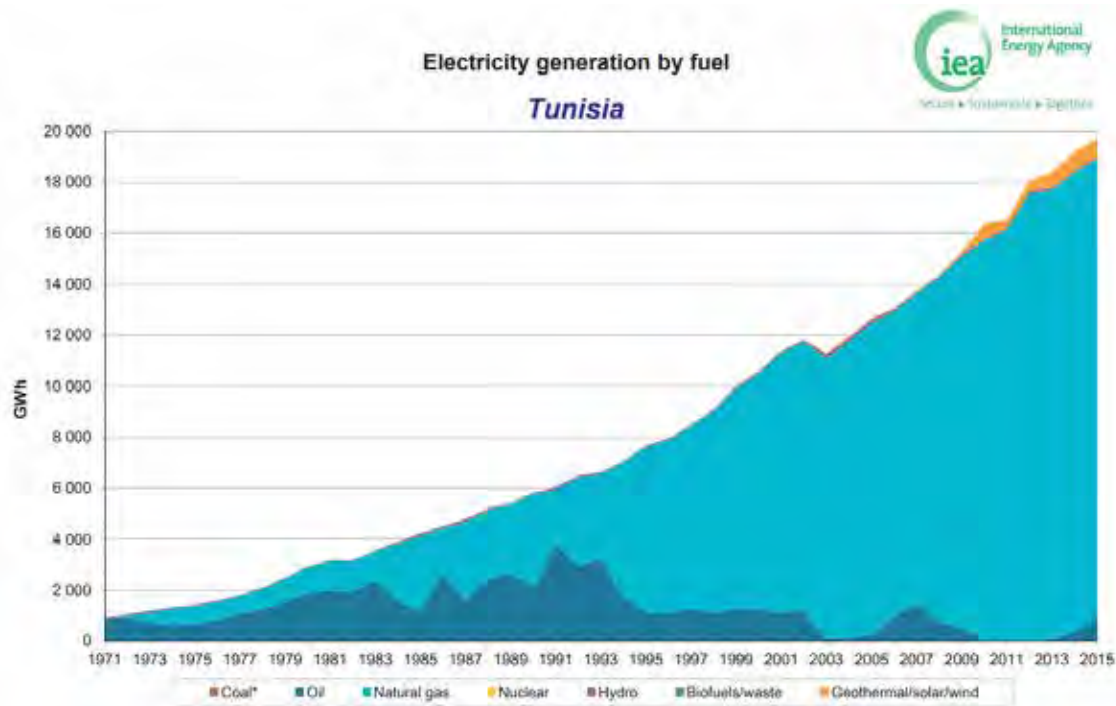


Figure 12: Evolution of electricity generation by fuel in Tunisia, 1971-2015 (Source: IEA)

Progress towards SDG 7

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "Tracking SDG7: The Energy Progress Report"⁴⁸ with data for 2015, Algeria has achieved access to electricity for 100% of its population and access to clean fuels and technologies for cooking for 99% of its population. The share of renewable energy in total final energy consumption has remained relatively stable since 2010 and in 2015 stood at 12,6%. The energy intensity of the Tunisian economy has also remained relatively stable at 3.8 MJ/USD in 2015, up from 3.9 MJ/USD in 2010.

B. Policies and Strategies

Tunisia's principal and up-to-date strategic document regarding the energy sector, is its Intended Nationally Determined Contribution (INDC) report, submitted to the UNFCCC in 2015⁴⁹ which includes a summary of the country's energy- and climate-related actions and targets. It was based on existing national strategies such as the Tunisian Solar Plan (TSP) from 2009. According to its INDC, Tunisia conditionally aims to reduce its national carbon intensity by 41% compared to 2010, and specifically for the energy sector by 46%.

More specifically, primary energy demand is expected to decrease by some 30% by 2030, compared to the baseline, while the share of renewable energies in electricity production to increase to 30%

⁴⁸ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

⁴⁹ Available at <http://www4.unfccc.int/ndcregistry/pages/Party.aspx?party=TUN>

in 2030, from 4% in 2015. To achieve this, Tunisia aims to achieve an installed renewable energy capacity of 3,815 MW in 2030, including

- 1,755 MW of wind power,
- 1,610 MW of solar photovoltaic (PV) and
- 450 MW for concentrated solar power (CSP).

With regard to solar heating, Tunisia intends to triple the number of solar water heaters aiming to achieve at least 220 m² of collectors per 1,000 inhabitants in 2030, compared to 73 in 2015.

C. Legislative framework

I. Law N°2005-106 establishing the National Fund for Energy Conservation

The Law introduced the National Fund for Energy Conservation (FNME), later renamed to Fund for the Energy Transition (FTE). It aims to finance energy efficiency, renewable energy, and energy switch projects.

II. Law n° 2015-12 relating to the electricity generation from renewable energies (2015)

The purpose of the law is to establish a legal regime for the realization of renewable energy projects, and to encourage relevant investments. In this context, it calls for the development of a National Plan for electricity generation from renewable energy sources, promotes self-generation/consumption with the option of selling excess power to the state utility, and enables private companies to develop renewable energy projects for covering local needs or for export.

D. Institutional framework

I. Ministry of Energy, Mines and Renewable Energies

It has the responsibility of government policies in the respective areas under its control. Regarding the energy sector, its main missions are:

- To promote the research and the exploitation of energy resources,
- To assure the energy security of the country,
- To develop and implement policies on energy efficiency and energy transition
- To negotiate with companies and to issue permits,
- To elaborate energy projects, and manage the exploitation of resources,
- To assure optimization of the hydrocarbon production, and optimize market conditions,

<http://www.energymines.gov.tn/>

II. National Committee on Climate Change (Comité National Sur Les Changements Climatiques - CNCC)

CNCC was established in 1996, sits within the Ministry of Agriculture, Environment and Hydraulic Resources and brings together the main government bodies relevant to climate change policies, namely:

- the UNFCCC focal point

- the Directorate of International Cooperation and the Directorate of Legal Affairs of the Ministry of Agriculture, Environment and Hydraulic Resources
- the General Directorate of Energy
- the National Agency for the Energy Conservation
- the National Agency for Environmental Protection
- the Coastal Protection and Development Agency
- the General Directorate of Forests
- the National Institute of Meteorology
- the National Agronomic Institute of Tunis
- the National School of Engineers of Tunis
- the Association of Tunisian Geographers

The main mission of CNCC is to coordinate the government's work related to climate change and to participate in international negotiations.

III. Société Tunisienne d'Electricité et de Gaz (STEG)

STEG, founded in 1962, has the responsibility of the management of the production, transportation and distribution of electricity and gas in Tunisia. In the electricity sector, since the opening of the market in 1996, STEG no longer has a monopoly status in electricity generation but remains the dominant player with 79% market share in 2015.

In 2010 STEG-ER was created as the renewable-focused subsidiary of STEG. Its aims are to study, realize, operate and assure the maintenance of renewable and cogeneration installations.

www.steg.com.tn

IV. National Agency for Energy Conservation (Agence Nationale pour la Maîtrise de l'Energie - ANME)

ANME, created in 1985, is a publicly owned entity under the supervision of the Ministry of Energy, aiming to apply the country's policies on planning and promoting energy efficiency, renewable energies and energy transition. It is also responsible for the management of the National Fund for Energy Conservation.

www.anme.nat.tn

V. Information Centre on Sustainable Energy and Environment (Centre d'information sur l'énergie durable et l'environnement – CIEDE)

CIEDE was created within ANME in 2001 and is in charge of the implementation of Article 6 of the UNFCCC through raising awareness, education, training and information activities on climate change.

The Baseline Scenario – Libya

1. The Water sector in Libya

A. Current status

Surface Waters and related ecosystems – Size & characteristics

Water sources in Libya come from four sources: groundwater, providing almost 95% of the country's needs; surface water, including rainwater and dam constructions (about 2%); desalinated sea water (about 2%); and wastewater recycling (about 1%) (Wheida and Verhoeven, 2007).

The surface water resources existing in the northern regions of the country have been mobilised to a certain extent by the construction of a few dams. The total amount of surface water annually available is 60 Mm³ while the dams have been designed for storage capacity of 389 Mm³.

The major sources of groundwater come from five water basins: Jabal a l-Akhdar, Kufra/as-Sarir, the Jefara Plain Region (JPR), Nafusah/al-Hamada and Murzek.

There are 2 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 83 hectares.

Pressures

With about 93% of Libya's land surface receiving less than 100 mm/year rainfall, desertification and very limited natural fresh water resources are the current and significant environment issues in Libya (CW, 2001b). The average annual rainfall for the whole country is only 26 mm.

The population of Libya is unevenly distributed and concentrated in the fertile land and zones of industrial activities along the Mediterranean coastline, resulting in considerable water supply deficits in these areas. In the 1960s, Libya turned to desalination as an additional source of water (Wheida and Verhoeven, 2007), becoming one of the largest users of both thermal and membrane desalination technologies in the Mediterranean region (Abufayed and El-Ghuel, 2001).

Water infrastructure

Based on FAO-AQUASTAT (http://www.fao.org/nr/water/aquastat/countries_regions/LBY/) currently 19 dams are in operation, including a secondary dam on Wadi Qattara, for a total storage capacity of about 390 Mm³. However, their average annual storage capacity is only about 61 Mm³ and in fact, due to lower flow records or damage to some dams, it is estimated to even not exceed 30 to 40 Mm³/year. Some 20 dams are planned for construction representing an additional 136.6 million m³ of storage and 45 million m³ of additional average annual storage.

Moreover, more than half of the domestic water supplies in 2012 were from the Great Manmade River Project (MWR and CEDARE, 2012), a network of pipes that supplies water to the Saharan Libya, from the Nubian Sandstone Aquifer System fossil aquifer and the world's largest irrigation project.

Desalination started in Libya in the early 1960s and installed capacity reached 226.3 Mm³/year in 2006 for a total of more than 400 desalination plants, including 17 large ones (GEC, 2006). In 2012, the total desalinated water produced in Libya is estimated at 70 Mm³/year aimed at municipal and industrial water demands and using both thermal and membrane technologies. Thermal desalination plants are located directly at electricity generation facilities.

Libya also had 79 wastewater treatment plants in 2010 for a total capacity of 74 Mm³, all of which were designed to produce effluents suitable for irrigation. However, out of the 504 Mm³ municipal wastewater produced in 2012, only 40 Mm³ were treated and directly used in irrigation on 2 900 ha.

Based on the same source, in rural areas people depend to a large extent on private water supply wells, rainwater reservoirs, and springs. A large number of industries, such as the chemical, petrochemical, steel, textile and power generation industries, depend on private sources for water supply, including desalination of seawater.

Concerning irrigation, in the year 2000, the total area equipped for irrigation was approximately 470 000 ha, of which 316 000 ha was estimated to be actually irrigated, although this figure may be underestimated. Almost the entire area was equipped with sprinkler irrigation systems and used groundwater on 99 percent of the area, just a little treated wastewater and surface water was used on the remaining areas. With a total harvested irrigated area estimated at 406 000 ha in 2000, the cropping intensity was 129 percent.

In 2008, although the total area equipped for irrigation decreased to 400 000 ha, the area actually irrigated increased to 335 000 ha (CEDARE, 2014). Decrease in the traditional irrigated areas on the coast results from (MWR and CEDARE, 2014):

- Limited water near the coast due to poor water quality and lowering of the water tables
- Neglect and deterioration of many large-scale government public irrigation schemes
- Encroachment of urban areas at the expense of the irrigated areas

On the other hand, new irrigation is being developed by the private sector using large pivots and drilling their own wells, up to 1 000 m deep (MWR and CEDARE, 2014). Apart from public supply wells associated with government production and settlement projects, all other wells are privately owned. In the so-called “settlement projects” each well serves a number of farms through an irrigation network (CEDARE, 2014). The private farming sector is growing rapidly and is responsible for more than 80 percent of irrigated agriculture. Typical farms of 50 ha and more are to be found, well equipped with modern irrigation technologies and well adapted to the local market (FAO, 2009).

Trends

The total population of Libya reached 5,673,031 in 2006 (Otman and Karlberg, 2007) and the population growth rate had been estimated at more than 3% annually. To cope with the population growth and water requirements for the domestic, industrial and agricultural sectors a sharp increase in water drawing over time is needed. The rates of renewable water and surface water per capita in Libya are the lowest in the Near East and North African Region.

In 2025, the water demand is estimated between 8 200 and 12 500 million m³ depending on the sources (Tinmore Institute, 2012; Lagwali, 2008). To fulfil these demands, phases 4 and 5 of the Great Manmade River Project (GMRP) are still to be implemented. However, considering the population growth, the amount of water transferred from the south to the coastal areas will certainly be used almost entirely for domestic use, despite the fact that the GMRP was originally intended for irrigated agriculture.

Any increase in irrigated agriculture will have to come from an increase of production and use of non-conventional water, either:

- directly in agriculture with increase in the collection and treatment of wastewater and its use in agriculture; or
- in other sectors that might free some transferred water from the GMRP for agriculture. For example, increased desalinated water for both municipalities and industries.

Some desalination plants are planned or already under construction for an anticipated production capacity of 86.5 million m³/year in 2025 (CEDARE, 2014).

Hot spots

MEHSIP (2008) identifies as the major environmental concerns in Libya water availability and the depletion of underground water, as a result of overuse in agricultural developments, causing

salinity and sea-water penetration into the coastal aquifers. Another significant environmental problem is water pollution on the coastal environment from the combined impact of sewage, oil by-products, and industrial waste.

Pollution resulting from human activities mainly occurs near large coastal cities, and is concentrated on rather few urban/industrial centres on the coast. Assessment of the Libyan coastal environment revealed that the main sources of pollution are urban and industrial sewage, in addition to improper solid waste management.

A UNEP/WHO study identified 8 environmental hotspots in Libya with relevant investment projects.

B. Policies and Strategies

Existing or in progress

The National Strategy for Integrated Water Resources Management (2000-2025) is the main guide on water management in Libya. It was formulated in 1999 and approved in May 2005 with the aim to stop water deficits and water quality deterioration in order to set a base for sustainable development. Operationalization is still to be formulated, but led to the National Program for Water and Wastewater, initiated in 2005; to WSS sector strategies and to the establishment of implementing authorities.

Priority needs

The most important aspects of the National Strategy are the following:

- Developing human and institutional capacity in the preparation and implementation of the national strategy for the management of water resources.
- Reducing water deficits through good management of the water demand, reviewing agricultural policy as the agriculture is the biggest consumer of water, and restricting the amount of water used in urban and industrial purposes.
- The setting up of advisory bodies, education and information awareness programmes, as well as introducing a water pricing system, to sensitise people to the value of water for life.
- The development of both conventional water resources and non-conventional, such as dams and springs, and the provision of funding sources for desalination and wastewater recycling plants, and other water conservation projects.
- The protection of the environment and protection of water resources from pollution by: the rationalisation of the use of chemical for agricultural purposes; cleaner and more efficient industrial techniques in relation to the environment and water resources; the imposition of fees on polluters; and giving support to the regulators and the judiciaries responsible for the protection of the environment.
- Directing water policies to recover the costs of providing water and to secure the necessary finance to develop water resources.
- The modernisation and development of valid water legislations in Libya and the activation of its role.
- The development of technical cooperation with Arab organisations, regionally and globally, in the fields of water resource management.

C. Legislative framework

The Water Code in Libya (3/82) or Law No. 3 of 1982 (Implementing Decree 790/82) is an amendment to the Water Act of 1965. The law and complementary legislation control and regulate the exploitation, use and protection of water resources. In addition, the Law on the Protection of the Environment (15/2003) and its numerous decrees deal with the protection of water resources

in general and groundwater in particular, as well as the risks of pollution. Aquifers in coastal areas are given special attention because of their over-exploitation. Samples are either limited or completely prohibited.

The water law article states that authorizations for the use of water resources are granted on the basis of the following priorities:

1. Domestic use and watering of animals
2. Agricultural use, in priority foodstuffs
3. Industrial and mining use.

The law also indicates preventive and remedial measures as well as sanctions for non-compliance. According to Decree No. 791 of 1982, Libya is divided into five hydrographic zones. Regulations for the proper management of water resources in each zone are defined in consideration of prevailing hydrological and hydrogeological conditions (Articles 3, 4, 5, 6,7).

Agricultural water is regulated as follows:

- The water requirements of agricultural crops need to be precisely determined using appropriate technologies and efficient irrigation systems to ensure high productivity with minimal amounts of water.
- Deep aquifers should be prioritized to reduce the pressure on the more superficial aquifers depleted.
- Collective irrigation should be favored, especially in areas with falling water levels or seawater intrusion.

The use of domestic and industrial water is also regulated (Articles 4 and 5) as follows:

- No additional exploitation of groundwater for domestic use in coastal cities. The supply of water for current and future demand must come from desalination.
- The demand for water for the industry must come from desalination or deep aquifers.
- No authorization is granted to inject fresh water for oil production purposes.

D. Institutional framework

The General Water Authority (GWA) has been established since 1972 and is in charge of conventional water resources planning and management, proposing and implementing water policies and legislation, conducting water resources survey studies, including aquifer monitoring to accurately determine any changes in groundwater conditions.

The GWA comprises four technical directorates:

- The Directorate of Water Resources
- The Dams Directorate
- The Directorate of Irrigation and Drainage
- The Soils Directorate

Five regional branches are located in the five hydrographic zones. The branches are engaged in field work, monitoring of drilling activities, monitoring and data collection under the supervision of the technical directorates.

Other government institutions are involved in water supply, treatment, and quality monitoring operations such as:

- The Ministry of Agriculture
- Ministry of Housing and Services
- The Ministry of Energy

- The Great Manmade River Project
- The General Company for Water and Wastewater
- The General Company for desalination
- The General Authority for the Environment

2. The Agriculture sector in Libya

A. Current status

Libya has four major physiographic regions:

- the Coastal Plains,
- the Northern Mountains,
- the Internal Depressions, and
- the Southern and Western Mountains.

Around 95% of Libya's surface is desert⁵⁰. Area suitable for cultivation approximates 22,000 km² of which 2,390 km² dedicated to irrigated agriculture, 15,500 km² to rain fed farming, and 140,000 km² of forest and range lands. Only 1% of the land was arable land in 2013, 0.2% was permanent cropland and 7.6% permanent meadows and pastures.^{51, 52}

Existing irrigation schemes

In 2000, the total area equipped for irrigation was approximately 470,000 ha, of which 316,000 ha was estimated to be actually irrigated. Almost the entire area was equipped with sprinkler irrigation systems and used groundwater on 99 percent of the area, just a little treated wastewater and surface water was used on the remaining areas.

In 2008, although the total area equipped for irrigation decreased to 400,000 ha, the area actually irrigated increased to 335,000 ha⁵³. Decrease in the traditional irrigated areas on the coast results from:

- Limited water near the coast due to poor water quality and lowering of the water tables
- Neglect and deterioration of many large-scale government public irrigation schemes
- Encroachment of urban areas at the expense of the irrigated areas

On the other hand, new irrigation is being developed by the private sector using large pivots and drilling their own wells, up to 1,000 m deep⁵⁴. The private farming sector is growing rapidly and is responsible for more than 80 percent of irrigated agriculture. Typical farms of 50 ha and more are to be found, well equipped with modern irrigation technologies and well adapted to the local market.

Types of products, irrigated area and production

⁵⁰ FAO. (2015). "AQUASTAT – Libya"

Information available from: http://www.fao.org/nr/water/aquastat/countries_regions/lby/index.stm

⁵¹ FAO. "Seasonal Indicators – Libya". Information available from:

<http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=LBY>

⁵² The World Bank. "World Development Indicators".

Information available from: <http://data.worldbank.org/indicator>

⁵³ CEDARE 2014 Libya Water Sector M&E Rapid Assessment Report

⁵⁴ CEDARE 2014 Libya Water Sector M&E Rapid Assessment Report

The main irrigated crops are cereals (wheat and barley), olives, fodder (mainly berseem cultivated in winter) and vegetables.

Given the arid nature of much of Libya, irrigated farming systems have always been of crucial importance in generating much of the country's agricultural output. About 50 percent of the cereal production and about 90 percent of the fruit and vegetable production originate from irrigated agriculture.

The average yield of irrigated wheat and barley is much lower than the yields obtained in other Mediterranean countries. The yields for irrigated fruits, vegetables and oil crops are generally also lower than in the surrounding countries but for these crops the differences are smaller.

Livestock

Large numbers of poultry (24.8 million estimated in 2008), small ruminants (5.1 million sheep, 1.9 million goats) and cattle (210,000) are raised, supplying meat and dairy products. Only small amounts of meat and dry milk are imported.

Camels (about 71,000 estimated in 2008) are also kept for transportation and milk consumption, especially in desert areas. The livestock sector relies heavily on subsidized imports of animal feed.

Fishing

Despite 1,770 km of coast and a potential for growth, fishing activities are limited with most of the fish products consumed domestically. The sector employs a very low portion of the labour force (1%) and contributes to a low share of the agricultural GDP (estimated at 9% in 2003). In 2001, per capita fish supply was low at only 7 kg per year.

Priority needs

Food security is felt as a moral imperative for the Libyan leaders and huge efforts were made in the 1970s and 1980s to develop irrigated agriculture based on local water resources, and in the 1990s to create the conditions for the rehabilitation and development of the coastal agriculture through water transport from the south to the north. However, food security is distinctly different from food self-sufficiency which is now impossible and will be more and more difficult to achieve in Libya. A debated question is whether irrigation, mostly the one based on costly water transfer, remains justified in a situation of water scarcity where the only source of water is non-renewable groundwater and where economic returns from other sectors (oil industry) would allow an easy access to the international food market.

B. Policies and Strategies

General Development Strategies involving agriculture sector

National Strategy for Sustainable Development: The National Strategy for Sustainable Development was formulated in 2008.

Strategies related to irrigation

Strategy for irrigation management (1990): The strategy for irrigation management highlighted the complexity of the water distribution system that requires significant operation and maintenance skills that are lacking locally. The institutional structures of the Libyan society also required a complete change to allow for community-based institutions. However, this strategy was never implemented.

The National Strategy for Integrated Water Resources Management (2000-2025) (NSIWRM): is the main guide on water management in Libya. It was formulated in 1999 and approved in May 2005

with the aim to stop water deficits and water quality deterioration in order to set a base for sustainable development.

This strategy, although officially adopted in 2006, has not been operationalized yet. Operationalization is still to be formulated.

Strategies related to agriculture

The objectives of the agricultural development strategies in Libya during the 1990s were enhancement of production, improved management of natural and economic resources, establishment of farmer cooperatives, an insurance and credit policy for farmers, transfer of certain agricultural projects to farmers, and the creation of agricultural and livestock associations. Before the 2011 revolution and civil war, the Department of Agricultural & Rangeland Development supervised all agricultural and production projects, agricultural training institutions, and specialized agricultural companies.

Among other developments, the United Nations Country Team (UNCT) in Libya, that comprises FAO, UNDP, UNIDO, World Bank and UNESCO, has prepared a Strategic Framework 2013-2014 for providing possible assistance to Libya. The Agricultural Research Center, Tripoli and ICARDA (International Center for Agricultural Research in the Dry Areas) have been partners since 2010 in a large-scale government-funded research program comprising three projects namely, cereals improvement, water harvesting and irrigation management, and small ruminant production.

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
Strategy for irrigation management (1990)	Supportive	Supportive	-	-
National Strategy for Integrated Water Resources Management (2000-2025) (NSIWRM)	Supportive	Supportive	-	-

Gaps in the Current Agricultural Setup

- Absence or instability of the administrative structure of agricultural extension services;
- Weak communication channels between extension and research stations;
- Inability of extension staff to fully devote their time to their extension duties due to non-extension responsibilities;
- Part-time and illiterate farmers finding hard to comprehend the importance of both extension and innovative technologies;
- Absence of a regulatory framework governing the relationship between agricultural extension organs, research centers and the parties funding extension programs;
- A lack of international and regional projects and consultants in extension and technology transfer projects; and
- A lack of competent agricultural extension staff for training farmers' wives and daughters in agricultural economic sectors for rural development.

C. Legislative framework.

Legislative framework related to irrigation

The Water Law No. 3/1982: The Law No. 3/1982 on regulating water sources, issued 1982, is the main legislation governing the issue of water usage for agricultural and drinking purposes. Shallow

and deep wells are considered private and their ownership is attached to the corresponding land. This 1982 Water Law was further complemented then by laws, decrees and regulations in all domains, such as water ownership, usage, licensing for drilling, quality and management. In particular, decree No. 790 in 1982 sets aquifer protection from overexploitation and pollution, and memo No. 612 in 1993 regulates the water allocations from the GMRP.

The implementation is still incomplete with discrepancies between legal and de facto responsibilities

Law no. 15 of 2003 on environmental protection and enhancement reinforces water quality protection and drinking standards.

Gaps in the Current Legal/Regulatory Setup

- The need to modernize irrigation laws
- The need to develop the legal requirements to support strategic priorities in the water sector
- The need to undertake an in-depth gap analysis of all laws and regulations governing the water sector
- Difficulties in application of regulations
- Gaps in the regulatory and legislative texts;
- Entanglement of missions and competition between local institutions;
- Lack of coordination between regional administrations.

D. Institutional framework

Responsible institutions related to irrigation

Ministry of Water Resources (MWR): It combines all institutions dealing with water at national level

The General Water Authority (GWA) is responsible for the management of conventional water, both surface water and groundwater, but not desalinated water, wastewater or water from the GMRP. It is in charge of water resource assessment and monitoring, and supervision of **irrigation** and drainage projects within Libya. It comprises six General Directorates: Planning; Follow-up and Statistics; Water Resources; Dams, Irrigation and Drainage; Soils; and Finance and Administration. At regional level the GWA has five branches.

The Great Manmade River Authority (GMRA), established in 1983, deals with the execution of the GMRP and management of its water.

The Great Manmade River Water Utilization Authority (GMRWUA), established in 1994, oversees the use of water transported by the GMRP for agricultural purposes.

Responsible institutions related to agriculture

The Ministry of Agriculture, Animal and Marine Wealth oversees agricultural activities and land use.

Within the Ministry of Agriculture, Animal and Marine Wealth, the most important directorates are:

- Planning and follow-up Department.
- Department of Administration and Finance.
- Pasture and forest management.
- Agricultural Development Department.
- Animal Production Department.

- Management of horticulture.
- Management of agricultural, livestock and marine investment.
- Department of Agricultural Land Protection.
- Agricultural Resource Development Department.

The following agencies are affiliated to the Ministry of Agriculture, Animal and Marine Wealth:

- National Center for Animal Health (NCAH)
- Agricultural and Animal Research Center
- National Committee to Combat Desertification
- General Authority for Marine Wealth
- Marine Biology Research Center

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Ministry of Water Resources (MWR)	Government institution	Irrigation	Infrastructure development
General Water Authority (GWA)	Government institution	Dams	Infrastructure development
Great Manmade River Authority (GMRA)	Government institution	Agriculture	Infrastructure development
Great Manmade River Water Utilization Authority (GMRWUA)	Government institution	Agriculture	Infrastructure development
Ministry of Agriculture, Animal and Marine Wealth	Government institution	Finances	Infrastructure development
National Center for Animal Health (NCAH)	Government institution	Natural resources	Infrastructure development, Policy and strategy
Agricultural and Animal Research Center	Government institution	Irrigation	Licensing and allocation, Statistics and monitoring
National Committee to Combat Desertification	Government institution	Agriculture	Policy and strategy
General Authority for Marine Wealth	Government institution	Irrigation	Policy and strategy
Marine Biology Research Center	Government institution	Agriculture	Research, Training and extension

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Water Resources (MWR)	Cross-institution	Cross-institution	-	-
General Water Authority (GWA)	Cross-institution	Cross-institution	Cross-institution	-
Great Manmade River Authority (GMRA)	Cross-institution	Cross-institution	-	-
Great Manmade River Water Utilization Authority (GMRWUA)	Cross-institution	-	-	-

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Agriculture, Animal and Marine Wealth	Cross-institution	-	-	-
National Center for Animal Health (NCAH)	Cross-institution	-	-	-
Agricultural and Animal Research Center	Cross-institution	Cross-institution	Cross-institution	Cross-institution
National Committee to Combat Desertification	Cross-institution	Cross-institution	-	-
General Authority for Marine Wealth	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Marine Biology Research Center	Cross-institution	-	-	-

3. The Energy sector in Libya

A. Current status

Energy production⁵⁵

Libya has the largest proven oil reserves in Africa, amounting to 2.9% of the world's total. In terms of oil production, the country is the fourth largest in Africa with an average output of 0.86m barrels per day, significantly below its peak production of 1.82m bpd in 2008. Libya also has some natural gas reserves (1.4 trn cubic metres) and in 2017 produced 11.5bn cubic metres. Libya does not produce any energy from coal or any renewables sources.

Energy consumption⁵⁶

Primary energy consumption in Libya has been growing relatively slowly reaching 17.2 mtoe in 2015, up from around 15 mtoe in 2000. In terms of total final consumption, in 2015 oil had a share of 86.5%, and electricity 10.1%.

Focus on the electricity sector⁵⁷

Electricity generation in Libya has been increasing significantly reaching 37.7 TWh in 2015, tripling since the late 1990s. 54% of the country's electricity was produced by natural gas and the remaining 46% by oil. A major issue with Libya's electricity system are the very large losses in the grid.

Power plants in Algeria have a total installed capacity of 10.2GW and most of them are located along its Mediterranean coast. Even though Libya has huge potential for renewable energy sources, so far it has remained totally untapped.

⁵⁵ Source: BP Statistical Review of World Energy 2018

⁵⁶ Source: International Energy Agency – online statistics

⁵⁷ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin



Figure 13: Location of major Gas (G) and Oil (O) power plants in Libya⁵⁸

Libya's Renewable Energy Strategic Plan 2013-2025 has set a goal of 10% of the country's electricity coming from renewables by 2025. The Plan estimates that in order to meet this 2025 goal, 1000 MW of wind, 400 MW of concentrated solar and 800 MW of photovoltaics will need to be installed. The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Tunisia from 1971-2015:

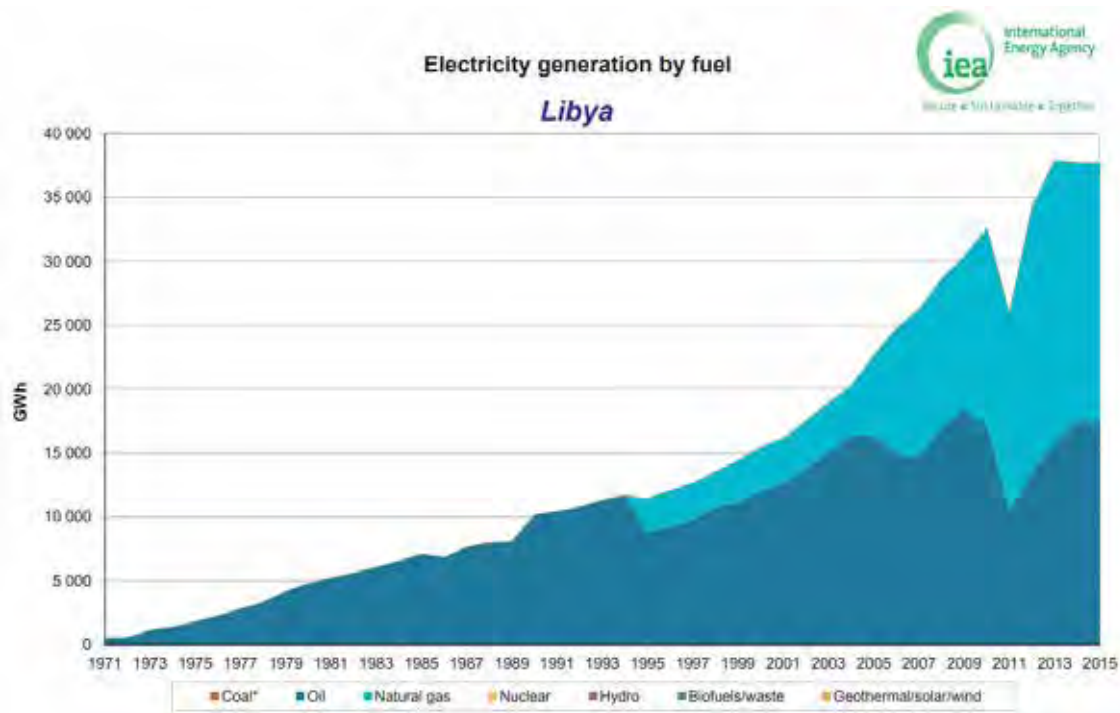


Figure 14: Evolution of electricity generation by fuel in Libya 1971-2015 (Source: IEA)

Progress towards SDG 7

⁵⁸ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "*Tracking SDG7: The Energy Progress Report*"⁵⁹ with data for 2015, Libya has achieved access to electricity for 99% of its population and access to clean fuels and technologies for cooking for 100% of its population. The share of renewable energy in total final energy consumption is only 1.97%, due to use of biomass. The energy intensity of the Libyan economy is improving: 4.2 MJ/USD in 2015, down from 4.8 MJ/USD in 2010.

B. Policies and Strategies

I. Renewable Energy Strategic Plan 2013-2025

The Plan, adopted in 2012, aims to achieve 7% share of renewable energy to the electric energy mix by 2020 and 10% by 2025. The Plan also includes for each of the target years a breakdown by technology of the renewable capacity that will need to be installed to meet these targets:

- By 2020: 600 MW of wind, 150 MW of concentrated solar power, 300 MW of solar PV, 250 MW solar water heating
- By 2025: 1000 MW of wind, 400 MW of concentrated solar power, 800 MW of solar PV, 450 MW solar water heating

Libya has not yet submitted an Intended Nationally Determined Contribution to the UNFCCC.

C. Legislative framework

I. Law No. 426 establishing the Renewable Energy Authority of Libya – REAOL (2007)

The main aim of the REAOL is to implement the government's policies in order to meet the national targets regarding renewable energy. Initially, REAOL's long term Renewable Energy Development Plan from 2008 to 2030, included more ambitious targets than those later adopted in the country's Renewable Energy Strategic Plan. According to that initial Plan, the target for 2025 was a renewable energy share of 25% in the electricity mix, coming from 2000 MW of wind, 1200 MW of concentrated solar power, 500 MW of solar PV and 600 MW of solar water heaters.

D. Institutional framework

I. Renewable Energy Authority of Libya (REAOL)

REAOL, established in 2007, is the government's authority responsible for the promotion of renewable energy in the country. Its main objectives are:

- To comprehensively map the renewable energy potential
- Develop studies to determine the future market for renewable energy

⁵⁹ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

- Implement renewable energy projects in various forms
- Encourage and support the renewable energy-related industries
- Propose legislation needed to support renewable energy.
- Implement programs related to energy efficiency

REAOL has since been made also responsible for the promotion of energy efficiency, mandated to develop a National Energy Efficiency Action Plan, propose to the government necessary laws, regulations, and incentives, and promote public awareness and acceptance.

II. National Climate Change Committee

It was established in 2001 but is not fully operational and has not yet any Action Plan, mainly because of very weak financial support from the government.

The Baseline Scenario – Egypt

1. The Water sector in Egypt

A. Current status

Surface Waters and related ecosystems – Size & characteristics

The Egyptian territory comprises the following river basins:

- The Northern Interior Basin, covering 520 881 km² or 52 percent of the total area of the country in the east and southeast of the country. A sub-basin of the Northern Interior Basin is the Qattara Depression.
- The Nile Basin, covering 326 751 km² (33 percent) in the central part of the country in the form of a broad north-south strip.
- The Mediterranean Coast Basin, covering 65 568 km² (6 percent).
- The Northeast Coast Basin, a narrow strip of 88 250 km² along the coast of the Red Sea (8 percent).

The Nile supplies nearly all water in Egypt. Under the Nile Waters Agreement of 1959 between Egypt and Sudan, 55 500 million m³/year flows annually from the Nile into Egypt.

Internal renewable surface water resources are estimated at 500 million m³/year. This brings total renewable surface water resources to 56 000 million m³/year. Internal renewable groundwater resources are estimated at 1 300 million m³/year. The overlap between surface water and groundwater being considered negligible, the total renewable water resources of the country are thus 58 300 million m³/yr, including 1 000 million m³/year of external groundwater entering the country from Sudan through the Nubian Sandstone aquifer.

The main Egyptian lake is the artificial Lake Nasser, created by the High Aswan Dam (called Lake Nubia on the Sudanese side). Lake Qarun in the Fayoum depression is entirely fed by drainage water, so with an increasing salinity. Its waters are more saline than sea since 1980. Wadi Al Rayan lakes are also fed by excess drainage water transferred there since 1973, resulting in two interconnected lakes. From the Suez Gulf the Suez Canal joins the Red Sea through Lake Timsah and the Great Bitter Lake. Finally, on the coast, there are a few lagoons: lakes Mariot, Edku, Manzalah, Burullus and Bardaweel. These last two lakes, together with the Lakes Qarun and Wadi Al Rayan are the four Ramsar sites of the country, covering over 400 000 ha.

Pressures

Industrial wastewater effluents, which are not compliant with the permissible limits, represent a major source of pollution of River Nile Water, canals and drains, which may reach the groundwater in the case of its discharge on soil or injection under the ground. Industrial waste water contains many of the organic compounds and inorganic heavy metals that affect public health and impede the optimal use of some water sources. Furthermore, the discharge of liquid waste from the food industries, is considered one of the most important sources of organic compounds, which leads to the consumption of dissolved oxygen from water. Also, the industrial chemical sector contributes to pollution of heavy metal elements and other chemical compounds, organic and inorganic, which affect water quality in drains.

Lakes have suffered from pollution as a result of numerous inappropriate practices whether by Backfilling, drying or clogging of inlets (leading to shrinking of the area of the lakes) or through recurrent pollution loads and lack of environmental awareness (where the lakes have been receiving massive amounts of sewage, agricultural and industrial waste water each year without

any treatment). Moreover, the spread of aquatic plants such as Water hyacinths, in addition to the high rate of sedimentation in some lakes which has resulted in alteration of lake water level rise which affects the circulation of water within the lakes and impede the flow of salt water. This led to the deterioration of water & sediment quality which reflected negatively on the aquatic and biodiversity of those lakes, also it had the same negative impact on the productivity of fish and the standard of fishermen living community around those lakes.

Concerning climate change, there are indications that the impacts will be significant for the water supply, particularly that they will be coupled with an increase in consumption due to the high population growth rates. The number of extreme weather events, such as major floods, inducing casualties and economic losses, have increased significantly over the last ten years.

Impacts can be dangerous on water resources, particularly the flow of the River Nile, as well as the expected decline in rainfall on coastal zones and the associated reduction in the recharging rates of coastal aquifers. Furthermore, water quality may deteriorate due to seawater intrusion.

Water infrastructure

Apart from natural watercourses and water bodies, the country is dissected by a dense network of waterways, including 40 000 km of canals branching from the Nile river (ICARDA and AusAID, 2011) through hierarchically classified canals: principal (water directly from the Nile), main, branch and distributary canals. In addition, there are also mesqas, private ditches distributing water to the field (Gersfelt, 2007).

Full control of the Lower Nile is permitted downstream of the High Aswan dam, built in 1970, by the Old Aswan dam (1902), Esna (1908), Nag Hamady (1930) and Asyut (1902) dams. The Delta barrages are the Rosetta and Damietta dams, built in 1840, on their respective eponym Nile branches. The Zifta and Farascour dams are on the Damietta branch, while the Edfina dam is on the Rosetta one. In total, the dam capacity of the country reaches 168 200 million m³.

All drainage water in Upper Egypt, south of Cairo, flows back into the Nile and the irrigation canals; this amount is estimated at 6 076 million m³/year in 2013 (Capmas, 2014). Drainage water in the Nile Delta is estimated at 16 000 million m³/year (ICARDA and AusAID 2011), of which 6 334 million m³/year are reused in agriculture in 2013 (Capmas, 2014). A number of reuse projects in the southern part of the Delta and Fayyum governorate uses about 4 000 million m³/year. In addition, unofficial direct pumping in drain by farmers uses large volume of drainage water and is difficult to measure (ICARDA and AusAID, 2011) but it is estimated to be about 2 700 million m³ in 2010 (MWRI, 2011). Unofficial reuse is practiced along Bahr Baqar, Bahr Hadus, Gharbia, Edko and Umoum drains. There are 89 agricultural drains which directly flow into the river Nile. Most of them collect volumes of wastewater either municipal or industrial (MWRI and HCWW, 2011).

The water supply coverage has reached 100% in 2008 yet it dropped back to 99% in 2011 due to population growth and was expected to drop some more due to cuts in investments in the next five years.

Produced municipal wastewater was estimated at 7 078 million m³ in 2012, up from 3 760 million m³ in 2001. Around 92 percent of this amount is collected and 57 percent, or 4 013 million m³, is treated. Finally, 1 300 million m³ of treated municipal wastewater is directly used in 2010 (MEA, 2012). The drainage system receiving the excess irrigation water also receives municipal wastewater, especially in the Upper Egypt, which discharges itself into the Nile or into the Northern Lakes and the sea (MWRI, 2005).

According to the report "National Vision for Wastewater Reuse in Egypt (2014)" the average annual collected wastewater during the previous five years amounts to 6.5 BCM, which is about 81% of the total produced domestic water. Also on average about 44% of the nationally produced wastewater is not treated, which is equivalent to 2.85 BCM. This huge amount is equal to 5% of Egypt's annual share from the Nile River. On the other hand, 3.65 BCM of wastewater are treated annually, 0.73

BCM of which (20%) are treated through primary treatment, and 2.92 BCM (80%) are treated through secondary treatment.

The total sanitation coverage is 50%, more specifically 90% in urban areas and 12% in rural areas.

Sea water desalination is concentrated in the coastal areas along the Mediterranean and Red Sea, where there is no other source of water, and for tourism resorts. In 2010, desalination plants produced around 200 million m³/year (ICARDA and AusAID, 2011)

Trends

The growing population of Egypt and related industrial and agricultural activities have increased the demand for water to the limits of available supply. This demand will continue to grow with the increase of population that is expected to reach 83 million in the year 2017 and 112.27 million in 2030.

Economic damages from climate change induced sea-level rise on the North Coast of Egypt has been and will continue to be direct and far-reaching. As of 2017, much of Egypt's population, industry, agriculture, private sector and tourism infrastructure and development is located along the northern low coastal lands, and the reliance on the Nile Delta for prime agricultural land is critically important to the country's economy. Studies on the vulnerability of Alexandria, indicated that sea level rise of 0.3m would lead to infrastructure damage worth billions of dollars, displacement of over half a million inhabitants, and a loss of about 70,000 jobs. Moreover, the Nile Delta's coastal lagoons are among the most productive natural systems in Egypt and they are internationally renowned for their abundant bird life. Approximately 60% of Egypt's annual fish catch are from three main Delta lagoons, Idku, Burullus and Manzalla, separated from the Mediterranean by 0.5- 3km sand belt and dune system. Coastal flooding and/or permanent inundation of these areas would lead to a decline in water quality in coastal freshwater lagoons and corresponding adverse impacts on fisheries and biodiversity.

The 2007 -2008 World Human Development Report, issued by the United Nations Development Program, warned against the possibility that the millions of citizens inhabiting the northern part of the Delta may have to be displaced due to the floods caused by high sea waves, or seawater intrusion as a result of sea level rise. The report also indicated the possibility of change in rainfall rates, wind speed and direction, and an increased incidence of severe heat waves. This would lead to a higher vulnerability of slums and rural areas (as well as some urban areas) as they would be subject to floods; in particular, populated areas and constructions laid in old rain spillways which have so far seen no damage worth mentioning, due to the low rates of rainfall over the past few decades.

Hot spots

Mariut lake occupied the highest rate in pollution indicators for organic matters (Biological oxygen demand (BOD) - chemical oxygen demand), nutrients (ammonia - nitrates – total nitrogen - silicate), bacterial indicators (total coliform, Fecal coliform and Fecal streptococci) in addition to some heavy metals (Manganese - zinc). Also results show that the lowest average concentration of dissolved oxygen is recorded in Lake Mariut. The High pollution load influencing the lake can be attributed to the fact that Alexandria Governorate is the second most important industrial center in Egypt; where 37% of the Egyptian industry is concentrated. Furthermore, influents to the lake comprise of two sources of water, one fresh water from "Nubariya Canal" and the other source from agricultural drains mixed with industrial wastewater (Qalaa and El-omom darin), in addition to the drainage from west treated wastewater plant and direct industrial wastewater output from factories located on the lake, as the city produces daily a large amount of liquid wastewater from the drainage system, including large part is poured without treatment in Mariut Lake, and The other part is poured in Mariut Lake after initial treatment.

Aquifers and related ecosystems

The Mediterranean coastal zone in Egypt is characterized by three main aquifer systems:

1. the aquifer system of north the western desert (North West aquifer) assigned to the Quaternary and Late Tertiary, 500 km in length, but with the smallest width, at an average of 3 km;
2. the aquifer system of north Delta assigned to the Quaternary and Late Tertiary, 300 km length and 40 km in width;
3. the aquifer system of north Sinai assigned to the Quaternary and Late Tertiary, with a length of about 200 km, and ranges in width from 5 km in the east to 40 km in the west.

Seawater intrusion occurs mainly due to over-exploitation of groundwater for agriculture and domestic purposes (from increasing demands and inefficient irrigation and distribution systems). It is expected that waterlogging in irrigated areas will exacerbate soil salinization.

Pollution concerns arise mainly from leaching of sewage from unlined septic tanks. In general, urban areas in Egypt account for 44% of the population and have wastewater coverage of about 40%. Rural areas account for 56% of the population, but only have wastewater coverage of about 5%. As an implementing strategy, in NWC three wastewater treatment plants will be fully in service within the next two years (e.g. Matruh plant with 150,000 m³/day).

The hotspot identified by the Country and proposed as a pilot for the present project is the North West Coastal Aquifer.

B. Policies and Strategies

Existing or in progress

The 2017 National Water Resources Plan has been used as a framework for the sectorial Plans and strategies: water resources, water supplying, wastewater treatments and reuse, agricultural development, local development, protection of the resources etc

The “2050 National Strategy for Development and Management of Water Resources” describes the 6 main political pillars for this strategy:

1. Water resources development policies
2. Rationalization of water uses
3. Control the water resources pollution
4. Completion and rehabilitation of the water resource system
5. Adaptation with climatic changes
6. Improve water management.

Pillars 3, 4 and 6 have an impact on the wastewater management with the objectives of:

- Reducing the pollution in the main drains
- Expanding the use of water treatment units in the villages
- Developing industrial waste treatment units
- Preparing master plans at the governorate level
- Improving IWRM mechanisms and the water legislation
- Increasing the participation of beneficiaries in the water management
- Improving the water media and awareness.

Wastewater reuse is presented in the Strategy as one of the possible solution for increasing water resources. The rest of the strategy is more oriented on water resource management in terms of increasing the quantity and spare water uses (agriculture).

In the framework of the National Water Plan, HCWW has established a Master plan 2007- 2037 or Strategic National Water Plan 2037 (National Strategy for water supply and sanitation). Two thirds

of the amount of this plan is dedicated to sanitation (20 billion Euros). It includes 23 Regional Master Plans. The Plan has to be implemented in two phases: a medium term one (2007-2012) and a long term one (2012-2037). The implementation is planned on a five years Master Plans system and on yearly Action Plans. There is a Sustainable Agricultural and Development Strategy (2030) that takes reuse of treated wastewater into account.

Concerning the rehabilitation of the polluted lakes, the government has taken actions through preparing a comprehensive database for environmental parameters describing the status of the lakes by implementing the periodic monitoring program of water & sediment quality of Egyptian lakes since August 2009 starting with Northern lakes (Bardaweel - Burullus - Manzalah - Edku - Mariut) with four seasons of field campaigns during each year (August; November; February; May). El-Temseh and El- Mora Lakes were then added followed by Qaron and Wadi el- Rayan lakes, in the years 2010 - 2011 respectively. This program will serve for setting an enabling environment upon which the implementation of the integrated management of Egyptian lakes will be based.

The 2000 water policy recommends establishment of full property rights on irrigated lands (MWRI, 2005). The latest water policy of 1997-2017 increases the horizontal expansion up to 4.62 million ha, to which almost all the water budget would be dedicated. The deficit involved in this water budget is only compensated by "savings" through structural and non-structural measures—improvement of irrigation techniques, rehabilitation, increased reuse of drainage water and treated wastewater, subsurface drainage expansion, change from supply to demand management, WUAs expansion at primary and upper levels, etc.—rather than concrete new water sources, leaving no emergency reserve (El Qausy et al., 2011).

Agricultural policies also include some elements of water management. The Sustainable Agricultural Development Strategy towards 2030 focuses on decentralization of water management through WUAs, irrigation O&M cost recovery, and decrease of rice and sugarcane areas, which are crops consuming a large amount of water per ha (ARE, 2009). Its objective is to achieve a comprehensive economic and social development based on a dynamic agricultural sector capable of sustained and rapid growth while paying a special attention to vulnerable social groups and reducing rural poverty.

Priority needs

- Reduction of physical water losses in the water supply system
- Rehabilitation, operation and maintenance of distribution systems
- Increase the reuse of treated wastewater
- Prevention of agriculture pollution through encouraging the use of environmentally friendly methods, controlling the production and import of agrochemicals, control the use of organic fertilizers
- Increase municipal sewerage and wastewater treatment
- Initiate cost recovery for urban sanitary services
- Prevent industrial pollution and treat industrial wastewater
- Introduce load-based discharge levies
- Awareness and capacity building in industry
- Increase drinking water treatment capacity
- Enhance water quality monitoring and information dissemination
- Rehabilitation of polluted lakes to ensure the balance and harmonization between conservation of lakes ecosystems and the desired economic development and activities.

C. Legislative framework

The most important law relevant to the water sector are the following:

- Law 12(1982) “Concerning the issue of the law on Irrigation and Drainage”
- Law 213 (1994) “Regarding Farmer Participation”
- Law 48 (1982) “Concerning the protection of the River Nile and Waterways from Pollution”: this law provides the basis for the protection of surface and groundwater from pollution.
- Law 4 (1994) “Law for the Environment”

The Legislative framework in Egypt for water management is composed of two laws (Law 12/1984 on irrigation and drainage, and Law 213/1984 modifying some items of the previous law) which address primarily irrigation, the dominant water use sector. Moreover, the National Water Resources Plan Project (NWRP) developed water resources management and investment plans including for groundwater resources. The Implementation of the NWRP depends on (i) the development of additional water resources (ii) a more efficient use of the available water resources, and (iii) the water quality improvement to protect public health and the environment. In 2010 the Minister of Water Resources and Irrigation (MWRI) launched the strategy of water resources development and management in Egypt until 2050. Taking into account water scarcity, pollution control, securing water quality and water saving, industrial and agricultural waste disposal, protection of groundwater resources, and environmental problems of climate change. Groundwater management is one of the key issues in this strategy.

D. Institutional framework

The Ministry of Water Resources and Irrigation (MWRI) is in charge of water resources research, development and distribution, and undertakes the construction, operation and maintenance (O&M) of the irrigation and drainage networks. Specifications and permits for groundwater well drilling are also the responsibility of MWRI. Within MWRI, the following sectors and departments are of importance:

- The Nile Water Sector: in charge of cooperation with Sudan and other Nilotic countries.
- The Irrigation Department: provides technical guidance and monitoring of irrigation development, including dams and comprises 6 sections: irrigation; horizontal expansion and projects; grand barrages; groundwater; Nile protection; irrigation improvement.
- The Planning Sector: responsible at central level for data collection, processing and analysis for planning and monitoring investment projects.
- The Water Resources and Irrigation Sector in Lower/Upper Egypt
- The Water Resources, Irrigation and National Structure Sector in North Sinai
- The Mechanical and Electrical Department: in charge of the construction and maintenance of pumping stations for irrigation and drainage.

Further to the above institutions, other public authorities are directly related to MWRI:

- Egyptian Public Authority for High Dam and Aswan Dam is responsible for dam operation.
- Egyptian Public Authority for Drainage Projects (EPADP) is responsible for the construction and maintenance of tile and open drains.
- National Water Research Centre (NWRC) comprises 12 institutes and is the scientific body of MWRI for all aspects related to water resources management.
- Water Quality Management Unity

- Institutional Reform Unit

The Ministry of Agriculture and Land Reclamation (MALR) is in charge of agricultural research and extension, land reclamation and agricultural, fisheries and animal wealth development.

The new Ministry of Water and Wastewater Utilities (MWWU), created in 2012, took over its functions from the Ministry of Housing, Utilities and Urban Communities that had previously been in charge of the sector. The Ministry covers the whole sector of drinking water and wastewater. The following institutions report to the MWWU:

- Egyptian Water and Wastewater Regulatory Agency (EWRA)
- Holding Company for Water and Wastewater (HCWW) and its 23 affiliated companies
- National Organization for Potable Water and Sanitary Drainage (NOPWASD)
- Construction Authority for Potable Water and Wastewater (CAPW) (EU, 2012)

The Ministry of State for Environmental Affairs (MSEA) and the Egyptian Environmental Affairs Agency (EEAA) under its jurisdiction mostly concentrate on the quality aspect of water.

The National Water Council (NWC) ensures inter-ministerial coordination by integrating policies and activities at national and local level, and it is assisted by a technical secretariat and Water & Environment units in the different Ministries and organisations. At governorate level, a Regional Management Committee (RMC) includes all stakeholders and is chaired by the local MWRI responsible (MWRI, 2005).

2. The Agriculture sector in Egypt

A. Current status

The cultivated lands in Egypt are confined to the course of the River Nile within its valley and delta. Nevertheless, scattered minor patches of irrigated agriculture occur in desert regions of the country depending on groundwater resources, such as the oases and depressions of the Western Desert and along the coastal area of Sinai.⁶⁰ The total cultivated area is 3.02 million ha, representing only 3 percent of the total land area. The entire crop area is irrigated, except for some rain-fed areas on the Mediterranean coast.⁶¹

⁶⁰ Hereher M., (2013), The status of Egypt's agricultural lands using MODIS Aqua data, The Egyptian Journal of Remote Sensing and Space Sciences, 16, 83–89

⁶¹ FAO web, <http://www.fao.org/docrep/v9978e/v9978e0e.htm>



Figure 15: River Nile valley and delta⁶²

The most important crops grown in River Nile coastal delta are cotton, rice, wheat, maize, sugar cane, sugar beet, broad beans, soybeans, Egyptian clover, citrus and tomato⁶³

Existing irrigation schemes

The irrigated areas of Egypt being classified into:

- The Old Lands of the Nile Valley and Delta
- Oases
- The New Lands, reclaimed since the High Aswan Dam construction (1970), generally less fertile, on the Old Lands' fringes, as well as in new locations outside the Nile Valley and Delta such as the western desert.

Irrigation potential is estimated at 4,420,000 ha. The total area equipped for irrigation was 3,422,178 ha in 2002; 85 % of this area was in the Nile Valley and Delta. In 2010, 3,610,000 ha are equipped for full control irrigation, including 2,730,000 ha in the Old Lands (76 %) and 880,000 ha in the Oases and New Lands.

Surface irrigation is practiced in the Old Lands combined with water lifting systems, while pressurized irrigation-sprinkler and localized irrigation is compulsory by law on the New Lands. The latter use a cascade of pumping stations from the main canals to the fields, with a total lift of up to 50 m. Located at the end of the systems, the New Lands that are at the fringes of the Old Lands, are more at risk of water shortage, and pressurized irrigation is more suitable for the mostly sandy soil of those areas. Crops therefore tend to be higher value crops such as tree crops and vegetables in these New Lands.⁶⁴

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⁶² Ibid

⁶³ Ibid

⁶⁴ National Water Resources Plan (NWRP) - 2017, Ministry of Water Resources and Irrigation, (2005)

of those areas. Crops therefore tend to be higher value crops such as tree crops and vegetables in these New Lands.⁶⁵

Freshwater was the only source of irrigation up the 1920-30s, either surface water in the Old Lands and groundwater in the oases. Reuse of drainage water started after a dry period with a first pumping station constructed in 1928. Shallow groundwater was used outside the oases from the 1950s and increasingly since then. In 2005, 227,640 ha were irrigated by groundwater both in and outside the oases.

Rainwater harvesting is practiced on about 133,500 ha in Northwest coast and North Sinai, where the average rainfall is between 220 and 250 mm, and relies on the construction of cisterns and diversion dikes. Harvesting also occurs from flash floods in the Red Sea and Sinai Peninsula.

In addition to the older developments in the oases of the New Valley, which pump water from the Nubian Sandstone aquifer, new large irrigation schemes are under development in the Toshka project; in 2003 about 4,200 ha were under cultivation and there are plans to extend the project to several times that area.

In the Fayoum Province, until the end of the last century gravity irrigation was practiced, without any water lifting system. By the year 2000, however, gravity irrigation was practised on only 1 900 ha, or less than 1.2 % of the cultivated area in Fayoum.

Treated wastewater (after primary treatment) has been in use since 1911 in agriculture at the Gabal Al Asfar farm on 1,200 ha. Large scale pilot projects are in East Cairo, Abu Rawash, Sadat City, Luxor, and Ismailia. Most of the sewage water drained to the agricultural drains is actually reused indirectly. In 2010, 35,500 ha are directly using treated wastewater.

Comments on the Existing irrigation schemes

- Irrigation is the largest water consumer, with very limited metering, preventing volumetric charges
- Lack of awareness on water consumption and conservation

Types of products,

Cereals: Rice is one of the major field crops, and is considered the second most important export crop after cotton. Wheat is the major winter cereal grain crop and the third major crop in terms of area planted. Maize is the second most important crop, but at least 50 percent of its production is used for livestock and poultry feed.

Fibre crops: Cotton has traditionally been the most important fibre crop in Egypt and the leading agricultural export crop.

Sugar crops: Sugar cane is the main sugar crop in upper Egypt. About 90 percent of the yield is used for sugar extraction. Sugar beet also grows in large areas in the Nile delta, and contributes to the sugar industry in Egypt.

Food legumes: These include a number of bean crops that are used for human consumption, such as broad beans and soybeans.

Forage crops: Egyptian clover, berseem, is the major winter forage crop cultivated in the Nile delta. It is the most widely grown field crop.

Fruits: Citrus, primarily oranges that represent 85 % of total citrus production, makes up 50 % of total fruit production. Other subtropical fruits are also grown in Egypt, including grapes, stone fruits and pome fruits.

Vegetables: Tomatoes are grown in three seasons - winter, summer and autumn - on about 3 percent of Egypt's total planted area. Losses in tomato crops have been large as a result of tomato

⁶⁵ National Water Resources Plan (NWRP) - 2017, Ministry of Water Resources and Irrigation, (2005)

leaf curl virus, early and late blight, and nematodes. Potatoes are the second most important vegetable after tomatoes, both in terms of cash value and total tonnage produced.

Harvested irrigated cropped areas as of 2010 are given in the following Table⁶⁶

Crops	Area (ha)
Wheat	1,261,000
Rice	452,000
Maize	927,000
Other cereals	351,000
Vegetables	776,000
Groundnut	38,000
Sesame	28,000
Other oil crops	66,000
Potatoes and other tubers	158,000
Pulses	98,000
Sugarcane	131,000
Sugar beets	162,000
Cotton	155,000

Livestock

Beef consumption in 2018 is expected to reach 645,000 MT, up by 35,000 MT or six percent compared to 2017. Cattle imports will remain stable at about 250,000 head. Beef imports are however anticipated to grow to 280,000 MT, up by 30,000 MT or 12 percent compared to 2017. Post foresees the Egyptian government remaining the country's largest importer of live cattle and beef.⁶⁷

Dairy

Cattle and buffaloes are main dairy animals while goats and sheep are also milked. Dairy alone account for 28% of animal production output. Dairy farming is generally carried out by smallholders (75-80%) who own 1-8 cows. Average daily milk yield of local cows is 5-8 and 3-5 kg/head for winter and summer seasons, respectively. The corresponding results of buffaloes are 10-12 and 7-9 kg/head respectively.⁶⁸

Fishing

Capture fisheries in marine and fresh water has a long tradition in Egypt. However, during the last two decades aquaculture production has grown rapidly. In 2003 aquaculture production surpassed capture fishery production in terms of volume of fish produced. Table *** presents marine, inland and aquaculture production for 2009.⁶⁹

	Thousand tonnes
Marine capture fisheries	127,821
Inland capture fisheries	259,577
Aquaculture	705,490
Total	1,092,888

Marine, inland and aquaculture production (2009)

B. Policies and Strategies

General Development Strategies involving agriculture sector

⁶⁶ FAO-Country Profile Egypt

⁶⁷ USDA Foreign Agricultural Service-Livestock and Products Annual, Egypt, 2017

⁶⁸ Markos Tibbo, Livestock and dairy sectors: Challenges and Opportunities for Investment in Egypt, FAO 2013

⁶⁹ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - The Arab Republic of Egypt, 2010

Sustainable Development Strategy: Egypt’s Vision 2030⁷⁰: The Sustainable Development Strategy: Egypt Vision 2030 represents a fundamental step in Egypt’s extensive development, it establishes a development march of an advanced and prosperous nation dominated by economic and social justice. Moreover, it represents a road map that aims to maximize the use of competitive possibilities and advantages.

Strategies related to irrigation

National Water Resources Plan (NWRP) (2017)⁷¹: The National Water Resources Plan issued by the Ministry of Water Resources and Irrigation in 2005. The main objective of the NWRP is to describe how Egypt will safeguard its water resources in the future, both with respect to quantity and quality and how it will use these resources in the best way from a socioeconomic point of view.

Strategies related to agriculture & agricultural trade

Sustainable Agricultural Development Strategy towards 2030 (SADS)⁷²: The Egyptian Ministry of Agriculture and Land Reclamation (MALR) has adopted in 2009 a strategic planning approach to identify ways and means to continue fostering development of the agricultural sector. The aim of the Strategy for Sustainable Agricultural Development towards 2030 (SADS) is to respond to recent global and domestic challenges facing Egyptian agriculture. The SADS is a live evolving document and will be reviewed periodically.

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
Sustainable Development Strategy: Egypt’s Vision 2030	Supportive	Supportive	Supportive	Supportive
National Water Resources Plan (NWRP)	Potential conflict	Supportive	Potential conflict	Potential conflict
Sustainable Agricultural Development Strategy towards 2030 (SADS)	Supportive	Supportive	-	Supportive

C. Legislative framework.

Legislative framework related to irrigation

Law No. 12/1984: The legal basis for irrigation and drainage is set in Law No. 12/1984 and distinguishes public property of the irrigation and drainage infrastructures from canals and private banks, defines water distribution and O&M costs, and protects irrigation infrastructures, navigation and beaches. The Law’s implementation regulation adds details about groundwater, wastewater and water-lifting machines. Its supplementary Law No. 213/1994 designs farmer participation through WUAs and defines the benefits and costs of irrigation systems by the WUAs. Decrees of the MWRI and its ancestors No. 2/1989, No. 14867/1991, No. 72/1993, No. 14900/1995 and No. 402/1996 complete this legislation.⁷³

Legislative framework related to land management

Law No.3 of 1982: Legislative structure for urban planning has been established by Law No.3 of 1982 with its executive regulations which includes the protection of agricultural areas.

⁷⁰ Ministry of PMAR, Sustainable Development Strategy: Egypt’s Vision 2030, 2016

⁷¹ URL: extwprlegs1.fao.org/docs/pdf/egy147082.pdf

⁷² URL: extwprlegs1.fao.org/docs/pdf/egy141040E.pdf

⁷³ FAO 2016, Country profile - Egypt

Legislative framework related to agriculture

Law No. 53 of 1966 on Agriculture (amended by Law No. 116 of 1983): The Law No. 53 of 1966 on Agriculture (amended by Law No. 116 of 1983) is current overall legislation governing agriculture in Egypt.

Legislative framework related to agricultural trade

Law No.118/1975: The Law No.118 of 1975 on Export-Import is the legislation governing all imported and exported goods including agricultural products in Egypt.

Legislative framework related to aquaculture

Law 124/1983 and Decree 190/1983: The General Authority for Fish Resources Development (GAFRD) was established by the Decree 190/1983 as a part of the Ministry of Agriculture and Land Reclamation. With the exception of Lake Nasser, GAFRD is responsible for the development and management of fishery resources including aquaculture as designated by Law 124 of 1983 with the responsibility of issuing fishing licences, supervising fishery cooperatives, collecting fry from collecting stations, re-distributing them in inland lakes, produce statistical information on fish production, consumption and trade. In addition, it provides technical support to private farms whenever needed and manages fisheries and aquaculture in accordance with Law 124 of 1983.

If possible for each of the above, identification of key cross-references, overlaps or potential conflicts among these acts of legislation (reference of one field/sector of focus to the other fields/sectors of focus).

D. Institutional framework

Responsible institutions related to irrigation

Ministry of Water Resources and Irrigation (MWRI): The Ministry of Water Resources and Irrigation (MWRI) is in charge of water resources research, development and distribution, and undertakes the construction, operation and maintenance (O&M) of the irrigation and drainage networks. Specifications and permits for groundwater well drilling are also the responsibility of MWRI. Within MWRI, the following sectors and departments are of importance:

- The Nile Water Sector: in charge of cooperation with Sudan and other Nilotic countries.
- The Irrigation Department: provides technical guidance and monitoring of irrigation development, including dams and comprises 6 sections: irrigation; horizontal expansion and projects; grand barrages; groundwater; Nile protection; irrigation improvement.
- The Planning Sector: responsible at central level for data collection, processing and analysis for planning and monitoring investment projects.
- The Mechanical and Electrical Department: in charge of the construction and maintenance of pumping stations for irrigation and drainage.

Further to the above institutions, other public authorities which are concerned with irrigation and directly related to MWRI:

- Egyptian Public Authority for High Dam and Aswan Dam is responsible for dam operation.
- National Water Research Centre (NWRC) comprises 12 institutes and is the scientific body of MWRI for all aspects related to water resources management.

Responsible institutions related to agriculture

The Ministry of Agriculture and Land Reclamation (MALR): The Ministry of Agriculture and Land Reclamation (MALR) is in charge of agricultural research and extension, land reclamation and agricultural, fisheries and animal wealth development. The Agricultural Research Centre comprises 16 institutes, 11 central laboratories, the Regional Centre for Food and Feed, and the National Gene Bank. They are considered to be the scientific body of MALR for all aspects related to agricultural development. The Land Development Authority is in charge of contracting and monitoring land development projects and manages land allocation to investors and individuals. The Agricultural Development and Credit Bank provides credit to farmers to finance various production requirements.

The Agricultural Research Center (ARCE) of the Ministry of Agriculture and Land Reclamation⁷⁴: The Agricultural Research Center (ARCE) seeks to improve the lives of Egyptian farmers through research and knowledge transfer to those who can put it to use to improve their own lives and the lives of their communities. It focuses on the development of new food varieties, improved agronomic practices, livestock development, maintenance of the national herds and better food processing techniques. ARCE's mission is to promote agricultural research, to improve technology and agricultural processes and to collect and apply knowledge gained abroad for the benefit of the people of Egypt.

Responsible institutions related to aquaculture

General Authority for Fish Resources Development (GAFRD): The General Authority for Fish Resources Development (child of Ministry of Agriculture and Land Reclamation) is the only branch of government that may draft fisheries and aquaculture legislation, renew or issue new: (i) licences for fishing vessels (ii) licences for fishing, and (iii) leases for land holding aquaculture farms. It monitors and regulates transportation of fry and fingerlings between hatcheries and aquaculture farms. It signs international treaties dealing with capture fisheries and aquaculture.

Co-operative Union of Aquatic Resources: The Co-operative Union of Aquatic Resources deals with fishers' and aquaculturists' social and economic conditions.

National Institute for Oceanography and Fisheries (NIOF): The National Institute for Oceanography and Fisheries (NIOF) is the leading research institution for the study of marine ecology, hydrology, biology, fishing effort and fish stocks. In addition, the Egyptian Coast Guard and the Ministry of the Environment deal with fishery issues.

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Ministry of Water Resources and Irrigation (MWRI)	Government institution	Irrigation	Infrastructure development, Policy and strategy
Egyptian Public Authority for High Dam and Aswan Dam	Government institution	Dams	Operation
National Water Research Centre (NWRC)	Government institution	Water/Agriculture	Research and Training
Ministry of Agriculture and Land Reclamation (MALR)	Government institution	Agriculture	Infrastructure development, Policy and strategy
General Authority for Fish Resources Development (GAFRD)	Government institution	Fishing and aquaculture	Licensing and Policy

⁷⁴ www.arc.sci.eg

Name	Type	Sectors	Activities
Co-operative Union of Aquatic Resources	Government institution	Fishing and aquaculture	Policy
National Institute for Oceanography and Fisheries (NIOF)	Government institution	Fishing and aquaculture	Licensing and Policy

Identification of potential overlaps of responsibilities among institutions responsible for water, food, energy, environment

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Water Resources and Irrigation (MWRI)	Cross-institution	Cross-institution	-	-
Egyptian Public Authority for High Dam and Aswan Dam	Cross-institution	Cross-institution	Cross-institution	Cross-institution
National Water Research Centre (NWRC)	Cross-institution	Cross-institution	-	Cross-institution
Ministry of Agriculture and Land Reclamation (MALR)	Cross-institution	-	-	-
General Authority for Fish Resources Development (GAFRD)	Cross-institution	-	-	-
Co-operative Union of Aquatic Resources	Cross-institution	-	-	-
National Institute for Oceanography and Fisheries (NIOF)	Cross-institution	-	-	-

Inter-ministerial coordination

The National Water Council (NWC): The National Water Council (NWC) ensures inter-ministerial coordination by integrating policies and activities at national and local level, and it is assisted by a technical secretariat and Water & Environment units in the different Ministries and organisations.

Regional Management Committee (RMC): At governorate level, the Regional Management Committee (RMC) includes all stakeholders and is chaired by the local MWRI responsible⁷⁵.

3. The Energy sector in Egypt

A. Current status

Energy production⁷⁶

Egypt has significant reserves of oil and natural gas. In 2017 it was the fifth-largest oil producer in Africa, with an average output of 0.66m barrels per day, and the second-largest producer of natural gas in Africa, with 49 billion cubic meters.

Energy consumption⁷⁷

⁷⁵ National Water Resources Plan (NWRP) - 2017, Ministry of Water Resources and Irrigation, (2005)

⁷⁶ Source: BP Statistical Review of World Energy 2018

⁷⁷ Source: International Energy Agency – online statistics

Primary energy consumption in Egypt has been increasing by 3.3% on average in the period 2006-2016 reaching 91.6 mtoe in 2017. Natural gas accounted for 52.5% of Egypt's primary energy consumption in 2017 and oil for 43.3%, while hydro had a share of 3.3%.

In terms of total final consumption, in 2016 oil products had a share of 54.3%, natural gas 18.1% and electricity 24%.

Focus on the electricity sector⁷⁸

Electricity generation in Egypt has been increasing with an annual growth rate of 5.4% in 2006-2016, reaching 193.2 TWh in 2017. In 2015, 77.6% of Egypt's electricity was produced by natural gas, 14.1% by oil, 6.9% by hydro and only 1.4% by other renewables. In 2015, Egypt exported 1.16TWh of electricity to its neighbouring countries. The electricity System of Egypt is part of the EIJLLPST eight-country regional interconnection system (Egypt, Iraq, Jordan, Libya, Lebanon, Palestine, Syria and Turkey).

In Egypt thermal power plants burning either natural gas or oil have a total installed capacity of 41.3 GW, located near population centres in the north of the country. There are also 2.8 GW of Hydro, 2.4 GW of which in the 2 plants in Assouan on the Nile in the south of the country. In terms of other renewables, 747 MW of wind and 140 MW of solar have been installed, despite the country's huge potential.



Figure 16: Location of major Gas (G), Oil (O) and Hydro (H) plants in Egypt⁷⁹

Egypt intends to cover 20% of its electricity needs from renewable sources by 2022, with wind providing 12%, hydro 5.8 % and solar 2.2%. Meeting this target is estimated to require building almost 7 GW of wind and close to 3GW of solar.

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Egypt from 1971-2015:

⁷⁸ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin

⁷⁹ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

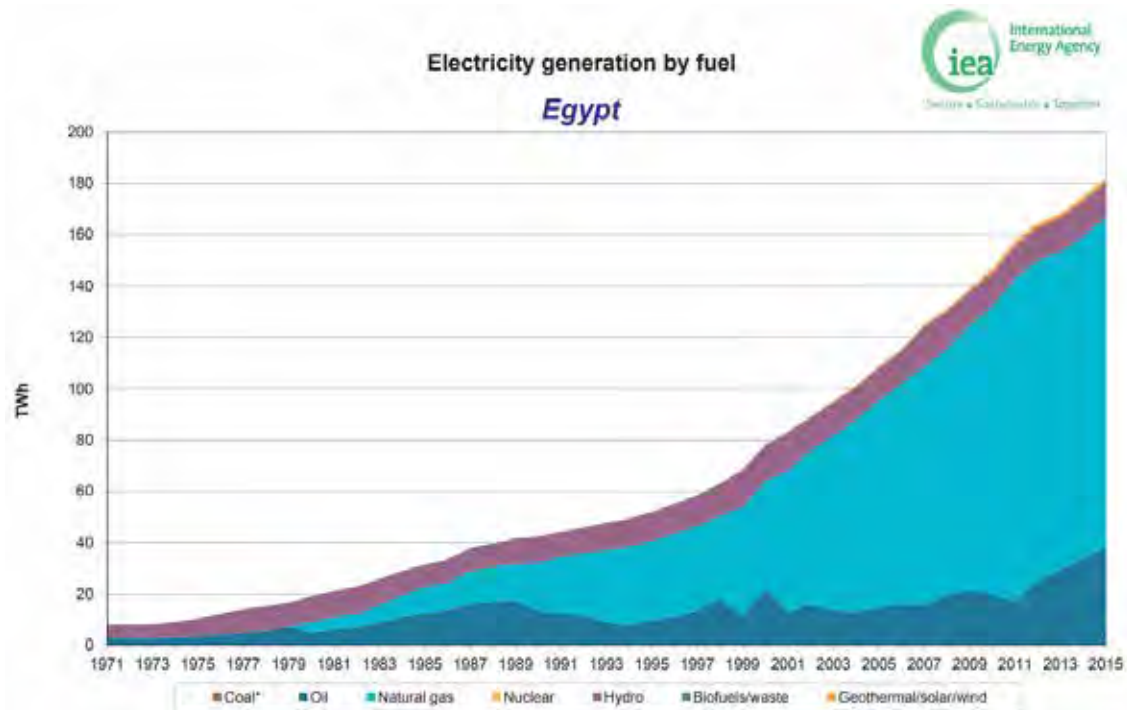


Figure 17: Evolution of electricity generation by fuel in Egypt 1971-2015 (Source: IEA)

Progress towards SDG 7

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "Tracking SDG7: The Energy Progress Report"⁸⁰ with data for 2015, Egypt has achieved access to electricity for 100% of its population and access to clean fuels and technologies for cooking for 98% of its population. The share of renewable energy (including biomass) in the total final energy consumption has essentially remained flat since 2010, reaching 5.7% in 2015. The energy intensity of the Egyptian economy in 2015 was 3.5 MJ/USD having remained relatively stable since the early 2000s.

B. Policies and Strategies

I. National Energy Strategy to 2030

In 2017 the Egyptian government completed the preparation for its energy strategy to 2030 and is set to start implementing it from 2018/19, in coordination with both the Ministry of Petroleum and the Ministry of Electricity.

According to the preparatory study, the electricity sector will need to add capacities of 51,738 MW between 2018 and 2030, including

- 6,950 MW from solar thermal
- 9,020 MW from solar photovoltaic

⁸⁰ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

- 9,350 MW from wind farms,
- 68 MW from hydroelectric generators
- 4,650 MW from natural gas and oil projects
- 16,800 MW from coal-fired plants, and
- 4,800 MW from nuclear power plants

The study also envisages that subsidies for electricity consumption will be gradually eliminated by 2025.

The planned significant expansion of fossil fuel-based capacity and the introduction of nuclear power in Egypt's energy mix, could negatively affect the country's water stress if the associated water demand for the cooling of these thermal plants is not met sustainably at the planned locations, e.g. through the use of wastewater or seawater.

II. National Energy Efficiency Action Plan 2012-2015 (2012)

The Plan outlined energy efficiency targets and measures to be implemented by the Ministry of Electricity and Energy in co-operation with the Ministries of Industry and Foreign Trade, of Housing, of Local Development and of Tourism. It set a target of achieving energy savings of 5% in the period 2012-2015 compared to that of 2007-2011. The plan did not address the issue of subsidies on electricity.

III. Intended Nationally Determined Contribution (2015)

In September 2015 and ahead of the COP21 in Paris, Algeria submitted to the UNFCCC its Intended Nationally Determined Contribution where it outlines the current status and the planned policies and measures in the fields of climate mitigation and adaptation. Of the energy-related actions mentioned in the document, the ones with direct relevance to a Nexus perspective are "emissions reduction measures in wastewater" (not further specified) and the utilization of solar energy for water heating in the residential, commercial and industrial sectors.

C. Legislative framework

I. Electricity Law n. 87 (2015)

The Electricity Law's main aim was to reform and open the Egyptian electricity market and increase its competitiveness mainly through de-monopolising power generation and distribution activities, restructuring the roles of the Egyptian Electric Utility & Consumer Protection Agency (EUCPA) and the Egyptian Electricity Transmission Company (EETC), and codifying the permitting and licensing of new plants, including for renewable electricity production.

Together with its implementing regulations published in 2016, the Law requires the unbundling of "vertical" integration, with separate, independent companies responsible for generation, transmission and distribution. However, this formally unbundled structure remains linked together under the umbrella of the Egyptian Electricity Holding Company (EEHC)

II. Renewable Energy Law (Decree No 203/2014)

The aim of the Law is to encourage the private sector to produce electricity from renewable energy sources through a variety of options:

- Projects tendered and operated by the New and Renewable Energy Authority (NREA)

- Projects tendered by the (state owned) Egyptian Electricity Transmission Company (EETC) on a Build-Own-Operate basis, where the private investor enters into a long-term Power Purchase Agreement (PPA) with the EETC.
- Projects by private investors selling the electricity generated to ETC on the basis of a feed-in tariff, differentiated by technology and project size
- Private investors entering into direct PPAs with (large) consumers and being granted access to the grid.

D. Institutional framework

I. Ministry of Electricity and Renewable Energy (MOEE)

The Ministry is responsible for the energy and electricity sector in Egypt and acts as the owner of state entities in the power sector. It also oversees individual authorities in the electricity sector, on Rural Electrification, Hydropower Projects, New and Renewable Energy, and Atomic Energy.

<http://www.moee.gov.eg>

II. Egyptian Electricity Holding Company (EEHC)

In 2000 the former Electricity Authority of Egypt was transformed into EEHC, with the legal form of a private joint stock company wholly owned by the Egyptian State.

EEHC coordinates the plans and investments in the power sector and manages the sector's overall finances.

<http://www.eehc.gov.eg>

III. Egyptian Electricity Transmission Company (EETC)

EETC functions as the country's Transmission System Operator.

IV. Egyptian Electricity Utility and Consumer Protection Agency (EEUCPA)

EEUCPA was re-organized under the Electricity Law No. 87 of 2015 and is since responsible for regulating, monitoring and overseeing all issues related to the production, transmission, distribution and consumption of electricity.

V. New & Renewable Energy Authority (NREA)

NREA was established in 1986 and since 2014 has the authority to implement, operate and maintain any new and renewable energy projects. It can also establish joint stock companies in partnership with other private and/or public shareholders.

<http://www.nrea.gov.eg/>

In addition to the institutions mentioned above, the following cross-sectoral ones, quite relevant to a Nexus approach, have already been established:

VI. High-Level Ministerial Committee on Water Resources (HLMC)

HLMC has units in nine different ministries and has been mandated to coordinate water-related issues with a central unit as functional hub and platform.

VII. National Committee for Climate Change

It is headed by the Ministry of Environment and includes representatives from all relevant ministries, including those of water, energy and agriculture. The committee can facilitate the integrated implementation of the Paris Agreement and the country's NDC, therefore integrating climate adaptation and mitigation policies and measures in national development planning and sectoral strategies.

VIII. National Committee to Follow-Up on the Implementation of the SDGs

This Committee falls under the direct supervision of the Prime Minister and is coordinated by the Ministry of International Cooperation, in close cooperation with the Ministry of Planning and Administrative Reform.

The Baseline Scenario – Lebanon

1. The Water sector in Lebanon

A. Current status

Surface Waters and related ecosystems – Size & characteristics

The net available surface water is estimated at about 2,700 Mm³ per year (estimates from the 1960s and 1970s). Most of the surface water used to secure supply comes from captured spring sources. Their total yearly yield exceeds 1,200 million m³ (but less than 200 million m³ during the summer period). The total annual exploited volume is 637 million m³. Lebanon also has a number of freshwater marine springs.

Lebanon has 16 perennial rivers and 23 seasonal rivers, with a total annual river flow of about 3,900 Mm³, of which an estimated 700 Mm³ flow into neighbouring countries. The main rivers flowing into the Mediterranean are (from north to south): the Kebir river (forming the northern border between Lebanon and Syria), the Al-Jawz River, the Abraham river, the Awali river and the Litani river.

Together, high coastal population density (greater than 1,500 inhabitants per km²) and a heavy reliance on groundwater exert significant pressures on coastal aquifers. Seawater intrusion is the most common quality problem in coastal aquifers resulting from over-exploitation of groundwater. Agriculture is the main pressure driver for several risks associated with coastal aquifers, including salinization, nitrification and yield reduction. Industrial activities have also introduced heavy metals, organic compounds and hydrocarbons into some aquifers.



Figure 18 Main Coastal Aquifers in Lebanon (UN ENVIRONMENT/MAP and UNESCO-IHP, 2015)

Pressures

Based on existing studies/reports the country is witnessing signs of decreasing precipitation and increasing drought and desertification as a consequence of climate change, including a less extended snow coverage and a shorter average time the dense snow remains before melting. Rivers, springs and groundwater are adversely impacted by raw sewage and other wastes, both domestic and industrial, being discharged without any regulation or control and posing a direct

health hazard. While all the water resources are being impacted by bacteriological contamination, in the agricultural areas the runoff and infiltration of residues from fertilizers and pesticides is exposing them to further environmental degradation. Furthermore, runoff from urban areas may contain heavy metals and hydrocarbons. Some studies have assessed the water quality in particular rivers, such as the Zahrani River, the Kabir River and the Upper Litani River Basin.

According to 2004 statistics, only 52 percent of buildings were connected to sewage networks and therefore at least 48 percent relied on septic tanks most of which are permeable or are deliberately drained to prevent overflow. The accumulation of pollutants during low flow periods directly also impacts the avifauna and mammals that inhabit the few existing wetlands. During the zero rainfall period (April-September), seasonal water courses dry up or are reduced to a trickle, which increases pollutant concentration and threaten aquatic ecosystems. The discharge of these pollutants into the sea threatens the survival of sea grasses, birds, and marine life such as turtles, fish and mammals.

Coastal waters receive 162 Mm³/year of untreated sewage (equivalent to 276,000 m³/day) from at least 53 major sewage outfalls spread along the coast. Additional pollution into coastal waters stems from coastline thermal power plants (Beddawi, Zouk, Jieh and Zahrani) and the overwhelming presence of heavy industries along the coast.

Rivers streams are among the sites protected by decisions from the relevant authorities. Permitting standards might be given for the construction and operation of facilities within a 500-meter protection radius (buffer zone). Other conservation legislation derives from international conventions including the 1971 Ramsar Convention.

Water infrastructure

Water supply network coverage varies among Water Establishments and is overall higher than 75%. However, around 50 percent of the transmission and distribution pipelines require special attention given their age and the limited maintenance and surveillance. Intermittent water supply has economic repercussions on households. There are two dams, the Qaroun dam on the Litani River, and Chabrouh dam with respective static storage capacity of 220 Mm³ and 8 Mm³. Presently, only 30 Mm³ is being utilised from the Qaroun Dam for water supply and irrigation and the rest is used to generate electricity. The most significant wetland in Lebanon is located in Ammiq, just north of the Qaroun Lake, and covers up to 250ha during the wet season. It supports a dynamic ecosystem and lies on one of the most important bird migration routes in the world. Other wetlands include the Yammouneh Lake in north Bekaa (most of which was drained) and Hima Kfar Zabad in West Bekaa.

Trends

Although the evaluation of future water needs varies according to different sources, there is a general agreement on the fact that Lebanon will face a water deficit situation in the near future. Based on estimations made during the preparation of the National Water Sector Strategy (2010), the deficit would reach 610 Mm³ in 2035. These estimations were made before the onset of the conflict in Syria, resulting in an important influx of refugees (1.4 million officially registered) in Lebanon associated with a rapid rise in demand and additional pressure on the resources.

At present, renewable water resources per capita are slightly below the scarcity threshold, with expected decrease in the coming years. Groundwater aquifers are over-exploited, while surface water storage infrastructure is limited so far to the two dams of Qaraoun and Chabrouh. Other 5 dams are currently being built while a further project is being carried out to transfer water from the Awali River to the Greater Beirut Area.

Hot spots

Based on the above it becomes clear that rivers and streams are overall hotspots for pollution that eventually reaches the coast and sea, although information on the extent of such pollution is sparsely available. A MEhSIP report relevant to Lebanon has highlighted major pollution hotspots in the following areas: Greater Beirut Area, Jounieh, Saida-Ghazieh, Sour, Tripoli and Batroun-Selaata.

Aquifers and related ecosystems

Coastal aquifers in Lebanon are mainly karstic in nature and discharge significant quantities of water to the Mediterranean (about 0.4 billion m³/yr). Groundwater satisfies nearly 45% of Lebanon's total water needs. In 2005, water withdrawal by sector was distributed among agriculture (60%), domestic uses (29%) and industry (11%). This trend is generally reflected in the consumption of groundwater from coastal aquifers, although some aquifers are exploited primarily for either industry or domestic uses. At present, there are limited monitoring networks for groundwater levels but none for groundwater quality. Annual precipitation on the coastal plain ranges from 600 to 1000 mm.

High coastal population density (greater than 1500 inhabitants per km²) and a heavy reliance on groundwater exert significant pressures on coastal aquifers. Over-exploitation of groundwater has caused severe problem of seawater intrusion. Agriculture is the main pressure driver for several risks associated with coastal aquifers, including salinization, nitrification and yield reduction (excessive fertilization and use of pesticides, overgrazing and groundwater overexploitation for irrigation). Industrial activities have also introduced heavy metals, organic compounds and hydrocarbons into some aquifers, considering also the solid waste and wastewater carried by river discharges to the sea same as oil spills.

Other pressures rely on global phenomena such as desertification (also caused by war, land abandonment and migration of populations), soil erosion, sea level rise (climate change) and the increase in salinity and water temperature, seismic activity, landslide, and floods.

The hotspot identified by the Country and proposed as a pilot for the present project is the Damour Aquifer.

The coastal marine environment

The marine/coastal wetland is characterized by the value of its ecological, marine and coastal ecosystems. Five types of habitats are recognized: Mediterranean coastal sand dunes, coastal freshwater land; agricultural land; sandy beaches, and pebble and stony beaches. High coastal population density (greater than 1500 inhabitants per km²) and a heavy reliance on groundwater exert significant pressures on coastal aquifers (e.g. eutrophication and soil erosion). River discharges are considered as the major land-based source of pollution affecting the coastal environment of Lebanon (UNEP/MAP/RAC-SPA, 2002; Hourri and El-Jebrawi, 2007), although impacts from solid waste disposal are recognized as additional sources to pollution (MOE/UNDP/ECODIT, 2011). Submarine groundwater discharges (SGDs) are registered in the maritime region of the eastern Mediterranean Sea. One of the 17 reported freshwater submarine springs in the world is presumed to be the largest in the Mediterranean Sea (Todd 1967). Along the coastal stretch of Lebanon, major SGDs have been known since antiquity. The main reasons for the SGDs into the sea along the Lebanese marine environment are (1) the highly karstic and fractured (i.e., highly permeable) rock formations that are genetically connected with faults and karstic routes extending from the land into the sea, and (2) the prevailing seaward-sloping rock strata (Shaban et al., 2005).

B. Policies and Strategies

Existing or in progress

The General Direction of Hydraulic and Electrical Resources, Ministry of Energy and Water (MEW) has established a 10-year plan (2000-2010) with the objective of ensuring the necessary volume of water to satisfy the needs of the population in all uses. This plan does not deal explicitly with groundwater resources or coastal aquifers. However, it recognizes the need for a global approach, including elements of an Integrated Water Resources Management Plan (IWRM).

A National Water Sector Strategy (NWSS) was developed by the Ministry of Energy and Water (MEW) in 2010, that presents projections of how planned resource augmentation and other projects will meet future estimated demand and includes an Investment Plan (2010-2015) defining the distribution of capital investment. The Strategy describes: Institutional and Organisational Initiatives; Financial and Commercial Initiatives to improve the financial performance of the sector; Legal and Regulatory Initiatives; Environmental Concerns, such as the protection of water resources and recharge zones, flood mitigation.

A full National IWRM and Water Efficiency Plan was also launched with the support of GWP-Med/MED EUWI in 2011 by focusing on setting-up and making operational a decision support system (DSS) at the River Basin scale that is now available at the Centre d'Information et de Formation aux Métiers de l'Eau (CIFME) serving as a decision support tool to enhance IWRM planning in the country. The DSS-model was implemented at six major river basins (3 coastal and 3 inland basins): Orontes, El-Kebir, Upper Litani Basin, Abou Ali, El Jaouz and Hasbani basins. Currently MEW, under the lead of the Directorate General of Hydraulic and Electric Resources that is responsible for such issues and for the CIFME, is planning to extend and update the DSS system, that will also assist on-going efforts to develop a National Information System. In addition, the IMF approach was already applied to a practical example in the country (the Awali River Basin and Coastal Area) carried out in collaboration with the Ministry of Environment and MEW.

Priority needs

It is of high priority to collect reliable data about water resources so as to assist with the appropriate management and decision-making processes.

Moreover, coordination among the relevant institutions needs to be enhanced as well as the information of and consultation with the public about selected policies and management options so as to increase trust in the institutions. In this context it is important to consider gender mainstreaming and pro-poor approaches.

The National Water Sector Strategy recognizes the following strategic objectives for the Lebanese water sector:

INFRASTRUCTURE

- Production
 - Maximize the potential and improve the quality of surface water resources
 - Improve management and protection of groundwater resources, moderate extractions, promote artificial recharge, and consider this resource as a strategic reserve
 - Fulfil deficits through groundwater and/or surface storage Infrastructure
- Transmission and Distribution
 - Water Supply: Ensure proper and continuous access to high quality water supply through increased coverage, reduced unaccounted for water and optimized network management
 - Irrigation: Provide adequate quantities and quality of irrigation water and incentivize modern, water-saving irrigation techniques
- Wastewater
 - Increase coverage of wastewater collection networks and treatment capacities
 - Optimize current wastewater treatment processes and sludge disposal, and ensure adequate reuse of treated effluents where applicable

MANAGEMENT

- Institutional and Organizational
 - Support a full implementation of the water sector reform and improve the management model between WEs and MEW
 - Improve on capital spending responsibilities, inter-agency coordination and spending efficiency
 - Improve the management of the irrigation sector
- Financial and Commercial
 - Introduce and implement new tariff strategies
 - Promote private sector participation in O&M and capital projects
 - Gradually achieve O&M and then full cost-recovery
- Legal and Regulatory
 - - Enhance and modernize the legal setup to support the implementation of the NWSS and future requirements
 - - Enforce a regulatory regime which would align Water Establishments with leading utilities in the region and worldwide
- Environmental Concerns
 - - Achieve advanced climate change knowledge
 - - Improve water quality, flood mitigation and protection of recharge zones
- Awareness and Conservation
 - - Implement awareness and conservation campaigns consisting of gradual enforcement of consumer metering, awareness raising, and promote higher efficiency plumbing devices

C. Legislative framework

The Law No. 241 (29/5/2000) reorganized the existing 22 water boards into four Regional Water Authorities: North Lebanon for the Governorate of North Lebanon, Beirut and Mount Lebanon for the Governorates of Beirut and Mount Lebanon, South Lebanon for the Governorates of South Lebanon and Nabatiyeh, and Bekaa for the Governorate of Bekaa. Working under the auspices of the Ministry of Energy and Water (MEW), the four authorities are in charge of managing irrigation water, drinking water and wastewater. Their responsibilities extend to water policy planning at national level, measurement of water flows in rivers and measurement of groundwater recharge, construction of water storage capacities (dams, reservoirs and earth ponds), monitoring the quality of drinking water and treated wastewater, water pricing, and water legislation. They are also responsible for studying, rehabilitating, implementing and managing water projects in the country (adduction and distribution network).

The Law No. 221/2000 empowers the regional water authorities to set and collect water tariffs for domestic and agricultural use.

D. Institutional framework

The Ministry of Energy and Water is responsible for the water sector under Law 221 dated 26 May 2000 that describes its responsibilities, such as those relevant to surface and groundwater, e.g the monitor, control and measurement of water resources, including their quality, determine their use and distribution, implement artificial recharge of groundwater when required and regulate the volumes of groundwater extracted, protect water resources from pollution and waste, license wells and all water extraction from rivers and public water resources according to applicable laws and regulations. The 4 water establishments (Beirut and Mount Lebanon, North Lebanon, Bekaa and South Lebanon) created by the same law and its amendments are in charge for the water services

(supply and distribution, quality check of the water they supply, treatment of sewage and irrigation). The Litani River Authority has the responsibility of managing the Litani River Basin and planning/operating all potable, irrigation and hydro-electrical schemes associated with it and also of measuring all surface flows throughout the country. The Ministry of Environment is responsible for controlling pollution and regulating all activities that impact the environment, including water resources. The ministry has set standards for treated wastewater discharged into sewers and surface waters (Decision 8/1 dated 30/1/2001). At the river level, the ministry has designated eight rivers (Ibrahim, Jaouz, Damour, Kalb, Beirut, Awali, Arka and Assi) as natural sites and under its protection and it has prepared environmental conditions for construction permits located within river banks (MOE Decision 90/1 dated 17/10/2000). The Ministry of Public Health monitors drinking water to ensure compliance with local and international standards. The Ministry of Agriculture studies irrigation projects and provides technical supervision during implementation. This ministry also regulates also the distribution of irrigation water and ways to use it and monitors the implementation of these regulations.

Coordination among Ministries is carried out *ad hoc* but the provisions of the Water Code that is pending approval by the Parliament foresees a National Water Council that would enhance and make official such coordination.

2. The Agriculture sector in Lebanon

A. Current status

Agriculture in Lebanon consumes 64% of available water supplies. Increased water needs result in additional pressure on irrigated agriculture, leading to an increase in the number of lands abandoned due to lack of water or to decline in investment opportunities and agricultural profits for smallholders. The Lebanese agricultural production is mainly characterized by its high production cost and limited competitiveness due to the openness to international markets and to the signed trade agreements. Nevertheless, Lebanon's geographical location, its diversified climate and its production are a strong asset if only it can seize available opportunities, make rational use of its natural resources, especially water, overcome the obstacles limiting its competitiveness, and preserve the environment.⁸¹

Main agricultural areas

The main agricultural areas could be summarised as follows:

- Coastal strip: citrus, banana & horticulture & greenhouse production
- Akkar plain with upper Mount Lebanon: cereals, potatoes, grapes & vegetables
- Bekaa valley: potatoes, grains, fruits & vegetables
- Mountainous region: orchards & vegetables
- Western slope of Anti-Lebanon range: grapes, olives & cherries
- Southern hills: olives, tobacco, almonds & grains

Existing irrigation schemes

Existing irrigation schemes suffer from poorly maintained distribution canals and ditches, leading to high water losses and low irrigation efficiencies (not exceeding 40 percent). Therefore, the focus should not only be on increasing the water supply, but also on improving water efficiency (water metering, removing illegal connections, introducing on-farm practices for the efficient use of irrigation water, etc.). In this respect, the establishment of water users' associations (WUAs) is

⁸¹ CDR Agriculture and Irrigation 2013

important since they create an essential link between the water-providing institutions and the farmers.

In public irrigation schemes where water is delivered by gravity, water is charged at a flat rate per cropped area. In the irrigation schemes of the Litani, where water is delivered by means of pressurized pipes, volumetric metering is provided. This is the case of the Saida-Jezeen irrigation scheme and in some parts of the South Bekaa Irrigation Scheme.

It is recognized generally that 60% to 70% of available water in Lebanon has been consumed by irrigation. Although irrigation is the largest sector in water use, data to identify consumption of irrigation water, such as irrigated area, cropping pattern, cropping calendar, intake volume and so on, are very limited. The Cultivated Area is estimated to 261,000 ha while the net irrigated area equal to 104,010 ha. The irrigated area equipped with surface irrigation, sprinkler irrigation and micro irrigation equal to 66,130 ha, 29,040 ha and 8,840 ha, respectively.

Comments on the Existing irrigation schemes

- Irrigation is the largest water consumer, with very limited metering, preventing volumetric charges
- Lack of awareness on water consumption and conservation
- High reliance on undeclared groundwater

Types of products

Various crops are being planted in Lebanon, such as maize, potato, wheat, onion, tobacco, water melon as field crops, tomato, cabbage and other green vegetables as market crops and apple, grape, pear, citrus, cherry and olive as perennial/fruit crops. In order to grasp water requirement for irrigation, those crops are simply categorized into three, namely cereals represented by winter wheat, vegetables and fruit trees.

Harvested irrigated crop areas as of 2003 are given in the following Table.

Crops	Area (ha)
Total harvested irrigated cropped area	105,293
Temporary crops: total	
- Barley	5,140
- Maize	3,490
- Other cereals	61
- Potatoes	19,166
- Other roots and tubers	4,156
- Pulses	4,310
- Vegetables	14,341
- Tobacco	8,983
- Groundnuts	718
- Flowers	508
- Other annual crops	3,400
Permanent crops: total	24,080
- Bananas	2,754
- Citrus	16,426
- Other perennial crops	4,900

Production of fruits and vegetables has traditionally provided the Lebanese with all their fresh fruit and vegetable needs, with a smaller export industry. However, loosened border controls and increasing imports have threatened local industries. In recent years governmental projects such as Export Plus have put into action the encouragement of local fruits and vegetables production, quality control and investment incentives for farmers in order to boost their produce and raise the level of the Lebanese horticulture industry. The tables below show the exported quantities of major crops (Metric tons) which include potatoes, apples and grapes, from 2002 to 2005:

Year	Potato	Apple	Grape
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2002	130,570	18,805	17,321
2003	108,527	27,883	32,387
2004	144,702	55,337	28,904
2005	106,012	50,357	9,120

Livestock

Livestock production in Lebanon is an important activity, particularly in mountainous areas and in the Baalbek–Hermel area on the eastern mountain chain where soil fertility is relatively low. While the number of goats have been relatively stable for more than two decades, sheep production has increased sharply. In recent years, livestock production (goats and sheep) has relied increasingly on feed blocks and feed supplements, thereby reducing dependence on wild grazing and ultimately leading to more sedentary animal production. Bovines and dairy production is becoming increasingly popular. In the past five years, several medium-to large-scale dairy farms have been established in the North and in the Beqaa. Several grant and loan agreements (proposed by organizations such as USAID) have encouraged farmers to expand dairy production.⁸² The table shows the evolution of livestock production from 1980 to 1999:

Category	1980	1999	Variation (%)
Cows	55,612	75,874	+ 36
Sheep	145,068	378,050	+ 160
Goats	444,448	435,965	- 2
Total	645,128	889,889	+ 38

Dairy

In recent statistics from the Lebanese Ministry of Agriculture, there were 80,000 cattle, including 65,000 dairy cows, 350,000 sheep, including 315,000 milk sheep, and 450,000 goats, including 400,000 dairy goats. Of the dairy cows, 40% are of the local breed, 26% are purebred [Friesian](#) imported from Germany and Holland and 34% are crosses between Baladi and Canadian [Holstein](#). The Friesian and the crossbred Holsteins have a generally good milk production and are kept, for the most part, on small farms, with an average of five cows per farm. The majority of the sheep are [Awassi](#) and goats are local Baladi. Both are kept in extensive and semi-sedentary systems, where productivity is low.^[11] The value of exported dairy products have been diminishing in recent years except for cheese which has gained a significant rise in its value. This table shows the variations in value of Lebanese exports from 2001 to 2004:

Product Group	Value (000 US\$) 2001	Value (000 US\$) 2002	Value (000 US\$) 2003	Value (000 US\$) 2004
Milk & cream and milk products other than butter or cheese	1,189	538	746	594
Butter and other fats and oils derived from milk	473	852	89	76
Cheese and Curd	443	702	1,800	2,049

Fishing

In a 1999 report done by the "Regional Socio-Economic Development Program for South Lebanon" indications reveal that Lebanon has 3,000 to 4,000 fishermen. Annual fish production in 1996 doubled in average over a phase of ten years, with production amounting to 4,485 tonnes (4,110

⁸² Lebanon State of the Environment Report". Ministry of Environment/LEDO.

tonnes of sea fish and 375 tonnes of freshwater fish, mostly in fish farms). Fishing in rivers has relatively small importance in Lebanon with productions significantly taking place in the Qaraoun lake (about 30 tonnes per year of mainly **carp** and **trout** production) and other rivers such as the Litani and Nahr Ibrahim.

While sea fish production in Lebanon is compared to that of neighboring countries on a km of coastline basis, freshwater fish production continues to lag behind. Absence of sea fish breeding along the coast due to strong coastal currents have been substituted by offshore fishing of pelagic fish (such as Tuna, Blue fish, etc.) using draglines. This type of fishing has become trendy in the past decade, mostly among sports amateurs equipped with motor speedboats.⁸³

B. Policies and Strategies

General Development Strategies involving agriculture sector & land management

The National Physical Master Plan of the Lebanese Territory (SDATL) is developed by the Council for Development and Reconstruction in 2005. SDATL aims mainly to reinforce:

- the unity of the country;
- equitable development of regions;
- optimal and sustainable use of natural resources;
- decrease of public debts and expenses;
- improvement of productivity and economic growth

Strategies related to irrigation

The National Water Sector Strategy 2010–2020 was published by MEW in 2010. It defines the strategy to satisfy Lebanon's future Irrigation water demand at 1,050 MCM/year and total water needs, estimated at 1,900 MCM/year in 2035. The total cost of irrigation infrastructure until 2015 is also estimated.

The strategy includes the following agriculture/irrigation strategic objectives:

- Improve the management of the irrigation sector
- Provide adequate quantities and quality of irrigation water and incentivize modern, water-saving irrigation techniques
- Irrigation consumption is to be reduced, by improving irrigation efficiency of existing and planned irrigation schemes, as well as optimizing on-farm irrigation techniques
- Uses government plans for the development of the irrigation sector and achieve an integrated and sustainable rural development
- Irrigated areas are to be increased in line with government policies. From the current 90,000 ha of irrigated lands, targets of reaching 120,000 ha by 2020 and 150,000 ha by 2035
- Adoption of high efficiency on-farm irrigation techniques, e.g., drip irrigation, sprinkler irrigation, overhead irrigation where applicable
- Coordination with Ministry of Agriculture for the adoption towards lower consumption crops
- Public outreach, awareness and farmer education programs
- Farm audits and optimization according to local conditions

Strategies related to agriculture & agricultural trade

The 2015–2019 Strategy - Ministry of Agriculture (MoA)⁸⁴: The strategy for the years 2015–2019 was formulated by the Ministry of Agriculture in 2014. The MoA 2015–2019 strategy identifies the main

⁸³ Lebanon State of the Environment Report". Ministry of Environment/LEDO

⁸⁴ URL: faolex.fao.org/docs/pdf/leb149670.pdf

orientations, achievable objectives, expected results and activities were thoroughly elaborated, which emphasizes the importance and quality of MoA's work with related stakeholders. This certifies that MoA's 2015-2019 strategy reflects the intention of the Ministry of Agriculture to foster the development of the agricultural sector, and is a commitment to develop its capabilities in order to strengthen the management of Lebanese agriculture, achieve its mission and vision and improve public agricultural services to farmers and Lebanese citizens.

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related strategic document	Agriculture sector	Water sector	Energy sector	Ecosystems
National Physical Master Plan of the Lebanese Territory (SDATL)	Supportive	Supportive	Supportive	Supportive
National Water Sector Strategy, Ministry of Energy and Water (MEW)	Supportive	Supportive	Supportive	Potential conflict
The 2015-2019 Strategy - Ministry of Agriculture (MoA)	Supportive	Potential conflict	-	-

C. Legislative framework.

Legislative framework related to irrigation

Law No. 241 (29/5/2000): The Law No. 241 (29/5/2000) reorganized the existing 22 water boards into four Regional Water Authorities: North Lebanon for the Governorate of North Lebanon, Beirut and Mount Lebanon for the Governorates of Beirut and Mount Lebanon, South Lebanon for the Governorates of South Lebanon and Nabatiyeh, and Bekaa for the Governorate of Bekaa. Working under the auspices of the Ministry of Energy and Water (MEW), the four authorities are in charge of managing irrigation water, drinking water and wastewater. Their responsibilities extend to water policy planning at national level, measurement of water flows in rivers and measurement of groundwater recharge, construction of water storage capacities (dams, reservoirs and earth ponds), monitoring the quality of drinking water and treated wastewater, water pricing, and water legislation. They are also responsible for studying, rehabilitating, implementing and managing water projects in the country (adduction and distribution network).

Law No. 221/2000: The Law No. 221/2000 empowers the regional water authorities to set and collect water tariffs for domestic and agricultural use.

General Comments

- The actual focus of Water Authorities is on water supply only with virtually no wastewater and irrigation activities performed so far
- No irrigation or wastewater responsibilities yet

Legislative framework related to land management

Law 444/2002: The Law 444/2002 is the overarching instrument for environmental protection and sustainable management and use of natural resources in Lebanon. It sets the legal framework needed to protect the national environment against all forms of degradation and pollution, and the promotion of sustainable use of natural resources.

Legislative framework related to aquaculture

Law 2775 - "Monitoring of Coastal Fishing" of 1929: The Law 2775 - "Monitoring of Coastal Fishing" of 1929 is main law on fisheries. The Decision 20/1-2009 provides to "Define Marine Fishing Gear".

Gaps in the Current Legal/Regulatory Setup

- The need to modernize irrigation laws, thus abolishing the Ottoman law of 1913 in a view to 18 facilitate and organize the use of irrigation water, mainly through the creation of Water Users Associations (WUAs)
- Legal agriculture and water frameworks are weak or ambiguous.
- The need to develop the legal requirements to support strategic priorities in the agriculture and water sectors.
- The need to undertake an in-depth gap analysis of all laws and regulations governing the agriculture and water sectors.

D. Institutional framework

Responsible institutions related to irrigation

Ministry of Energy and Water - General Directorate of Hydraulic and Electric Resources: The Ministry of Energy and Water is responsible for water, electricity, oil, minerals, mining and quarrying.

The General Directorate of Hydraulic and Electric Resources is fulfilling the following powers and functions:

- Monitor and control the agent and statistics and study water resources and assessment of water needs and areas of use in all regions.
- Monitoring the quality and determination of surface and groundwater.
- Develop the general design project for the allocation and distribution of water resources for drinking and irrigation nationwide, and develop the draft general guideline for water and sanitation and update it continuously and submitted by the Minister to the Council of Ministers.
- Design, study, and implement major water installations such as dams, mountain lakes, tunnels, river and water systems, and other investment projects.
- To conduct artificial feeding of groundwater reservoirs where necessary and to monitor the investment of the quantities extracted from them.

Regional Water Authorities: The Regional Water Authorities fulfil the following activities:

- Study, implementation, investment, maintenance and renewal of water projects for the distribution of drinking water and irrigation, and collection, and treatment and disposal of wastewater in accordance with the general business plan for water and sanitation or the prior approval of the ministry on the use of public water sources of public water or the locations of water purification plants or new outlets to discharge wastewater.
- Suggest tariffs for services of drinking water, irrigation and drainage of wastewater taking into consideration the social and economic general conditions.
- Monitoring the quality of drinking water and irrigation water and the one of wastewater on the outfalls of the purification plants.

The Litani River Authority (LRA): It is responsible for developing and managing irrigation water and associated works in southern Bekaa and South Lebanon. It is also in charge of measuring surface water along the Lebanese territory.

Council for Development and Reconstruction: The Council for Development and Reconstruction was established through Decree No. 5 dated 31 January 1977. The responsibilities of the CDR were

specified to three main tasks: complying a plan and a time schedule for the resumption of reconstruction and of development, guaranteeing the funding of projects presented, supervising their execution and utilization by contributing to the process of rehabilitation of public institutions, thus enabling it to assume responsibility for the execution of a number of projects under the supervision of the Council of Ministers.

Responsible institutions related to agriculture

The Ministry of Agriculture: The Ministry of Agriculture (MOA) is responsible for formulation of agriculture policy and extension services at the field level; however, its capability to handle the tasks has been seriously diminished due to the civil war. In this connection, LRA also has an extension service. Only two autonomous authorities under MOA, GP (the Green Plan) and ARIL (the Agricultural Research Institute of Lebanon), maintain the operation at low capacity. GP is involved in land preservation, land reclamation, road construction, small hydraulic development and on-farm level infrastructure works, while ARIL conducts applied researches for sustainable agriculture development. At present, MOA is not directly involved in irrigation in terms of water resources development and extension services to farmers.

Lebanese Agriculture Research Institute (LARI): The Lebanese Agriculture Research Institute (LARI) which comes under the supervision of the Ministry of Agriculture, is the governmental organization that conducts applied and basic scientific research for the development and advancement of the agricultural sector in Lebanon. In addition, the Institute keeps close ties with farmers and tries to develop research activities aiming at solving their problems.

Lebanese National Observatory for Agricultural Development: The Lebanese National Observatory for Agricultural Development is hosted by the Ministry of Agriculture. The aim of the Observatory is to develop synergies for private and professional initiatives that enable better participation, dialogue, and coordination between all the stakeholders involved in the agricultural and rural sector. They are also involved in capacity strengthening for policy formulation, implementation and mentoring in support of agricultural development.

Green Project: The Green Project is a public administration with special administrative and financial powers subject to the custody of the Minister of Agriculture. Established in 1963 by Decree No. 13335 of July 10, 1963. One of its main objectives is the reclamation of agricultural land and the completion of complementary work and the construction of agricultural roads and the construction of ponds.

Responsible institutions related to agricultural trade

Investment Development Authority of Lebanon (IDAL): The Investment Development Authority of Lebanon is the national investment promotion agency that was established in 1994 with the aim of promoting Lebanon as a key investment destination, and attracting, facilitating and retaining investments in the country. In addition to its role as investment promotion agency, IDAL is entrusted with the active promotion and marketing of Lebanese exports including agricultural and agro-industrial products.

Responsible institutions related to aquaculture

Directorate of Rural Development and Natural Resources: The Directorate of Rural Development and Natural Resources of the Ministry of Agriculture is responsible for aquaculture development and for issuing fishing licenses.⁸⁵ The Service of Forests and Natural Resources is part of this directorate, and controls the Fisheries and Wildlife Department (DFW).

⁸⁵ FAO Fisheries & Aquaculture - Fishery and Aquaculture Country Profiles - Lebanon 2005

Summary of Agriculture/land use related responsible institutions:

Name	Type	Sectors	Activities
Ministry of Energy and Water - General Directorate of Hydraulic and Electric Resources	Government institution	Irrigation	Infrastructure development, Policy and strategy
Regional Water Authorities	Government institution	Irrigation	Infrastructure development, Policy and strategy
Litani River Authority (LRA)	Government institution	Irrigation	Infrastructure development, Policy and strategy
Council for Development and Reconstruction	Government institution	Irrigation	Infrastructure development, Policy and strategy
Ministry of Agriculture	Government institution	Agriculture	Infrastructure development, Policy and strategy
Lebanese Agriculture Research Institute (LARI)	Government institution	Agriculture	Research and Training and development
Lebanese National Observatory for Agricultural Development	Government institution	Agriculture	Research and Training and development
Green Project	Government institution	Agriculture	Infrastructure development, Policy and strategy
Investment Development Authority of Lebanon (IDAL)	Government institution	Investments	Exports
Directorate of Rural Development and Natural Resources	Government institution	Fisheries	Licensing and allocation, Statistics and monitoring

Interlinkages with Agriculture/Water/Energy/Ecosystems

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Ministry of Energy and Water - General Directorate of Hydraulic and Electric Resources	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Regional Water Authorities	Cross-institution	Cross-institution	-	-
Litani River Authority (LRA)	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Council for Development and Reconstruction	Cross-institution	Cross-institution	Cross-institution	Cross-institution
Ministry of Agriculture	Cross-institution	-	-	Cross-institution
Lebanese Agriculture Research Institute (LARI)	Cross-institution	Cross-institution	-	Cross-institution

Agriculture/land use related responsible institutions	Agriculture sector	Water sector	Energy sector	Ecosystems
Lebanese National Observatory for Agricultural Development	Cross-institution	Cross-institution	-	Cross-institution
Green Project	Cross-institution	Cross-institution	-	Cross-institution
Investment Development Authority of Lebanon (IDAL)	Cross-institution	Cross-institution	Cross-institution	-
Directorate of Rural Development and Natural Resources	Cross-institution	Cross-institution	-	Cross-institution

3. The Energy sector in Lebanon

A. Current status

Energy production⁸⁶

Lebanon has no fossil fuel reserves and has to rely on imports to meet its energy needs. Data suggests there are oil and gas reserves in Lebanon's waters, but no exploratory drilling has taken place to estimate their size. In early 2018 the Lebanese government signed with French, Italian and Russian companies its first offshore oil and gas exploration and production agreements for two blocks.

Energy consumption⁸⁷

Total final consumption in 2015 in Lebanon was 4.77 mtoe. Oil products had a share of 64.5% and electricity 29.3%.

Focus on the electricity sector⁸⁸

Lebanon is experiencing a chronic electricity crisis with consumers in many regions having to bear with frequent power cuts and often relying on domestic generators to compensate for them. The recent influx of refugees from Syria has exacerbated this crisis. As a temporary measure, two power ships have been leased and are anchored at a specially constructed dock off the coast of Beirut, to supply up to 370MW to the country's grid.

Electricity generation in Lebanon has been steadily increasing in recent years, reaching 17.9 TWh in 2015, up from around 10TWh in 2000. Essentially all electrical energy is produced by oil (97.4% in 2015), with the rest coming from hydro plants. Lebanon imports small amounts of electricity from neighbouring countries, to the tune of 0.14TWh in 2015.

Oil-fired power plants in Lebanon have a total installed capacity of 2.8 GW, and most are located on its coast. The country also has a few hydro plants with total installed capacity of 253MW. The two largest ones are located on the Awali river, while two smaller ones are located on the Litani and Bared rivers.

⁸⁶ Source: BP Statistical Review of World Energy 2018

⁸⁷ Source: International Energy Agency – online statistics

⁸⁸ Sources: IEA Statistics and Arab Union of Electricity Statistical Bulletin



Figure 19: Location of major Gas (G) and Oil (O) power plants in Lebanon⁸⁹

Lebanon has not developed yet any renewable energy projects. During the 2009 UNFCCC Conference in Copenhagen, the Lebanese government pledged to develop renewable energy in the country aiming to produce 12% of its electricity and heating needs by renewables by 2020. The “National Renewable Energy Action Plan 2016-2020” (NREAP) released by the Ministry of Energy and Water in 2016 presents individual targets for the different renewable technologies needed to reach the 12% target: 2.1% for wind energy, 4.2% for solar (including solar heating), 3.2% for hydro and 2.50% for biomass.

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Lebanon from 1971-2015:

⁸⁹ Global Energy Observatory online maps <http://globalenergyobservatory.org/>

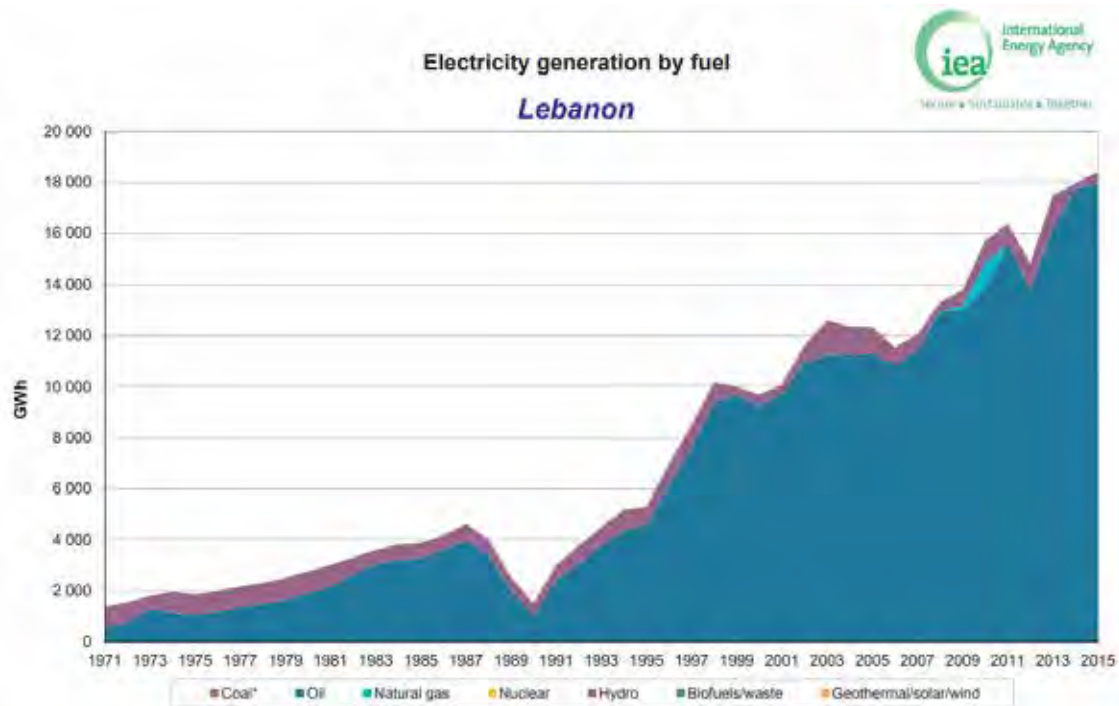


Figure 20: Evolution of electricity generation by fuel in Lebanon from 1971-2015 (Source: IEA)

Progress towards SDG 7

Under UN's Agenda 2030, Sustainable Development Goal 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all". The goal includes 3 individual targets:

- 7.1 - ensure universal access to affordable, reliable and modern energy services
- 7.2 - increase substantially the share of renewable energy in the global energy mix
- 7.3 - double the global rate of improvement in energy efficiency

According to "Tracking SDG7: The Energy Progress Report"⁹⁰ with data for 2015, Lebanon has achieved access to electricity for 100% of its population. The share of renewable energy in total final energy consumption is 3.6%, having dropped from 5.2% in 2010. The energy intensity of the Lebanese economy is worsening: 4.2 MJ/USD in 2015, up from 3.8 MJ/USD in 2010.

B. Policies and Strategies

I. Policy Paper for the Electricity Sector (2010)

The Policy Paper, initiated by the Ministry of Energy and Water, comprised a comprehensive plan for the development and opening up of the Lebanese electricity sector. It also included specific provisions to address renewable energy and energy efficiency. However, its provisions have not been fully implemented and the state-controlled utility mostly retains its monopolistic structure.

II. Second National Energy Efficiency Action Plan (NEEAP) 2016-2020

The National Energy Efficiency Action Plan 2016-2020 follows the first one developed in 2011 for the period 2011-2015. It was developed by the Lebanese Centre for Energy Conservation (LCEC) with the support and comments of many stakeholders and according to the format used by the EU. The Plan establishes the national baseline to be used as a reference against which savings are to be

⁹⁰ A joint report of the Custodian Agencies – the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO). Website: <https://trackingsdg7.esmap.org>

measured and presents the 2020 targets, lists the optimal measures required to reach these targets and establishes minimum energy performance standards. It focuses on primary energy savings in the electricity sector as well as on end-use measures in the buildings, industry, SMEs, agriculture, transport and public services sectors, with individual targets for 2020.

III. National Renewable Energy Action Plan (NREAP) 2016-2020

The NREAP, also developed by LCEC, quantifies the individual targets for the different renewable energy technologies that are needed in order to reach the 2020 target of 12% share of renewables in total electricity and heating consumption which was first set in 2009. To that end and for each technology, it assesses the source potential as well as its financial and physical opportunities.

The projected shares of each technology are as follows:

- 2.06% for wind
- 4.20% for solar (including photovoltaics, concentrated solar power and solar water heaters)
- 3.24% for hydro
- 2.50% for biomass

The document also proposes a roadmap for a legal framework appropriate to meet the targets, together with support policies and financial schemes (including net metering, feed-in tariffs, capital subsidy or rebate).

IV. Intended Nationally Determined Contribution (INDC)

In September 2015 and ahead of the COP21 in Paris, Lebanon submitted to the UNFCCC its INDC where it outlines the national circumstances and the planned policies and measures in the fields of climate mitigation and adaptation. The document specifies energy-related targets for 2030, including 15% share of renewable energy in the country's power and heat demand, which can conditionally be upgraded to 20% share upon the provision of additional international support.

C. Legislative framework

I. Law 462 on the Organisation of the Electricity Sector (2002)

The law aims to unbundle Lebanon's vertically integrated power sector, to create an independent regulatory authority for the sector (National Regulator for the Electricity Sector Organisation - NRESO, affiliated to the MOEW) and to promote competition and private sector engagement. Some of the Law's provisions have not yet been implemented (mainly for political reasons) and the NRESO has not been established yet. The Lebanese Parliament has therefore enacted several laws granting the Council of Ministers the authority to issue licences and permits for a specific period until the establishment of the NRESO. A draft law currently at the discussions phase, is expected to provide for several amendments to Law 462.

D. Institutional framework

I. Ministry of Energy and Water (MOEW)

The MOEW is responsible for planning and setting the general directions and policies for the country's energy sector, pending ratification from the Council of Ministers. It also proposes rules for the organisation and the services of all segments of the electricity sector (generation, transmission, distribution and supply), proposes draft laws and decrees, and cares for the rights and interests of the consumers.

II. Ministry of Environment (MOE)

The MOE is responsible for Lebanon's climate change policies according to Law 690/2005. A Climate Change Coordination Unit (CCCU) has been established in the Ministry, composed of representatives of 40 different ministries, government agencies, academic institutions, NGOs and the private sector.

III. Electricité Du Liban (EDL)

The state-owned EDL, founded in 1964, is an autonomous institution supervised by the Ministry of Energy and Water, and is essentially the sole producer and supplier of electricity in the country.

IV. National Energy Efficiency and Renewable Energy Action (NEEREA)

NEEREA is a national financing mechanism initiated in 2010 by the Central Bank of Lebanon (Banque du Liban-BDL) dedicated to support the financing of new and existing environmental projects, focusing on energy efficiency, renewable energy and green buildings. NEEREA allows private sector entities, including individuals and SMEs, to apply for subsidized loans. The green loans are offered at an interest rate of 0.6% for period up to 14 years, and are provided through all the Lebanese commercial banks directly to the end user. In addition to the loans, NEEREA also includes a grant scheme based on an agreement signed between the BDL and the European Union.

The Baseline Scenario – Bosnia and Herzegovina

1. The Water sector in Bosnia and Herzegovina

A. Current status

Bosnia and Herzegovina is a country rich in water resources, but the unbalanced spatial and temporal demand of water (and its differences with the water availability) present a problem. However, the amount of pollution that comes from urban and industrial wastewater, applied practices in agricultural production, excessive groundwater abstraction, water use patterns, and evident impacts of climate change is the biggest challenge for preserving and improving the existing water status in BA. The total annual water abstraction for public water supply amounts to around 1% of the annual renewable water resources. Water supply is mainly based on the use of groundwaters and springs (89%), while 10.2% of water comes from rivers and 0.8% from lakes and artificial accumulations. Between 2003 and 2010, the average annual abstraction of ground and surface waters for the needs of public water supply in BA was between 320 and 330 million m³, while the quantity of water delivered to households, the agricultural sector, the industrial sector and for the needs of other activities and water supply systems, amounted to between 157 and 165 million m³, while the rest is statistically recognized under “water losses”⁹¹. Enormous losses were partly a result of the failure to implement measuring of supplied water, insufficient capacity of water sources or inadequate facilities for water transport, storage and distribution with high technical losses, or, in most cases, the combination of all the said reasons⁹².

Bosnia and Herzegovina, as a potential candidate for EU membership, has taken, in whole or in part, all the key objectives of EU legislation on water management, and incorporated them into their legal and strategic documents. In order to further develop the water sector, in the following period it is necessary to continue activities on the implementation of strategic and planning documents, improving the legal framework and achieving a very high level of compliance with relevant EU legislation, providing additional external sources of funding, strengthening cross-sectoral and regional cooperation, as well as strengthening cooperation with civil society.⁹³

B. Policies and Strategies

STATE LEVEL

- NEAP – National environmental Action Plan (which is adopted in 2003) is one of the key documents for water planning at state level. The key objective of the National Action Plan for the Protection of the Environment in BA is the establishment of a comprehensive environmental protection system in BA, based on the principles of sustainable development. In this Action Plan, eight priority areas were determined for environmental management, including proposals for measures to improve the state of the environment. The NEAP develops and designs the entire process of environmental protection and provides guidelines for introduction of the new practice in the overall development of BA. In addition, priority areas are defined, namely water resources (wastewaters), sustainable development and rural areas, environmental management (through information system,

⁹¹ Agency for Statistics BA, First Release, Environment and Energy: Collection and Distribution of Water 2006, 2008, 2009, 2010

⁹² http://www.bhas.ba/dokumenti/EPR_2_001_01-en.pdf

⁹³ <http://www.mvteo.gov.ba/Content/Read/vodni-resursi?lang=en>

integrated planning and training), protection of biological and landscape diversity, waste management, sustainable economic development, public health and demining).

- The Environmental Approximation Strategy (Adopted 30.05.2017/ Council of Minister Bosnia and Herzegovina). Based on the proposal of the Ministry of Foreign Trade and Economic Relations, the Council of Ministers of BA adopted the Environmental Approximation Strategy, a key document that enables equal application of Bosnia and Herzegovina for environmental funds. By adopting this Strategy, it is possible to use the funds in the field of environment through the IPA II Program.

ENTITY LEVEL-REPUBLIKA SRPSKA

- The Framework Plan for Water Management in Republic of Srpska (2007-2016) - The main documents in the field of water management in RS are the Framework Plan of Development of Water Management of the RS and the implementation Action Plan. The Framework Plan defines the criteria, conditions and obstacles for further development of the water infrastructure and management of the entire water sector, covering the planning period 2007 - 2016.
- The Integral Water Management Strategy of the Republic of Srpska To 2014 (18.02.2016 Adopted -National Assembly Republika of Srpska)
- The goal of the Strategy is the achievement of a fully harmonized water regime in the territory of the Republic of Srpska, in each of its two regional river basins.

ENTITY LEVEL-FEDERATION of Bosnia and Herzegovina

- Water Management Strategy (WMS) of Federation of Bosnia and Herzegovina (2009-2020) The document is comprehensive, detailed and suitable basis for management of sustainable water resources in line with the EU WFD. WMS contain an assessment of the situation in the field of water management, objectives and directions of water protection, protection against adverse effects of waters and sustainable water use and priorities to achieve these goals. In December 2011, the FBA Parliament adopted the WMS in which it identified the strategic and operational objectives in the field of water management until 2022 and measures to achieve those goals.
- Water management plans for the Sava River Basin District and the Adriatic Sea River Basin District are adopted for the purpose of implementing the Water Management Strategy, in accordance with the provisions of Article 25 of the Law on Waters, which is largely harmonized with the Water Framework Directive (EU Directive 2000/60/EC). Water management plans, among other things, include objectives for achieving good status and ecological potential of water bodies, for protection against adverse effects of water, the objectives of sustainable use of water, including deadlines for achievement of these goals.
- Operational plan of flood defense of Federation of BA was adopted in 2009 pursuant to Article 92, paragraph 4 of the Law on Waters and in accordance with the above Regulation. The activities on development of flood risk assessment (activities coordinated by the Agencies for Water) are in progress.

Brčko District

- Brčko District Development Strategy for the 2008-2017 - There is no Water Management Strategy adopted in the Brčko District of BA. Brčko District Development Strategy for the 2008-2017 period was adopted, addressing five strategic goals. One of them is Strategic Goal of Environmental Development: environmental protection and promotion (involve water management issues).

C. Legislative Framework

STATE LEVEL

There is no Law on Water at the state level.

Harmonized water laws for the FBA and Republika Srpska, developed with the support of the EU, were adopted in 2006. This legal framework provides a broad framework for capturing, using and draining water resources. Laws have adopted the basic aspects of the EU Water Framework Directive, and the development and management of water resources is directed towards more integrated approaches. In accordance with the EU acquis, both the RS and the FBA have two operational water basins established by river basins, the Sava River Basin and the Adriatic Sea basin.

ENTITY LEVEL-REPUBLIC OF SRPSKA

- Law on Water of Republic of Srpska (Official Gazette of RS No. 50/06) –
- Water management is under the competences of the RS, and it is achieved through competent ministries, local self-government and public water utility companies.
- Integrated water management within the territory of RS is regulated by the Law on Waters, which entirely transposed the Directive 2000/60/EC establishing a framework for Community policy in the field of water. In order to implement water resource management, the Ministry of Agriculture, Forestry and Water Management implements the provisions of the Law on Waters and bylaws, which are harmonized with the legislation of the European Union.
- Law on Amendments and Supplements of the Water Law 101/16

ENTITY LEVEL-FEDERATION OF BIH

- Water Law of Federation of BA ("Official gazette of FBA "no. 70/06) – This Law transposes the Water Framework Directive (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000). An assessment of compliance indicated that the Law on Waters is 93% compliant with the Directive. According to the provisions of Article 1 of the Law on Waters, the Law regulates water management within the territory of the FBA. Water management includes: water protection, water use, protection from the harmful effects of water (for example. floods, torrential currents) and arranging of water courses and other water bodies. 10 Laws on Water adopted in each of the 10 Cantons in Federation of BA

D. Institutional Framework

The Constitution of Bosnia and Herzegovina stipulates that water management is governed at the level of the entities (the Federation of BA and Republika Srpska). Entity ministries of agriculture, water management and forestry are responsible for water management within the entities. Management also includes shared competencies with the cantons (in the Federation). A small department for environment within the Ministry of Foreign Trade and Economic Relations of BA is responsible for the overall co-ordination of policy and serves as an interface for the country's international presence. Responsible institutions are:

State Level

- Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina - is responsible for carrying out tasks and activities under competences of BA pertaining to the definition of policy, basic principles, coordination of activities and harmonization of plans of entity authorities and institutions at international level in the fields of agriculture, energy, environmental protection, development and utilization of natural resources, and tourism. Regarding the fulfilment of international obligations of BA, i.e. obligations arising from the signed conventions, agreements, contracts, etc., as well as cooperation with international organizations and donors on the basis of projects in the water sector, the Ministry of Foreign Trade and Economic Relations conducts regular consultations, coordination and harmonization of activities and opinions of both Entities and the BD BA.
- Ministry of Transport and Communication of Bosnia and Herzegovina

Entity level-Republic of Srpska

RS Law on Waters is the basis on which Republika Srpska manages waters in the RS and meets the obligations BA has as an international legal entity. Key institutions:

- Republika Srpska National Assembly, which is responsible for the adoption of the Law on Waters, water management strategies, spatial plan and budget;
- Republika Srpska President who is responsible for declaring laws and other general acts adopted by the National Assembly;
- Republika Srpska Government which is responsible for policy implementation and enforcement of laws, proposing and giving recommendations concerning legislation, proposing water management strategies, and adopting plans for river basin districts;
- Ministry of Agriculture, Forestry and Water Management, which is responsible for administrative, technical and other tasks set by law and related to the RS competences in water management;
- Ministry of Spatial Planning, Civil Engineering and Environment, which is responsible for administrative, technical and other tasks set by law and related to the RS competences in the protection, preservation and improvement of environment;
- Ministry of Health and Social Protection, has a jurisdiction within the public-health safety of water used or intended for human consumption or production or processing of food and water for sanitary-hygienic and recreational needs;
- Ministry of Industry, Energy and Mining, is authorized to participate in activities in the field of use of natural resources, geological exploration and exploitation of natural and technogenic mineral resources, groundwater (potable, industrial, mineral, thermal, thermo-mineral), as well as geothermal resources and concession operations. Activities in the field of geological exploration and exploitation of groundwater is conducted by the Division for Mining and Geology;
- Ministry of Transport and Communication is responsible for the domain of water transport and navigation safety in the RS;
- RS Inspection Administration, which is responsible for carrying out inspection of water resource use;
- Public Institution "Vode Srpske" is responsible for the implementation of water management tasks that were put under their competences with the RS Law on Waters and legislation adopted according to that Law;
- Fund for Environmental Protection and Energy efficiency of Republic of Srpska which is, among other things, responsible for the collection and distribution of funds for environmental protection in the territory of Republika Srpska;
- City/municipal legislative bodies which are responsible for ensuring public water supply, as well as collection and treatment of wastewater in the city/municipality.

Entity level-Federation of BA

Coordination of activities of various bodies involved in the planning and implementation of policies and legislation is ensured by the relevant provisions of the Law on Waters and other legislation. Key institutions are:

- Parliamentary Assembly of Federation of BA - which is responsible for the adoption of the Law on Waters, water management strategies, spatial plan and budget
- Government of Federation of BA - gives approval for the framework plans and financial plans of the Water Agencies, which are adopted for a minimum period of three years (Article 160, paragraph 1 of the Law). Government of FBA reports to the FBA Parliament on the implementation of the Program of Measures from the Water Management Plan every two years (Article 26, paragraph 7 of the Law).

- Ministry of Agriculture Water Management and Forestry of Federation of BA performs administrative supervision over enforcement of the Law and over the work and tasks of the water agencies, which are under their competences according to the Law (Article 179 of the Law). During supervision over the work of the water agencies, the FMAWMF has a direct insight into control and actions of water agencies; reviews documents and acts adopted by the agencies and the records thereof; gives orders and instructions for performance of tasks and seeks data and notices about performance of obligations from the Law and reports on performance of tasks prescribed by the Law (Article 180, paragraph 1 of the Law).
- Ministry of Environment and Tourism of Federation of BA - which is responsible for administrative, technical and other tasks set by law and related to the FBA competences in the protection, preservation and improvement of environment
- Ministry of Health of Federation of BA- which is responsible for the administrative, technical and other tasks set by law and related to the FBA competences regarding sanitary quality of water for human consumption
- 10 Cantonal Ministries - Organization of works and tasks which are under canton competences is regulated by canton legislation (Article 167, paragraph 1 of the Law). Coordination of the activities prescribed by the law between the cantons and the agencies is ensured by regular meetings organized by the FMAWMF.
- Federal Administration for Inspection Affairs - which is responsible for carrying out inspection of water resource use;
- Agency for Water Area of Sava River Basin and Agency for Water Area of the Adriatic Sea are responsible for the implementation of water management tasks that were put under their competences with the Law on Waters of FBA and legislation adopted according to that Law
- Environmental Protection Fund of Federation of BA - which is, among other things, responsible for collection and distribution of funds/fees for environmental protection in the territory of Federation of BA.
- 10 Cantonal ministries
- City/municipal legislative bodies which are responsible for ensuring public water supply, as well as collection and treatment of wastewater in the city/municipality.

Brcko District

- Government of Brčko District (Department of Agriculture Forestry and Water Management)

2. The Agriculture sector in Bosnia and Herzegovina

A. Current status

Food production in the agricultural sector in Bosnia and Herzegovina depends to a large extent on other environmental factors, and especially on climate conditions and water availability. The effects of climate change in the period 2003-2017 (years, 2007, 2011, and especially 2012 - characterized as extremely dry), are reflected in the reduction of agricultural production and the quality of total yields. Thus, in very dry years (e.g. 2007, 2011, 2012), lower food production was recorded with decrease of up to 40% in relation to the average. By implementing the planned irrigation and climate change management adaptation, food production would be more stable, but equally pose more stress on water resources.

It is estimated that in the future, the impact of climate change, through increasing average temperatures and decreasing average precipitation, will have an even greater negative impact on agricultural production. The water strategies address also excess water which can be a problem. In

addition to investing in irrigation, BA plans to invest simultaneously in drainage and protection from flood (external and internal) by the construction of drainage, drainage channels, embankments and pumping stations⁹⁴.

B. Policies and Strategies

State Level

- Strategic Plan for Harmonization of Agriculture, Food and Rural Development of Bosnia and Herzegovina (2008-2011) - this document provides a detailed action plan for the implementation of the BA Agriculture, Food and Rural Development Harmonization Strategic Plan at State level. The key objective of the AFRD Harmonization Strategic Plan is to provide a framework for the gradual harmonization of policies, programmes, institutions, laws and other regulations, systems and services both within BA and with the EU.

ENTITY LEVEL-Republic of Srpska

- Strategy for Agricultural Development of Republic of Srpska by 2015. - the Strategy for Agricultural Development by 2015, establishes objectives, measures and projections for the long-term development of agriculture in the RS, the optimal use of agricultural resources (land, water, forests, genetic resources, etc.), increasing of productivity and competitiveness through improvement of technical and technological levels, environment protection and sustainable development.
- Strategic Plan for Development of Agriculture and Rural Areas Republike Srpske 2016-2020⁹⁵.

ENTITY LEVEL-Federation of BA

- Medium-term strategy for the development of the agricultural sector in the Federation of BA for the period 2015-2019. (Official Gazette of the Federation BA No. 47/15).
- Harmonization of agrarian policy with the EU Common Agricultural Policy
- is one of the main objectives of the Agricultural Development Strategy of FBA. In this context, the implementation of the Strategy is directed towards the adoption of new laws in line of EU legislation and the *Acquis Communautaire*. This implies the having an information and administration control system in place, which required significant administrative, financial and personnel changes.

Brčko District

- The Strategy for Development of Agriculture, Food and Rural Development in the Brčko District of BA was developed for the period 2008-2013, but it has never been adopted by the Brcko District Assembly of BA. The development of a new agriculture strategy, nutrition and rural development is in progress.

C. Legislative Framework

State Level

Law on Agriculture, Food and Rural Development (Official Gazette of B&H no. 50/08) define the framework for institutional structures, competencies, responsibilities, reporting, legislative drafting, coordination mechanisms, consultation processes, rights, obligations and enforcement measures at

⁹⁴ <https://fmpvs.gov.ba/wp-content/uploads/2017/Ruralni-razvoj/Strateski-plan-BiH.pdf>

⁹⁵ <http://www.vladars.net/sr-SP->

<http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/%D0%BC%D0%B8%D0%BD%D0%B8%D1%81%D1%82%D0%B0%D1%80%D1%81%D1%82%D0%B2%D0%BE/Documents/Strategija%202020.pdf>

all levels of the Bosnia and Herzegovina government involved in development of the agriculture, food and rural sector. It defines the framework and mechanisms required to prepare for association with, and accession to, the European Union and fulfilment of all obligations defined by international agreements related to the sector of agriculture, food and rural development in BA. Furthermore, it defines a framework to ensure conformity of sector strategies and agro-economic policies, specifically implementing measures and enforcement procedures required for the coordinated development of the sector. The Law defines framework objectives of the agriculture and rural development sector and sets up a framework of measures needed for their realization.

ENTITY LEVEL-REPUBLIKA SRPSKA

- Law on Agriculture (Official Gazette of RS no.70/06; 20/07; 86/07;71/09)
- Law on Agricultural Land (Official Gazette of RS no. 93/06; 86/07; 14/10; 5/12)
- Law Against Hail Protection (Official Gazette of RS no. 39/03; 110/08)

ENTITY LEVEL-FEDERATION OF BIH

- Law on Agriculture (Official Gazette of FBA no. 88/07;04/10)
- Law on Agricultural Land (Official Gazette of FBA no. 52/09)
- Law on Agriculture on Payments in Agriculture and Rural Development (Official gazette of FBiH 42/10)
- Draft Law on Agricultural Advisory Services (pending adoption)
- Law on Payments in Primary Agricultural Production (Official gazette FBA no. 28/04)
- Law on Recognition and Protection of Agricultural and Forest Plant Varieties (Official gazette FBA no. 31/00)
- Law on Seeds and Propagating Material of Agricultural Plants (Official gazette FBA no. 55/01).

BRČKO DISTRICT

- Law on Agricultural Land (Official Gazette of Brcko District no.32/04; 20/06; 19/07)

D. Institutional Framework

Bosnia and Herzegovina is rich in natural resources with climatic conditions that create an excellent environment for agricultural production, including the availability of labour, land and other natural resources. The huge agricultural potential is only partially utilized, despite considerable human and natural resources. Lack of financial resources, necessary for modernization in all segments of agricultural production, is one of the major constraints in the development of this sector.

Responsible institutions are:

State Level

- Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (Sector for Agriculture, Food, Forestry and Rural Development) is responsible for coordination of the agriculture sector at state level.

Entity level – Republika Srpska

- Ministry of Agriculture, Forestry and Water Management of Republic of Srpska - The Division for Agriculture and Rural Development carries out activities in the field of land policies, planning and protection of agricultural land, agroecology, protection and improvement of plant health from harmful organisms, prevention of introduction and spread of quarantine and economically damaging organisms, issuing authorisations and approvals in the area of plant health, registration of plant protection and plant nutrition products, issuing permits for the importation, production and sale of pesticides, control of

production of plant, seed and seedlings, variety lists, plant nutrition products as well as other duties specified by law.

- Agricultural Institute of RS from Banja Luka

Entity level- Federation of BA

- Ministry of Agriculture, Water-Management and Forestry of Federation of BA
- 10 Cantonal Ministries
- Federal Institute for Agro-Pedology from Sarajevo
- Federal Agro-Mediterranean Institute from Mostar

Brčko District

- Government of Brčko District (Department of Agriculture Forestry and Water Management)

3. The Energy sector in Bosnia and Herzegovina

A. Current status

Bosnia and Herzegovina has a constant trend of increasing production and consumption of electricity⁹⁶(Graph 3). Fossil fuels (mostly coal) dominate electricity production with about 60% of the total share. Electricity production is constantly growing. In 2003, the total production was 5,362 GWh, whereas in 2017 production was recorded at 14,970 GWh⁹⁷. Production of hydroelectric power plants also recorded growth, but production is directly related to the amount of precipitation. During the drought years (e.g. 2008, 2011, 2012, 2017), production from hydroelectric power plants was significantly reduced (graph3). There is a very slight increase in energy generation from renewable sources.

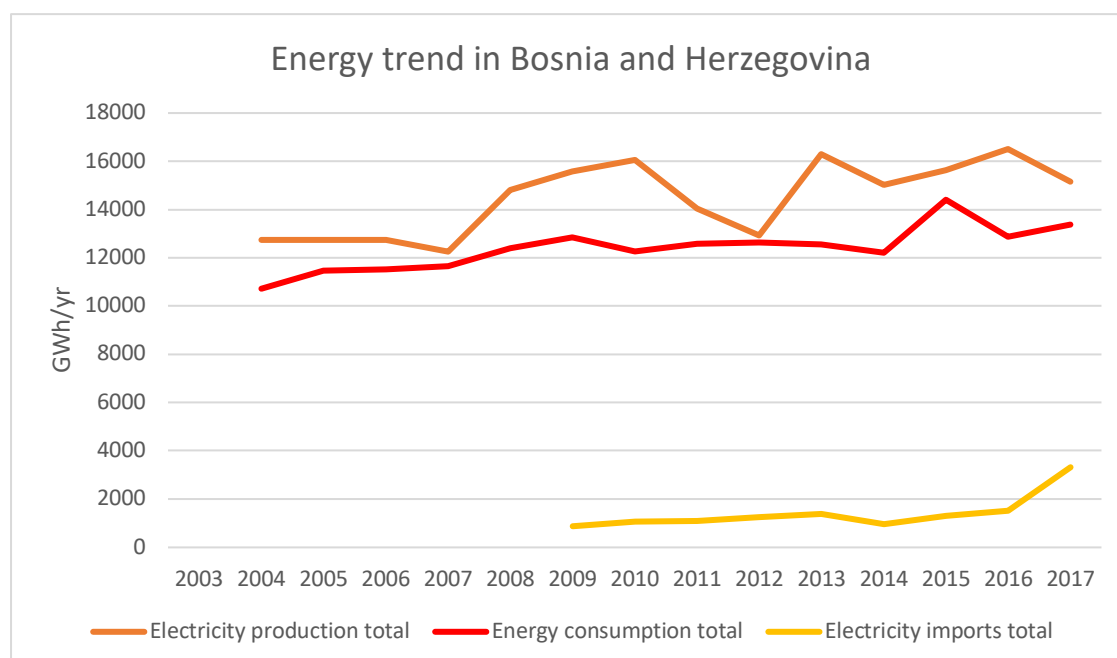


Figure 21: Energy Trends in Bosnia and Herzegovina (production, consumption and imports) 2003/2017.

⁹⁶ <https://www.derk.ba/DocumentsPDFs/DERK-lzvjestaj-o-radu-2017-b.pdf>

⁹⁷ <http://www.derk.ba/DocumentsPDFs/DERK-lzvjestaj-o-radu-2017-b.pdf>

In the last few years, the trend of increasing the import of electricity has been evident. There is a very slight increase in energy generation from renewable sources. Finally, energy efficiency is clearly included in the sector strategies.

B. Policies and Strategies

State Level

- In addition to the State and Entity laws, there are international treaties and agreements that shape energy policy and its implementation in BA. Among the international treaties are the Energy community (EnC) for South East Europe, which came into force on the 1st of July 2006; and the Energy Charter Treaty with its Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA).
- Energy Charter Treaty - The State of Bosnia and Herzegovina (BA) ratified the Energy Charter Treaty (ECT) and the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) in 2001. By ratifying the Protocol, countries commit themselves to implement policies for improving energy efficiency and reducing the negative environmental impact of the energy cycle. The guiding principle of the PEEREA is that contracting parties shall cooperate and, as appropriate, assist each other in developing and implementing energy efficiency policies, laws and regulations.
- Energy Sector Study in Bosnia and Herzegovina led by the Energy Institute Hrvoje Pozar from Croatia, contains a review and synthesis of previous energy studies and reports on new research. The published Study reports on all findings and provides recommendations for reforming and strengthening the energy sector with a view to assisting Bosnia and Herzegovina in establishing a national energy strategy with the ultimate aim of effective integration of Bosnia and Herzegovina into the European Union. The Study provides background information and analyses relevant to the preparation of a strategy that would promote energy efficiency and sustainable energy use and to maximise supply from renewable energy sources. It ranked policy objectives as follows; (i) Increase utilisation of domestic primary energy sources; (ii) Diversify fuel sources; (iii) Reduce total final consumption/GDP; (iv) Reduce dependency on energy imports and (v) Reduction of CO₂.

ENTITTY LEVEL - Republika of Srpska

- Energy Development Strategy of Republic of Srpska by 2030, dated from 2012, lays down the RS energy development policies focusing on the use of domestic resources, renewable sources, implementation of energy efficiency measures, use of modern energy technologies, while at the same time preserving the environment and reducing the adverse impacts of the energy sector. It also seeks the sustainable development of the energy sector through the reduction of greenhouse gas emission. By 2030, energy development should be in line with the above-mentioned objectives.

ENTITY LEVEL - Federation of BA

- Strategic Plan and Program for Energy Sector Development in FBA - the purpose of making strategic plans and programs to develop the energy sector of the Federation of BA is to, in the absence of a state strategy for the energy sector, perform expert analysis of the current situation, identify needs and opportunities for the development of the energy sector in FBA, both individual sub-sectors and the sector as a whole, taking into account the direction and intensity of development of ES in BA.

Brcko Distrikt

- There is no energy strategy on Brčko District level.

C. Legislative Framework

The state of Bosnia and Herzegovina has signed agreements that imply commitments to implement energy policy reforms along the lines of EU policy and other Western Balkan countries. These agreements determine many elements of the energy policy in BA. To some extent, this reflects the difficulties in achieving a common understanding and acceptance of the compromise. The state's economy is still not strong enough to stimulate more intense renewable energy. Still coal is the main energy source for generating electricity.

The Legislative framework for the energy sector in Bosnia and Herzegovina is defined by:

STATE LEVEL

- Law on transmission, regulator and system operator of electricity in BA (Official Gazette BA 7/02). This Law regulates the establishment and work of the State Electricity Regulatory Commission, an Independent System Operator and a company for the transmission of electric energy, and the law defines the functions and authorities of these bodies. The objective of this Law is to lay the basis for unlimited free trade and a continuous supply of electricity at defined quality standards.
- Law on establishment Transmission Company in BA - This Law establishes a joint stock company for the transmission of electric energy "Elektroprenos Bosne i Hercegovine" ("Company"), and defines its functions, powers, governance and ownership. The company works in all of Bosnia and Herzegovina.
- Law on establishment Independent System Operator in BIH -This Law establishes a non-profit Independent System Operator (referred to hereafter as "the ISO") to direct the operation of the transmission system in Bosnia and Herzegovina, and it defines its functions, powers, governance and ownership.

ENTITY LEVEL-REPUBLIC OF SRPSKA

- Law on Energetics in the Republika Srpska (Official Gazette RS 49/09). This law regulates the basis of the energy policy of the Republic of Srpska through the adoption of an energy development strategy, plans, programs and other acts for its implementation, basic issues of regulation and performance of energy activities, use of renewable energy sources and conditions for achieving energy efficiency. The aim of this law is to provide, together with other laws regulating the performance of energy activities, legal preconditions for safe and quality supply of energy buyers according to the principles of a competitive energy market and sustainable development, with efficient use of energy and environmental protection.
- Electricity law (Purified text) (Official Gazette RS No. 8/2008, 34/2009, 92/2009 i 1/2011). The Law on Electricity establishes rules for the production and distribution of electricity in the Republic of Srpska and domestic trade on behalf of the Republic of Srpska. The law regulates the establishment and operation of the electricity system exclusively in RSs. The aim of this law is to determine the conditions necessary for the rational and economic development of the production and distribution of electricity in the Republic of Srpska and to promote the provision of public services for the undisturbed supply of electricity to consumers. The Law is based on generally accepted international standards in the field of electricity and aims to promote gradual liberalization of the national electricity market. In addition, the Law follows the principles of non-discrimination and equality of persons and property.
- Law on Renewable Sources of Energy and Efficient Co-generation (Official Gazette RS 39/13) This law regulates the planning, production and consumption of renewable energy and efficient cogeneration. The aim of this law is to promote the use of energy from renewable sources in transport and for consumption in the domestic market and increase the share in gross final energy consumption. The Law also supports the development of

incentive mechanisms, regulatory framework and technical infrastructure for renewable energy sources.

- Law on Gas (Official Gazette RS 86/07)
- Law on Oil and Oil Derivatives (Official Gazette RS 36/09)

ENTITY LEVEL-FEDERATION OF BIH

- Law on electricity in the Federation BA (Official Gazette FBA 66/13). This Law regulates the functioning of the electricity sector, electricity industry, the development of the electricity market, the regulation of the market, general conditions for electricity delivery, planning and development, construction, reconstruction and maintenance of electricity facilities, supervision over the implementation of laws and other issues important for the performance of electricity activities in the Federation of Bosnia and Herzegovina.
- Law on Usage of Renewable Energy Sources and Efficient Co-generation (Official Gazette FBIH 70/13). The aim of this law is to promote the production of electricity and heating and cooling energy from renewable energy sources and efficient cogeneration by encouraging the production of electricity from renewable energy sources and the Law on Oil Derivatives in Federation of BA (Official Gazette FBA 52/14)

BRČKO DISTRICT

- Law on Electricity (Official Gazette Brčko District BA" 36/04)

D. Institutional Framework

The energy sector is one of the most powerful in Bosnia and Herzegovina, with a long tradition, huge potential and opportunities for further development and investment, as well as possibilities to become an integral part of the European energy market and community. Bosnia and Herzegovina is a member of the Energy Charter Conference and signatory of two Athens Memorandums of Understanding on the Regional Energy Market in South East Europe and its integration into the European Community Internal Energy Market.

The key actors in the electric power sector in BA are:

State Level

- Council of Ministers of BA (energy sector development strategy on the state level, international relations, drafting energy law on state level);
- Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina - responsible for coordination of energy policy and international relations at the level of Bosnia and Herzegovina, defining policy, basic principles, coordinating activities and harmonizing plans of the Entity authorities and bodies at the international level, ensuring implementation of laws and international obligations of Bosnia and Herzegovina, concerning the energy sector, policy-making in accordance with the Law on Transmission, Regulator and System Operator of Bosnia and Herzegovina, monitoring the work of state institutions in the electricity sector (SERC, ISO BH, Elektroprenos) on the basis of their reports submitted to MoFTER. MoFTER cooperates with the entities and institutions to implement a law on ISO and Transmission.
- State Electricity Regulatory Commission (DERK) – responsible for regulation of electricity transmission activity and international trade investment electricity

Entity level - Republic of Srpska

- Government of Republic of Srpska (energy sector development strategy and energy policy on entity level)

- Ministry of Industry, Energy and Mining of Republic of Srpska - Implementation of state policy, energy policy of RS and coordination of entity's activities. Activities under the responsibility of the Ministry are performed in: Division of Electric Power, Division of Energy-Generating Products, Division of Industry, Division for the Development of Small and Medium-Sized Enterprises and Entrepreneurship, Division of Mining and Geology and Division for Legal Affairs and European Integration.
- The Division of Electric Power and the Division of Energy-Generating Products perform tasks related to the strategic development and promotion of the field of electricity and energy-generating products; strategic planning and harmonisation of the electric power sector development; creation of regulatory and incentive conditions for the production and supply of energy, production and use of energy from renewable energy sources; and rational use of energy and energy sources and energy efficiency, etc.
- The Division of Industry and the Division for the Development of Small and Medium-Sized Enterprises and Entrepreneurship is responsible for the strategic management of industrial development and small and medium-sized enterprises and entrepreneurship; creating and implementing policies and programs to improve the competitiveness and sustainable industrial development; and operation of small and medium-sized enterprises and entrepreneurship, etc.
- Regulatory Commission for Energy of Republic of Srpska (RERS) - Regulation of production, distribution and supply of electricity in RS

Entity level-Federation of BA

- Government of Federation of BA (energy sector development strategy and energy policy on entity level)
- Ministry of Energy, Mining and Industry of the Federation BA - implements the policy and enforces the laws as determined by the legislative body, executes the administrative supervision of implementation of the laws and other regulations, proposes and gives recommendations in the field of legislation, answers to questions of the legislative authorities, and performs tasks of administrative and professional nature.
- Regulatory Commission for Electricity of Federation of Bosnia and Herzegovina (FERK) - Regulation of production, distribution and supply of electricity in the Federation BA

Brcko District

The Brcko District does not have a separate ministry / department for energy

The Baseline Scenario – Albania

1. The Water sector in Albania

A. Current status

Albania is rich in water resources with a total annual water flow of around 40×10^9 m³/year which exceeds by far its consumption. However, during the dry season water shortage and conflicts among users may occur in some locations. More than a third of total supply originates from outside the country. The hydrographic basin of Albania covers 43,305 km², of which 28,748 km² lie within its boundaries.

The main rivers in Albania flowing into the Mediterranean are:

- The Drin river, whose catchment area extends across Albania, Kosovo, Greece, Montenegro and the FYROM, with an average discharge of 352 m³/s
- The Vjosë river, originating in Greece, with an average discharge of 204 m³/s
- The Mat river with an average discharge of 103 m³/s
- The Devoll river with an average discharge of 49.5 m³/s
- The Shkumbin river

Albanian coastal aquifers are relatively small (less than 300 km²) and are characterized by Quaternary alluvial deposits (porous) and carbonate deposits (karstic). The largest aquifers are located in the deltas of the Buna/Bojana (Albania/Montenegro), Mati, Erzeni and Vjosa Rivers. The aquifers present in the Dukati and Pavlla river deltas are of a limited extent, but their thickness is considerable (the Dukati aquifer's mean thickness is between 40 m and 150 m). Albanian coastal aquifers are of utmost importance as they represent the only source of domestic water supplies in several urban settlements.



Figure 22 Main coastal aquifers in Albania (UN Environment/MAP and UNESCO-IHP, 2015)

The Buna/Bojana delta forms an extensive transboundary deltaic area of major ecological importance. The delta is among the most important natural or semi-natural wetlands in the Eastern Mediterranean and is characterized by rich and diverse natural habitats featuring a variety of flora

and fauna; a natural landscape of great value; and a unique cultural identity depicted in the landscape, historic monuments and societal practices.

With the rapid and uncontrolled economic development over the last two decades, the quality of water resources has significantly deteriorated. The extraction of river gravel and the construction of hydropower plants have exerted great pressures on waters and riverbeds. Untreated municipal and industrial wastewater discharges are the main pollution related pressures, together with diffuse sources leading to nitrates and phosphates pollution (due to excessive application of mineral fertilizers and animal manures, especially in highly erosion-prone soils).

There are three functioning municipal wastewater treatment plants in the cities of Kavaja, Pogradec (in the shores of Lake Orhid) and at the Rinas Airport. Municipal wastewater treatment plants have been completed in the coastal cities of Vlora, Durres, Lezha, Saranda as well as the inland city of Korca.

Large quantities of solid or liquid waste from industries, and above all mining sites and large metallurgy plants, have been dumped on riverbanks or directly into rivers in the past decades. These plants are a legacy from the former central planning economic system, and several have ceased their operation or have been rehabilitated. Nevertheless, a number of them continue to constitute immense pollution hazards.

A comprehensive database of information on nitrogen levels and pesticides in lakes and groundwater is not yet available. National legislation and action plans for legislative approximation to the Water Framework Directive and the Nitrates and Urban Waste Water Directives have been adopted (see also below).

B. Policies and Strategies

National Strategy for Integrated Management of Water Resources 2017 – 2027

The Strategy⁹⁸ is the framework document of water management for the development of plans and other strategic documents in the field of territorial planning, environmental protection, biological diversity and landscaping, agriculture, forestry, fishing, transport, tourism, public health and other documents relevant.

Integrated Water Resources Management (IWRM) in the country will be achieved through creating a legal, economic, institutional, technical and social framework by being based on European environmental legislation and IWRM principles.

National Sectorial Program of Water 2014-2020

This program aims to ensure the coordination of the financing planning process in Albania water sector, coming from the central government, from the support of development partners as well coordination with local government units for programming investment in the sector.

All these steps will precede the drafting of the MTBP as one of the key processes for concrete implementation of the program, given the complexity of the sector water, including areas, issues and different institutions. Functioning of the mechanism institutional and enforcement of governance measures will guarantee efficiency and will create synergies between these levels.

The sectorial approach implemented for the water sector is of particular importance identifying investment needs from the central government, local government, opportunities for investments by development partners and the private sector, oriented towards achieving the objectives for the

⁹⁸ NWRMS - National Water Resource Management Strategy

next thirteen years. Clear assignment of responsibilities at the vertical and horizontal, and monitoring of this program, would guarantee its successful implementation.

Achieving targets referring to timely alignment is divided into mid - term goals and long term by harmonizing them with the following documents:

- Goals up to 2020, which coincide with the length of the NSDI and the majority of drafted strategies;
- Objectives up to 2027, which coincide with the third cycle preparation plan basin management in accordance with the Water Framework Directive;
- Objectives up to 2030, which are consistent with Sustainable Development Goals United Nations (UN Sustainable Development Goals - 2030 Agenda).

C. Legislative Framework

Albania's 1996 Law on Water Resources (No. 8093) (Water Law) is the primary legislation governing the country's inland, maritime, surface, and groundwater and is intended to ensure the protection, development, and sustainable use of the country's water and provide for its proper distribution. The Water Law addresses water rights, water use, and governance of water resources. A new law on water management has been drafted and was being circulated internally for review in 2010.

The '1999 Law on Irrigation and Drainage (No. 8518) established the structure for Water User Associations (WUAs), which are private groups that manage water irrigation infrastructure at and below the secondary canal level. Federations of WUAs manage the primary canal networks. The government maintains ownership of the infrastructure.

The Law on Organization and Functioning of Local Government (No. 8652) (2000) transferred responsibility of water supply and management of water utilities to local government (communes and municipalities).

The 2008 Law on the Regulatory Framework in the Sector of Water Supply and Waste Water Administration (No. 9915) and 2009 Ministerial Order No. 66 provide authority for the establishment of an inter-ministerial working group for the evaluation of projects and issues related to drinking water supply and sewage sector in Albania. The working group is led by the Minister of Public Works.

The old law on "Water Reserve" no. 8093, date 21.03.1996⁹⁹, however for the time being in force provided a comprehensive legal framework for the management of Albanian's water resources within Albania's borders with the exception of medicinal, mineral and thermal waters, it did not fully comply with the European legislation. It was considered as the first attempt to introduce a sound and sustainable water management system according to EU principles and directives, by regulating conservation, development and utilization of water reserves; their protection from pollutions, and establishment of a distinct system of permits, authorizations and concessions for different kinds of water use; and introduction of the concept of financial exemptions for persons who reduce their water consumption or discharges into water.

Apart from these, the old law did not take in consideration the following considerations: (i) Definition of the state body that establishes, manages and updates the Registry of Water Resources, which archives all authorisations, permits and concessions for usage of water resources; (ii) Monitoring of inland marine, surface and underground water sources and protected areas; (iii)

⁹⁹ Repealed after the approval of the new Law no.111/2012, date 15.11.2012 "On integrated management of water resources"

Management of inland marine water sources and natural resources, of curative waters, minerals, thermo-mineral and geothermal water sources; (iv) Possibility of issuing laws for the approximation of legislation as, mainly for monitoring the quality of surface water or groundwater, which requires the involvement of several state bodies; (v) Forecast sanctions for the one who infringe the law, mainly to polluters of curative waters, minerals, thermo-mineral and geothermal water sources.

Law 111/2012, date 15.12.2012 “On Integrated of Water Resources”¹⁰⁰ – The aim of the law focuses on: (i) environmental protection and improvement of water, surface water, either temporary or permanent, internal sea waters, territorial waters, exclusive economic zones, continental shelf, transboundary waters, groundwater, and their status; (ii) security, protection, development and rational utilization of water resources; (iii) equitable distribution of water resources, by using goals and direction their effective administration; (iv) protection of water resources from pollution, overuse and consumption on actual needs; (v) determination of the institutional framework, at national and local level, for the implementation of a national policy for the administration and management of water resources for the good of the community and social and economic interests of the country.

Law No. 9115, dated 24.07.2003, on “Environmental Treatment of Polluted Water” –a specify legal act that states the need for treatment of polluted water before it is discharged into the sea, preventing in this way pollution of transitional waters. The purpose of the law stated in its first article *“is to protect the environment and human health from the negative impact of polluted waters by setting rules for environmental treatment of such waters and defining binding obligations upon subjects who discharge polluted waters in the environment”*. The law has power on polluted urban waters, polluted industrial waters, according to specific industries; waters resulting from irrigation of the land; and polluted waters of any kind. The law and terminologies used in the law are in line with the legal international documents (different international Conventions) and EU Directives.

Given the provision of the lattes law, there was approved a DCM no.177, date 31.03.2005 “On Permitted norms for liquid discharges and criteria for environmental zoning of rivers or sea waters”, aiming to prevent, decrease and avoid rivers and sea waters pollution caused by hazardous wastes. The DCM defined measurable and controlled discharges coming from the water treatment plant, in line with EU norms, representing a useful contribution to the national legal framework regarding water protection. In this regard, another important element to practical application of this decision was the fact that it defines criteria for environmental zoning of waters (river and sea), dividing them into sensitive and less sensitive waters, followed by special discharging regulations and norms for each case.

Law No. 9103, dated 10.07.2003, on “The Protection of Transboundary Lakes” – this law is specifically focused on water environment and applicable to the following: a) the Albanian part of Shkodra lake; b) the Albanian part of Ohrid lake; c) the Albanian part of Prespa lakes. It aims the environmental protection of transboundary lakes in their natural state, by providing the appropriate conditions (through promoting useful activities in compliance with the requirements of the sustainable development principle) for the development of life and ecosystems in these lakes, and also stopping activities that may threaten them. In addition, unique ecosystems with international values, as the transboundary lakes, had been proclaimed as protected areas by Decision of Council of Ministers.

¹⁰⁰ This law is adopted and fully in line with: Directive 2000/60 / EC of the European Parliament and of the Council of 23 October 2000 "Establishing a legal framework for Community actions in the field of water policy. "CELEX number: 32000L0060, Official Journal of the European Union, Series L, No.327, dated 22.12.2000, p.

D. Institutional Framework

The National Water Secretariat is the main inter-institutional body responsible for drafting policies and plans for integrated water resource management, acting under the law 111/2012. It is chaired by the Prime Minister of Albania and composed of seven main stakeholder ministries. The Technical Secretariat is the executive body of the National Water Secretariat, responsible for implementation of policies and strategies related to water resources as approved by the National Water Secretariat.

The Ministries being responsible for the management of water resources in the respective sectors are: Ministry of Tourism and Environment, Ministry of Agriculture and Rural Development, Ministry of Infrastructure and Energy, Ministry of Health, Ministry of Finance. Being under the authority of these institutions, a number of agencies and institutions, which are using, exploiting and monitoring the various water resources, are operating.

Ministry of Tourism and Environment is the principal responsible institution to draw up and implement policies, strategies, national plans and legislation for the protection of territory, culture heritage and environmental values. Protection from pollution; rational exploitation of water resources; improvement of aquatic environment; protection of lagoons, parks and natural resources.

The Ministry of Transport and Infrastructure, which is the ministry responsible for the development and implementation of strategies and policies for the energy, industry and infrastructure sector. The General Directorate of Water Supply and Sewerage is the only specialized technical institution of the water supply and sewerage sector that has authority to coordinate and monitor the activities of water operators across the whole country. The General Directorate also coordinates the allocation of subsidies and investments through the Ministry of Finance.

The Ministry of Agriculture and Rural Administration and the General Directorate of Water and Soil Administration.

The Water Regulatory Authority, which is an independent regulator reporting, by law, directly to the Parliament of the Republic of Albania. It issues water intake and wastewater licenses to operators, and sets water and sewerage tariffs, prices, and charges for bulk and retail services. The commission is composed of five members who are appointed by the Council of Ministers. The chair is appointed for a mandated five-year term from the establishment of the commission, and the other members are appointed for a four-year term. No member is entitled to serve on the commission for more than two full terms.

Ministry of Finance and Economic Development, Trade, Entrepreneurship is responsible for the overall development strategy of the country's economic development and which is responsible for financing capital investments in the sector.

The Albanian Development Fund is responsible for the allocation of investment funds in rural areas and to not licensed companies.

The Institute of Public Health/Ministry of Health, which is responsible for water quality monitoring (surface water, drinking water, wastewater) and for intervention in case of accidental water pollution.

The National Environmental Agency (NEA) under the supervision of Ministry of Environment, is responsible for monitoring quality and quantity of water resources. Also, it has supervision to the work of relevant institutes on monitoring activities, being the main beneficiary of the data provided by these institutes. Alongside NEA, various institutions are involved in monitoring water resources as follows:

The Institute of Geological Science Energy, Water and Environment (IGSEWE) under the supervision of Polytechnic University of Tirana, conducts the assessment of surface water quality for rivers, lakes, underground and marine water and the monitoring of rainfall, temperature and other hydrometeorological parameters;

The Institute of Public Health (IPH) under the responsibility of Ministry of Health is responsible for monitoring drinking water.

River basin authorities and state institutions

At local level Water Resources Management are organized within six administrative river basins (Drini, Mati, Ishmi–Erzeni, Shkumbini, Semani and Vjosa). Based on this approach the following institutions are the one responsible for implementing issues of water resource management at local level:

- 6 river basin councils (RBCs), headed by prefects of the regions, act as the administrative body; each is responsible for the protection, development, distribution and operation of water resources within its own basin boundaries;
- 6 river basin agencies (RBAs) act as executive and technical bodies of the RBCs under the supervision of the GDWA (General Directorate of Water Administration); they are responsible for on-site inspection of all activities in terms of water resource usage; however, they have little authority to enforce legal and regulatory procedures, resulting in poor coordination of local sectors in water resources management;
- 4 Directorates for Irrigation and Drainage.
- 12 REAs (Regional Environmental Agencies) are responsible for the permitting (permit C category) and monitoring activities behalf of environmental legislation.

General description: As function, all proposals for investment and development which use water, respectively submit technical-legal-economical proposal to RBAs, for preliminary information, further such process is led by respective ministry (field of activity defines under which ministry is permitted such activity), as a final step The National Secretariat for Water based to technical description of proposed activity approves using the water source.

2. The Agriculture sector in Albania

A. Current status

Albania is *predominately a mountain country* with nearly two-thirds of its territory located in hilly mountainous areas. Eight regions with total population of about 1 million people are located entirely or predominantly in the mountain areas.

Albania has about 24.2% of area arable land, 36.2% forests, 2.4% water bodies, 2.85 5 urban areas and 0.15% industrial areas.

The Albanian agricultural sector has been steadily growing. The annual growth rate is about 1.0%, depending mainly on weather conditions. In the last four years, the sector has been growing at a higher rate than the rest of the economy.

Albania has a very high trade deficit in agri-food products. The value of imports was 6.7 times higher than the value of exports in 2014 and is decreased in 2017 3.57. In the period 2005-2017, the agri-food exports have registered a very high growth of 88%, though from a very low base. The

trade deficit in agri-food products increased by 35%, but in the last four years the deficit growth was low.

The competitiveness of the agricultural sector is influenced negatively by the small size of agricultural holdings. There is a positive trend of farm consolidation. Farm size has increased. The segment of commercially oriented, viable farms has been growing. Yet, Albanian farming is predominantly subsistence-oriented and most of the agricultural products are destined for home consumption. There is a lack of traditions and limited willingness for co-operation between farmers. The number of producer groups and co-operatives is small despite efforts to encourage co-operation of farmers in supply and marketing activities.

Agriculture, after the energy sector, is the largest sector using water (mainly surface water).

About 20% of the total precipitation falls in the summer, which makes *irrigation* during summer and drainage and flood protection in winter indispensable.

Existing infrastructure for irrigation, drainage and flood protection is built to enable the irrigation of about 360,000 ha, guaranteeing drainage to 280,000 ha. For irrigation, 560 million m³ of water from 626 irrigation reservoirs and 450 million m³ water from rivers are used, while use of underground waters for irrigation is limited. Farmers have irrigation access to about 200,000 ha and are provided with drainage for area of about 230,000 ha from the surface of potentially drainable 280,000 ha.

B. Policies and Strategies

Rural Development Programme 2014-2020

The Inter-Sectoral Strategy for Agriculture and Rural Development in Albania for the period 2014-2020 (ISARD) provides for interventions in three policy areas:

- Rural development policy;
- National support schemes for farmers, development of rural infrastructure and ensuring equal opportunities;
- Institutional development, implementation and enforcement of EU regulatory requirements.

The rural development policy has four priorities for the period 2014-2020:

1. Enhancing farm viability and competitiveness of agriculture and food-processing, while progressively aligning with Union standards.

This will be achieved by facilitating the restructuring of the agricultural sector, improving land use and strengthening market orientation and participation with a particular focus on:

- Developing the economically viable part of the primary sector and the agro-processing sector through improvements of production facilities and methods, product quality and meeting EU standards;
- Agricultural sectors with potential for developing competitive quality products;
- Optimizing the use of agricultural resources by promoting and enhancing cooperation and associations for the efficient use and management of agricultural land and resources.

2. Restoring, preserving and enhancing ecosystems dependent on agriculture and forestry

The objective is to achieve sustainable management of natural resources and climate action by forest and water resource management, and introduction of agricultural production method protecting the environment and mitigating and adapting to climate change. The intention is to gradually introduce EU policies and approaches for management of natural resources and climate action with a specific focus on sustainable use of land, forest and water resources and waste management in the short term.

3. Balanced territorial development of rural areas promoting social inclusion, poverty reduction and balanced economic development in rural areas.

The objective is to achieve a balanced territorial development of rural areas by fostering diversification of economic activities, job creation and social inclusion, and improving living conditions in rural areas. The focus will be on facilitating diversification of economic activities and creation of jobs and new small businesses, improvement of local services, village renewal, rural infrastructure, and enhancing accessibility to use modern information and communication systems as well as capacity building for development of bottom up approaches and local participation in planning the development at local level by developing Local Action Groups.

4. Transfer of knowledge and innovation in agriculture, forestry and rural areas

The objective is to enhance the abilities of all main actors in rural areas to contribute to the development of a viable agricultural sector and viable rural communities by:

- Fostering innovation and knowledge transfer to the agricultural sector and rural areas by developing advisory services and agricultural technology transfer centres;
- Fostering lifelong learning through vocational training and skills acquisition in rural areas;
- Strengthening the links between agriculture, aquaculture, forestry, research and innovation by fostering cooperation among actors.

C. Legislative Framework

Law on Irrigation and Drainage 1999

Law on Usage and Exploitation of Arable Uncultivated Land 2004

Law on Plant Protection Service 2005

Law on Protection of Arable Land 2004

Law "On Agriculture" Nr. 9817, date 22.10.2007

In Law 9817/2007 "On Agriculture and Rural Development", there are no restrictions or limitations applied to foreign equity ownership. A special fund is granted by the Ministry of Agriculture to the companies that apply to participate in the "Programme for Agriculture and Rural Development". Under the Albanian legislation, foreign individuals or a foreign incorporated company cannot acquire directly the ownership title over the land, unless the investment value is three times the value of the land.

Law on Usage of Chemical Fertilizers 2011

Law on Establishment and Operation of Soil Administration and Protection Structures 2010

Law on aquaculture 2016

Law on Fishing 2012

Law on Hunting 2010, amended in 2013

Law on "Declaring a moratorium on stop hunting in the Republic of Albania" 2016

Law no. 10006, dated 23 October 2008, "On the protection of wild fauna"

Law on Forest and Forest Service

Law on Pastures and Meadows

D. Institutional Framework

The Ministries and Agencies being responsible for the Agriculture sector are the Ministry of Agriculture and Rural Administration and the General Directorate of Water Administration which is responsible for issuing the permits related to water use and public assets (irrigation infrastructure), land use, farming cultivation, livestock farming.

3. *The Energy sector in Albania*

A. Current status

Production of electricity in Albania is based on hydropower production about 98%, so Albania is a country dependent on water availability.

The installed capacity in 2016 is 2011 MW, energy consumption in these year is 7135.91 GWh/year, consumption 7094.06, import 1826.75, export 1868.61 as we can see this is good year according to energy production.

The losses in the energy transmission are about 35-45 %, a high value by all standards.

Major consumer of energy is sector of Transport 40.43% then households 26.06, industry 16.32% and agriculture 8.68%.

As Albania is dependent from water for energy production, the Governmental action is also focused on other renewable energy sectors like wind, solar and biomass to diversify the energy generation and to decrease dependence from energy generated from water sources. For these the government has made the legislation for developing these energy plants. More data about can be founded in National Strategy of Energy 2013-2020.

This strategy predicts a trend of energy generation and consumption which is presented in table below.

Factors	2006	2020	2030	Annual Growth (%)	Total Growth (%)
Primary Energy (Ktoe)	2215	3481	4550	3.0%	105.5%
Final Energy (Ktoe)	1826	3252	4206	3.5%	130.3%

Installed Capacity (MW)	1.492	2915	3484	2.8%	92.3%
Import (Ktoe)	1017	2068	2793	4.3%	174.5%
Emission CO2 (Kt)	3796	6478	8977	3.7%	136.5%

B. Policies and Strategies

National Action Plan for Renewable Energy Resources in Albania 2015-2020

The Action Plan sets out the specific sectoral objectives for increasing the share of renewable energy sources through 2020. It also outlines the planned changes in the legal framework for strengthening the support for renewable energy sources.

The national target is that by 2020 renewable energy will cover 38% of final energy consumption.

For the electricity sector, the Action Plan specifies that to meet the target, 830MW of new renewable energy will need to be installed by 2020.

C. Legislative Framework

Law no. 43/2015, dated 30.04.2015 "On power sector" sets out the main principles for the energy sector development, including RES power plants and the transmission and distribution networks. Law transposes the EU Directive 2009/72 on electricity and repealing the previous law on electricity (Law no. 40/2015, dated 22.05.2003).

This law also includes the requirements and criteria for granting a license to carry out an activity in energy sector. The law also includes a number of specific provisions regulating the construction of a direct line or of a commercial interconnection line.

The Albanian Government and ERE are reviewing bylaws, with the aim of meeting the requirements of the new law on energy sector, including a number of bylaws provided below.

DCM no.1701, dated 12.12.2008 "On approval of the regulation for procedures of granting permits/authorizations for the construction of new power generation plants/facilities not subject to concession" sets out the necessary procedures and documents for application, evaluation and granting of an authorization for building a new power generation capacity that is still not subject to concession.

ERE decision no. 108, dated 9.09.2008 "On approval of the regulation for procedures of licensing and granting, changing and/or revoking a license", as amended. This decision sets out the procedures and requirements for granting a license to carry out any activities in energy sector.

Law no.125/2013, dated 25.04.2013 "On concessions and public-private partnership" establishes the legal framework for all concessions. The purpose of this law is to build a favourable framework to promote and facilitate the implementation of concessionary projects, increase transparency, justice, effectiveness, long-term stability for the development of infrastructure-related projects and public services, including the concessions for construction of hydropower plants.

Law no.111/2012, dated 15.11.2012 "On integrated management of water resources", establishing the legal framework for the use of local water resources, including their use for power generation.

DCM no. 575, dated 10.07.2013 “On approval of evaluation rules and award of concessions/public-private partnership” defines the detailed procedures and requirements for the evaluation and award of an applicable concession for hydropower plants.

DCM no. 416, dated 13.05.2015 “On approval of the general and special conditions, accompanying documents, term of validity, application forms for authorization and permit, procedures for the revision of decision-making process and forms of authorization of permit for the use of water resources”, which defines the specific conditions and procedures for reviewing and decision-making to grant an authorization or permit of use of water resources, including the use of water for construction of hydropower plants.

D. Institutional Framework

Ministry of Infrastructure and Energy (MIE) is fully responsible for the electricity sector. MIE is the responsible institution for the development of energy policies and mid-term and long-term strategies for the energy sector. MIE is also responsible for the assessment and revision of the requirements for the rights to concession for the construction of hydropower plants and for the authorizations of other types of technology for the energy production from renewable resources such as wind, biomass, solar resources etc. The mission of the ministry in energy sector is to promote a solid, sustainable economic development through:

The mission of the ministry in the sector of energy is to promote a rapid and sustainable economic development through:

- Preparation, periodical review and update of the National Strategy on Electrical Power; Promotion of energy efficiency and renewable resources, including small hydropower plants;
- Forecast of the demand for various energy resources;
- Promotion of private local or foreign investments in the sector of energy, building an attractive legal climate for these investments;
- Development of market reforms in the power sector to meet the national objectives for the integration in EU and development of a rational electricity market;
- Formulation of the adequate legal framework;
- Preparation for the privatization of state energy companies.

National Agency of Natural Resources, with the scope of its work focusing on the development and supervision of rational use of natural resources, based on governmental policies and monitoring of the phase after their use in mining, hydrocarbons and energy. National Agency of Natural Resources has a number of responsibilities under the law for RES as the body responsible for RES development.

Energy Regulatory Entity (ERE) is an independent public body responsible for the regulation of activities in the sectors of electricity and natural gas. ERE is the body responsible for issuing licenses to carry out activities of generation, transmission, distribution, supply and trade of electricity. It is responsible for the approval of the grid that provides to all electricity producers a connection and access to transmission and distribution networks. ERE has also the authority to adopt promotional tariffs (feed-in) to all eligible producers of renewable sources, including fees, and standard agreement for the purchase of energy applied to the priority RES producer.

A key responsibility given to ERE is the development and adoption of rules of the electricity market and monitoring of the energy market.

Ministry of Finance and Economic Development, Trade, Entrepreneurship is responsible for the overall development strategy of the country's economic development and which is responsible for financing capital investments in the sector.

National Licensing Centre (NLC) is a public institution established by law and under the subordination of the Ministry of Economic Development, Trade, Entrepreneurship and Tourism. The mission of the National Licensing Centre is to facilitate licensing procedures, authorizations and permits issued by public authorities. NLC is designed to function as a "one-stop centre" (one-stop shop) for all licenses, authorizations and permits issued by public authorities.

National Territory Council (NTC) is the decision-making body responsible for the adoption of national territorial planning instruments under provisions of law. NTC is a collegial body attached to the Council of Ministers. The National Territory Council (NTC) has the following powers:

- decides on the approval, approval with changes, postponement for subsequent review or non-approval of the national territorial planning instruments; [29]
- decides on the approval of the identification of national importance of a territorial planning related issue;
- revises and adopts the compliance of the local instrument with the applicable planning instruments;
- urges the development of national territorial and local plans from the relevant planning authorities and ensures they comply with technical and procedural standards defined by law.
- approves construction projects on main development projects, including the construction of new power plants.

The Baseline Scenario – Montenegro

1. The Water sector in Montenegro

A. Current status

A map of the main rivers in Montenegro shows the transboundary character of the rivers and the country's largest lake. All impacts on water resources (natural, anthropogenic) can affect the downstream users in other countries and may be a cause of potential conflict.



The hydrological observations on the country's major rivers and Lake Skadar indicate a slight negative trend in flow (rivers) and water level (Skadar Lake). At the same time, in the last ten years the country has experienced the maximum recorded water levels and flows in most rivers and the largest lake.

The volume of water abstracted by business entities that manage public water supply and sewage in Montenegro increased by 0.8% from 2011-2014. The 80.6% of water is abstracted from groundwater and spring water, 1.8% is abstracted from surface water, while 17.6% of the total volume of water abstracted is from other water supply systems.

The mean annual flows and water levels trend indicates a noticeable negative trend for the period of available data (about 70 years). The analysis covered the three most important hydrographic objects in Montenegro.

Since the beginning of the 1980s, the total water balance in Montenegro has been decreasing despite the extremely high recorded water levels and flows in the last ten years.

There are two river basins in Montenegro: the Black Sea basin and the Adriatic Sea basin. The Black Sea has a total area of 7,260 km² (or 52.5% of the territory), and the Adriatic Sea has a total area of about 6,560 km² (or 47.5%). The major rivers which flow into the Black Sea Basin are the Lim (the longest river, 220 km long), the Tara (146 km), the Čehotina (125 km) and the Piva (78 km). Rivers that flow into the Adriatic Sea Basin are the Morača (99 km), the Zeta (65 km) and the Bojana (40 km). Important water resources also include natural lakes, the most significant of which are Biogradsko, Plav, Black Lake, Šasko (and Skadar Lake). The largest artificial reservoir is Piva Lake which has a total accumulation capacity of 880x106m³. Other significant accumulations include Slano, Krupac and Vrtac Lakes (225 x 106m³) and Otilovići Lake (18x106m³).

About 95 % of the water courses in Montenegro is formed on its territory and flows to other countries; as such, only a small amount of transit water enters the country.

Montenegro has significant surface and underground water resources, which are of relatively good quality. The richness and quality of water resources are among the most important comparative advantages of the country.

The volume of water abstracted from all sources (surface and ground water) has stabilized at around 110 mil m³ / year; total delivered and water consumption to around 50 mil m³/year. The differences in the two numbers indicates high water losses from the public water supply systems.

The quantity of the drinking water supplied in recent years has stabilized in the range of 33.5 to 35 million m³/y, while the industry is evident in the decline of 3-4.5 million m³/y. Water use for irrigation is approximately 1.7 million m³ /yr which is a large decrease relative to the previous period (6-9 million m³ /yr).

The largest water consumers are industry and the population. Statistical data shows that the volume of water abstracted during the period 2005-2011 to supply the public water system increased from 101.9 million m³ in 2005 to 109.5 million m³ in 2011. Of the total volume of water abstracted in 2011, 49.67 million m³ was delivered to the public water supply system, which is 7.4% less than in 2005 (53.67 million m³). Of the total delivered volume of water in 2011, 35 million m³ or 70.4% was delivered to households, 9.6 million m³ or 19.3% to enterprises and 5.1 million m³ or 10.3% to other users. For the production of energy, there is no data on the amount of water used, except data on produced energy based on water resources. However, this amount is undoubtedly the largest water user. Losses in water delivery to the water supply system increased during the observed period (2005-2011), from 48.19 million m³ in 2005 to 59.77 million m³ in 2011, i.e. the amount lost increased by 24%.

Underground water sources are mainly used for irrigation (96.6% in 2011), while surface sources are used very little (3.4% in 2011).

B. Policies and strategies

Water Management Strategy (2017)

Among others, the Strategy:

- Aims to reduce losses in public water supply systems to less than 30%
- Estimates the technical hydro potential to 4.1-5.0 TWh
- Does not directly address the impacts of climate change on water resources. Future water management documents are expected to study more in detail the effects of climate change on the regime and balance of water resources.

C. Institutional Framework

The Ministry of Agriculture and Rural Development (MARD), is authorized to propose the establishment of water policy and to implement it.

The MARD performs tasks related to development policy in water management, systematic solutions for the provision and use of water, protection of waters from pollution, water and watercourse regulation and protection against harmful effects of waters. In this respect, the MARD is responsible for the harmonization and implementation of the Water Framework Directive 2000/60 / EC, the Environmental Quality Standards Directive 2008/105 / EC, the Groundwater Directive 2006/118 / EC, the Urban Waste Water Directive 91 / 271 / EEC, Nitrate Directive 91/676 / EEC, the 2007/60 / EC Flood Directive, the Bathing Water Directive 2006/7 / EC and the Directive on Technical Specifications for Chemical Analysis and Water Status Monitoring 2009/90 / EC.

The Water Directorate, as a body within the Ministry of Agriculture and Rural Development, from the point of view of water management, is the most important executive body in this field.

The Ministry of Sustainable Development and Tourism (MSDT) through the Directorate for Environment and the Directorate for Utility Services is responsible for reporting on the quality of environmental segments, including water, that is, for utility activities, water supply and urban waste water treatment and treatment (Directive 91/271 / EEC), as well as the Marine Strategy Directive 2008/56 / EC.

The Ministry of Health (MH), through the Institute for Public Health, which performs physical and chemical analyzes of water and microbiological testing of drinking water, is responsible for controlling and monitoring the safety of drinking water (Directive 98/83 / EC).

The Ministry of Economy is responsible for the use of water for hydro-energy purposes.

Other administrative bodies and institutions dealing with certain segments in the field of water management are:

- The Environmental Protection Agency (EPA) is in charge of monitoring the state of the environment and conserving nature, collecting and updating data on the quality of all segments of the environment, including water and reporting to national and European institutions.
- One of the activities of the Institute of Hydrometeorology and Seismology (IHMSS) is monitoring of the quality and quantity of surface and groundwater, the forecast of floods and monitoring of the hydrological situation, by giving warning to the institutions responsible for flood risk management.

2. The Agriculture sector in Montenegro

A. Current status

Of the total surface area of Montenegro, 515,740 ha or 37% is suitable for agriculture, and of that amount only 16% is used for agricultural purposes; this equals 0.83 ha of agricultural land per capita.

Overall, agricultural production recorded variable growth during the period 2007–2011. A greater increase was noticeable in the area of livestock breeding in 2011, while growth in the area of crop production was small, showing some oscillations and a visible trend of a slight decline. Overall, agricultural production in Montenegro declined by 12.7% in 2012 compared to 2011, due to a 13.7% decline in crop production and a 11.4% decline in livestock breeding. The share of crop production represented in the total agricultural production figures in 2012 was 56.6% and the share of livestock breeding was 43.4%.

The farm structure survey in 2016 indicated a significant increase in utilised agricultural area under arable land, vineyards, orchards, meadows and pastures compared to the same areas from 2010.

The most important crops are vegetables and fruits, while the commercial production of farm crops (cereals, maize, sugar beet, oilseed)² is poorly represented. A slight growth in the production of arable crops is noticeable during the period 2007–2011. The main crops are potatoes (with a yield of about 180,126 tonnes (t) in 2011 and 132,674 t in 2012) and vegetable crops (about 142,700 t of yield in 2011 and 133,487 t of yield in 2012). The most commonly grown fruit crops are plums (, apples, pears, peaches and also oranges and tangerines in the south and figs. There are about 495,200 fruit-bearing olive trees.

Livestock breeding is a significant part of the agriculture sector. During the period 2007-2011, a drastic decline in the number of heads was recorded compared to 1999: cattle (51%), poultry (42%), sheep (37%), pigs (7%), and horses (71%). Official statistics, which only started to be

published in 2012, of the goat population indicated a much smaller sector than previously estimated.

71.4% of the agriculture holdings in the country breed livestock and/or poultry. The number of livestock agricultural holdings has reduced by 4.3% since 2010.

B. Policies and Strategies

The Strategy for the Development of Agriculture and Rural Areas by 2015-2020 considers natural conditions and the environment (biodiversity, water, the sea and coastal areas, land and mineral resources).

C. Institutional Framework

The Ministry of Agriculture and Rural Development is responsible for the policies in the country's Agriculture sector.

3. *The Energy sector in Montenegro*

A. Current status

In September 2007, the governments of Montenegro, Croatia and Albania signed *the Declaration for the construction of the Adriatic-Ionian gas pipeline*. Bosnia and Herzegovina is expected to join this project soon. This gas pipeline would be connected to the international gas pipeline network from which all four markets would receive around 5 billion m³ gas.

In late 2013, Montenegro invited international oil and gas companies to bid on licenses to explore its offshore coast. More licensing rounds are foreseen by 2020 for additional exploration blocks.

The first wind farm in Montenegro is in Krnovo, with a capacity of 72MW, while the second wind farm in Mozura, with a capacity of 46MW is under construction.

The most important development project in the transmission system is the construction of an underwater energy cable to export power to Italy, the laying of which was completed in February 2017.

Montenegro's plans for the development of renewable energy include:

- Reconstruction of two existing large hydro power plants (HPPs) by 2020: HPP Perućica: increase of installed power from 307 MW to 372 MW and HPP Piva: increase of installed power from 342 MW to 363 MW
- The construction of two new large hydro power plants (HPPs) is also planned by 2020: Morača HPP - 238 MW and Komarnica HPP - 168 MW
- With regard to small power plants, the construction of 44 HPPs of total installed power of 80.61 MW and planned annual production of 257, 5 GWh has been approved so far.

B. Policies and Strategies

The National Strategy for Climate Change by 2030, adopted in September 2015, defines climate policy, establishes the guidelines and a roadmap towards climate-resilient, low-carbon society. The initial assessment of the policy compatibility and strategies relevant to climate change compatibility with EU requirements in this field indicates that the local strategic and legal framework deal with

climate change issues to some extent. In order to harmonize the national with the EU climate policies and regulations, part of the EU climate legislation has already been transposed into national legislation.

The Energy Development Strategy of Montenegro by 2030 integrates the obligations to implement Directive 2009/28 / EC on the promotion of renewable energy sources. According to the above decision, the national target of using renewable energy by 2020 is 33%.

C. Institutional Framework

The Ministry of Economy is responsible for Montenegro's energy sector, including mining and geological exploration.

The Regulatory Agency for Energy (RAE) is a functionally independent and non-profit organization, which performs public powers according to the law, for the purpose of regulating the energy sector of Montenegro

Elektroprivreda Crne Gore (EPCG AD) currently has the status of a public supplier of electric energy in Montenegro.

The Montenegrin Electricity Transmission System (CGES AD) was separated from EPCG AD in 2009. CGES AD has two licenses: for the operator transmission system and electricity transmission

The Montenegrin electricity market operator (COTEE d.o.o.) started after completion of founding a new company in August 2011, based on the decision of the Government of Montenegro in December 2010, and separated from CGES AD. The COTEE d.o.o. doing business like new legal and energy entity in 100% state ownership assistance. From December 2011, COTEE d.o.o. has a license for an electricity market operator.

ANNEX S: THE BASELINE SCENARIO IN ALBANIA, LEBANON AND MOROCCO

ALBANIA

INTRODUCTION

Albania is a mountainous country endowed with significant water resources. It has historically developed its Hydropower sector which still accounts for essentially all electricity generation in the country. Such a dependency on a single energy source introduces a significant parameter of risk around the security of supply in case of extended periods of drought, especially for a country that is a net importer of electricity. The transmission and distribution infrastructure are of poor quality leading to significant losses.

Around 58% of the population lives in rural areas and agriculture remains an important sector (22% of GDP), but is characterized by low productivity, limited available area, highly fragmented ownership and inadequate infrastructure.

The main inter-institutional body in the country is the National Water Secretariat, responsible for policies and plans around integrated water resources management, which is chaired by the Prime Minister and composed of seven main stakeholder ministries.

A key Nexus-related challenge in the country is the further development of hydropower, which may negatively affect freshwater and coastal ecosystems downstream and possibly Tourism and Fisheries. Further, it should be noted that in 2016 the government imposed a 10-year moratorium on logging in all its forests and banned timber exports. The move followed decades of untrammelled exploitation, mainly driven by people's need for energy, that had significantly reduced the country's forests not only impacting ecosystems but also hastening erosion and affecting the water cycle. Finally, at the institutional level, the potential for enhanced inter-ministerial coordination remains largely untapped.

1.1 THE COASTAL ZONE OF ALBANIA

The Albanian coastline, with a length of 380 km, consists of sandy beaches for 70 % of its total. The coastal zone has a relatively low degree of occupation and coastal structures of human origin appear only close to the main ports of Shengjini, Vlore and Saranda. Coastal wetlands are present along several lagoons which cover a large part of the coastal zone and have an important function for the economy of the country due to fishing, salt extraction and other activities. The evolution of the Albanian coast in recent years has not suffered from the same degree of artificialization that has affected the coastline of many other Mediterranean countries. Tourism, especially in coastal areas, is an important sector in Albania's economy and is growing. In 2016, travel and tourism accounted for 26.0% of the Gross Domestic Product (GDP) and 23.9% of total employment, and these figures are anticipated to rise to 33.0% and 31.0%, respectively, by 2027 (World Travel & Tourism Council, 2017).

Coastal urbanization - The percentage of built-up area in Albania within the first 10 km from the coastline increased from 0.3% in 1975 to 3.7% in 2015 (UN Environment-GRID, 2017). In the first kilometer, this percentage was 0.5% in 1975, while in 2015 it was 5.8%. Although these percentages of the built-up areas in coastal zones are rather low, Albania has increased its land-take between 1975 and 2015 by 956% in the first 10 km, and by 1,164% in the first kilometer. These land-take values are the highest in comparison to those of the rest of Mediterranean countries.

Albania ratified the ICZM Protocol in 2010 which is supported by a specific No. 10234 of 18.02.2010. However, legislation supporting ICZM or the preparation of coastal plans is still a gap. Furthermore, the landward limit of the coastal zone has yet to be defined. Article 84 of the 2012 law "On integrated Water

Resources Management” establishes setback limits along the coast, rivers and water bodies of 100 meters and 200 meters for public use and free from developments as determined by the National Water Council.

The 2014 Law on Territorial Planning and Development and the National Strategy for Development and Integration (NSDI II) contain provisions for institutional coordination at national, regional and local levels. The provisions are in place for the coordinated implementation of ICZM for both terrestrial and marine parts of the coast. However, to date, implementation has been limited to regulatory actions at the local scale. There is currently no National Strategy for ICZM. An ICZM study and plan for the southern coast of Albania was developed in 2005 and is currently under implementation. Integrated Cross-Sectional Plans for the Coast and for the Economic Zone Tirana-Durres were approved in 2016 with the ICZM methodology included. Two lagoon areas (Butrinti and Karavasta) are globally recognized Ramsar Convention wetland sites (Ramsar Sites) and are also designated as national parks. Two additional areas – Lake Shkodra and River Buna and the Prespa lakes – are also designated Ramsar Sites. The total surface area of Ramsar Sites in Albania is 98,181 hectares.

1.2 THE WATER SECTOR IN ALBANIA

A) Current Status

Albania is rich in water resources with a total annual water flow of around 40×10^9 m³/year which exceeds by far its consumption. However, during the dry season water shortage and conflicts among users may occur in some locations. More than one-third of total supply originates from outside the country. The hydrographic basin of Albania covers 43,305 km², of which 28,748 km² lie within its boundaries.

The main rivers in Albania flowing into the Mediterranean are:

- The Drin river, whose catchment area extends across Albania, Kosovo, Greece, Montenegro and the FYROM, with an average discharge of 352 m³/s;
- The Vjosë river, originating in Greece, with an average discharge of 204 m³/s;
- The Mat river with an average discharge of 103 m³/s;
- The Devoll river with an average discharge of 49.5 m³/s; and
- The Shkumbin river.

Albanian coastal aquifers are relatively small (less than 300 km²) and are characterized by Quaternary alluvial deposits (porous) and carbonate deposits (karstic). The largest aquifers are located in the deltas of the Buna/Bojana (Albania/Montenegro), Mati, Erzeni and Vjosa Rivers. The aquifers present in the Dukati and Pavlla river deltas are of a limited extent, but their thickness is considerable (the Dukati aquifer’s mean thickness is between 40 m and 150 m). Albanian coastal aquifers are of utmost importance as they represent the only source of domestic water supplies in several urban settlements.



Figure 1 Main coastal aquifers in Albania (UN Environment/MAP and UNESCO-IHP, 2015)

The Buna/Bojana delta forms an extensive transboundary deltaic area of major ecological importance. The delta is among the most important natural or semi-natural wetlands in the Eastern Mediterranean and is characterized by rich and diverse natural habitats featuring a variety of flora and fauna; a natural landscape of great value; and a unique cultural identity depicted in the landscape, historic monuments and societal practices.

With the rapid and uncontrolled economic development over the last two decades, the quality of water resources has significantly deteriorated. The extraction of river gravel and the construction of hydropower plants have exerted great pressures on waters and riverbeds. Untreated municipal and industrial wastewater discharges are the main pollution related pressures, together with diffuse sources leading to nitrates and phosphates pollution (due to excessive application of mineral fertilizers and animal manures, especially in highly erosion-prone soils).

There are three functioning municipal wastewater treatment plants in the cities of Kavaja, Pogradec (in the shores of Lake Orhid) and at the Rinas Airport. Municipal wastewater treatment plants have been completed in the coastal cities of Vlora, Durrës, Lezha, Saranda as well as the inland city of Korca.

Large quantities of solid or liquid waste from industries, and above all mining sites and large metallurgy plants, have been dumped on riverbanks or directly into rivers in the past decades. These plants are a legacy from the former central planning economic system, and several have ceased their operation or have been rehabilitated. Nevertheless, a number of them continue to constitute immense pollution hazards.

A comprehensive database of information on nitrogen levels and pesticides in lakes and groundwater is not yet available. National legislation and action plans for legislative approximation to the Water Framework Directive and the Nitrates and Urban Waste Water Directives have been adopted (see also below).

B) Policies and Strategies

The *National Strategy for Integrated Management of Water Resources 2017 – 2027* is the framework document of water management for the development of plans and other strategic documents in the field of territorial planning, environmental protection, biological diversity and landscaping, agriculture, forestry, fishing, transport, tourism, public health and other documents relevant.

The *National Sectorial Program of Water 2014-2020* aims to ensure the coordination of the financing planning process in the Albanian water sector (central government, development partners, local government units).

Investment needs are identified, oriented towards achieving the objectives for the next thirteen years. Clear assignment of responsibilities at the vertical and horizontal, and monitoring of this program, would guarantee its successful implementation. The Program includes both mid-term and long-term goals, aligning with:

- The National Strategy for Development and Integration for 2020;
- The third cycle preparation of basin management planning in accordance with the Water Framework Directive for 2027; and
- UN Sustainable Development Goals - 2030 Agenda.

C) Legislative Framework

Albania's 1996 Law on Water Resources (No. 8093) (Water Law) was the first attempt to introduce a sound and sustainable water management system according to EU principles and directives, by regulating conservation, development and utilization of water reserves; their protection from pollution, and establishment of a distinct system of permits, authorizations and concessions for different kinds of water use. The 1999 Law on Irrigation and Drainage (No. 8518) established the structure for Water User Associations (WUAs), which are private groups that manage water irrigation infrastructure at and below the secondary canal level. Federations of WUAs manage the primary canal networks. The government maintains ownership of the infrastructure.

The Law on Organization and Functioning of Local Government (No. 8652) (2000) transferred responsibility of water supply and management of water utilities to local government (communes and municipalities).

The 2008 Law on the Regulatory Framework in the Sector of Water Supply and Waste Water Administration (No. 9915) and 2009 Ministerial Order No. 66 provide authority for the establishment of an inter-ministerial working group for the evaluation of projects and issues related to drinking water supply and sewage sector in Albania. The working group is led by the Minister of Public Works.

Law 111/2012, date 15.12.2012 "On Integrated of Water Resources" is the main law applicable to water resources management, covering administration; management, conservation and use of freshwater resources; water rights; waterworks; water supply. It is in line with EU's WFD. The aim of the law focuses on: (i) environmental protection and improvement of water, surface water, either temporary or permanent, internal sea waters, territorial waters, exclusive economic zones, continental shelf, transboundary waters, groundwater, and their status; (ii) security, protection, development and rational utilization of water resources; (iii) equitable distribution of water resources, by using goals and direction their effective administration; (iv) protection of water resources from pollution, overuse and consumption on actual needs; (v) determination of the institutional framework, at national and local level, for the implementation of a national policy for the administration and management of water resources for the good of the community and social and economic interests of the country.

Law No. 9115, dated 24.07.2003, on “Environmental Treatment of Polluted Water” –a specific legal act that states the need for treatment of polluted water before it is discharged into the sea, preventing in this way pollution of transitional waters. The purpose of the law stated in its first article “is to protect the environment and human health from the negative impact of polluted waters by setting rules for environmental treatment of such waters and defining binding obligations upon subjects who discharge polluted waters in the environment”. The law has power on polluted urban waters, polluted industrial waters, according to specific industries; waters resulting from irrigation of the land; and polluted waters of any kind. The law and terminologies used in the law are in line with the legal international documents (different international Conventions) and EU Directives.

Law No. 9103, dated 10.07.2003, on “The Protection of Transboundary Lakes” – this law is specifically focused on water environment and applicable to the following: a) the Albanian part of Shkodra lake; b) the Albanian part of Ohrid lake; c) the Albanian part of Prespa lakes. It aims the environmental protection of transboundary lakes in their natural state, by providing the appropriate conditions (through promoting useful activities in compliance with the requirements of the sustainable development principle) for the development of life and ecosystems in these lakes, and also stopping activities that may threaten them. In addition, unique ecosystems with international values, as the transboundary lakes, had been proclaimed as protected areas by Decision of Council of Ministers.

D) Institutional Framework

Ministries and Institutions with water related responsibilities

The National Water Secretariat is the main inter-institutional body responsible for drafting policies and plans for integrated water resource management, acting under the law 111/2012. It is chaired by the Prime Minister of Albania and composed of seven main stakeholder ministries. The Technical Secretariat is the executive body of the National Water Secretariat, responsible for implementation of policies and strategies related to water resources as approved by the National Water Secretariat.

The Ministries being responsible for the management of water resources in the respective sectors are: Ministry of Tourism and Environment, Ministry of Agriculture and Rural Development, Ministry of Infrastructure and Energy, Ministry of Health, Ministry of Finance. Being under the authority of these institutions, a number of agencies and institutions, which are using, exploiting and monitoring the various water resources, are operating:

- Ministry of Tourism and Environment is the principal responsible institution to draw up and implement policies, strategies, national plans and legislation for the protection of territory, culture heritage and environmental values; protection from pollution; rational exploitation of water resources; improvement of aquatic environment; protection of lagoons, parks and natural resources.
- The Ministry of Transport and Infrastructure, is the ministry responsible for the development and implementation of strategies and policies for the energy, industry and infrastructure sector. The General Directorate of Water Supply and Sewerage is the only specialized technical institution of the water supply and sewerage sector that has authority to coordinate and monitor the activities of water operators across the whole country. The General Directorate also coordinates the allocation of subsidies and investments through the Ministry of Finance.
- The Ministry of Agriculture and Rural Administration and its General Directorate of Water and Soil Administration, has water management related competences over for irrigation.
- The Water Regulatory Authority, is an independent regulator reporting, by law, directly to the Parliament of the Republic of Albania. It issues water intake and wastewater licenses to operators, and sets water and sewerage tariffs, prices, and charges for bulk and retail services. The commission is

composed of five members who are appointed by the Council of Ministers. The chair is appointed for a mandated five-year term from the establishment of the commission, and the other members are appointed for a four-year term. No member is entitled to serve on the commission for more than two full terms.

- The Ministry of Finance and Economic Development, Trade, Entrepreneurship is responsible for the overall development strategy of the country's economic development and which is responsible for financing capital investments in the sector.
- The Albanian Development Fund is responsible for the allocation of investment funds in rural areas and to not licensed companies.
- The Institute of Public Health/Ministry of Health, which is responsible for water quality monitoring (surface water, drinking water, wastewater) and for intervention in case of accidental water pollution.

The National Environmental Agency (NEA) under the supervision of Ministry of Environment, is responsible for monitoring quality and quantity of water resources. Also, it supervises the work of relevant institutes on monitoring activities, being the main beneficiary of the data provided by these institutes. Alongside NEA, various institutions are involved in monitoring water resources as follows:

- The Institute of Geological Science Energy, Water and Environment (IGSEWE) under the supervision of Polytechnic University of Tirana, conducts the assessment of surface water quality for rivers, lakes, underground and marine water and the monitoring of rainfall, temperature and other hydrometeorological parameters;
- The Institute of Public Health (IPH) under the Ministry of Health is responsible for monitoring drinking water.

River basin authorities and other state institutions

At local level Water Resources Management is organized within six administrative river basins (Drini, Mati, Ishmi–Erzeni, Shkumbini, Semani and Vjosa); the following institutions are responsible for managing water resources at local level:

- Six (6) river basin councils (RBCs), headed by prefects of the regions, act as administrative bodies; each is responsible for the protection, development, distribution and operation of water resources within its own basin boundaries;
- Six (6) river basin agencies (RBAs) act as executive and technical bodies of the RBCs under the supervision of the GDWA (General Directorate of Water Administration); they are responsible for on-site inspection of all activities in terms of water resource usage; however, they have little authority to enforce legal and regulatory procedures, resulting in poor coordination of local sectors in water resources management;
- Four (4) Directories for Irrigation and Drainage.
- Twelve (12) REAs (Regional Environmental Agencies) are responsible for the permitting (permit C category) and monitoring activities behalf of environmental legislation.

1.3 THE AGRICULTURE SECTOR IN ALBANIA

A) Current Status

Albania is predominately a mountain country with nearly two-thirds of its territory located in hilly mountainous areas. Eight regions with total population of about 1 million people are located entirely or predominantly in the mountain areas. Albania has about 24.2% of area arable land, 36.2% forests, 2.4% water bodies, 2.85 5 urban areas and 0.15% industrial areas. The Albanian agricultural sector has been

steadily growing. The annual growth rate is about 1.0%, depending mainly on weather conditions. In the last four years, the sector has been growing at a higher rate than the rest of the economy. Albania has a very high trade deficit in agri-food products. The value of imports was 6.7 times higher than the value of exports in 2014 and decreased in 2017 to become 3.57. In the period 2005-2017, the agri-food exports have registered a very high growth of 88%, though from a very low base. The trade deficit in agri-food products increased by 35%, but in the last four years the deficit growth was low. The competitiveness of the agricultural sector is influenced negatively by the small size of agricultural holdings. Albanian farming is predominantly subsistence-oriented and most of the agricultural products are destined for home consumption. The number of producer groups and co-operatives is small despite efforts to encourage co-operation of farmers in supply and marketing activities.

Agriculture, after the energy sector, is the largest sector using water (mainly surface water); it is the larger sector in terms of consumptive use of water. Existing infrastructure for irrigation, drainage and flood protection is built to enable the irrigation of about 360,000 ha, guaranteeing drainage to 280,000 ha. For irrigation, 560 million m³ of water from 626 irrigation reservoirs and 450 million m³ water from rivers are used, while use of underground waters for irrigation is limited. Farmers have irrigation access to about 200,000 ha and are provided with drainage for area of about 230,000 ha from the surface of potentially drainable 280,000 ha.

B) Policies and Strategies

Rural Development Programme 2014-2020

The Inter-Sectoral Strategy for Agriculture and Rural Development in Albania for the period 2014-2020 (ISARD) provides for interventions in three policy areas:

- Rural development policy;
- National support schemes for farmers, development of rural infrastructure and ensuring equal opportunities; and
- Institutional development, implementation and enforcement of EU regulatory requirements.

The rural development policy has four priorities for the period 2014-2020:

1. Enhancing farm viability and competitiveness of agriculture and food-processing, while progressively aligning with EU standards. This will be achieved by facilitating the restructuring of the agricultural sector, improving land use and strengthening market orientation and participation.
2. Restoring, preserving and enhancing ecosystems dependent on agriculture and forestry. The objective is to achieve sustainable management of natural resources and climate action by forest and water resource management, and introduction of agricultural production methods protecting the environment and mitigating and adapting to climate change.
3. Balanced territorial development of rural areas promoting social inclusion, poverty reduction and balanced economic development in rural areas. The objective is to achieve a balanced territorial development of rural areas by fostering diversification of economic activities, job creation and social inclusion, and improving living conditions in rural areas. The focus will be on facilitating diversification of economic activities and creation of jobs and new small businesses, improvement of local services, village renewal, rural infrastructure, and enhancing accessibility to use modern information and communication systems as well as capacity building for development of bottom up approaches.
4. Transfer of knowledge and innovation in agriculture, forestry and rural areas. The objective is to enhance the abilities of all main actors in rural areas to contribute to the development of a viable agricultural sector and viable rural communities by fostering innovation, knowledge transfer and

lifelong learning, and by strengthening the links between agriculture, aquaculture, forestry, research and innovation by fostering cooperation among actors.

C) Legislative Framework

- Law on Irrigation and Drainage, 1999
- Law on Usage and Exploitation of Arable Uncultivated Land, 2004
- Law on Plant Protection Service, 2005
- Law on Protection of Arable Land, 2004
- Law on Agriculture Nr. 9817, 2007
- Law on Agriculture and Rural Development, 2007
- Law on Usage of Chemical Fertilizers, 2011
- Law on Establishment and Operation of Soil Administration and Protection Structures, 2010
- Law on aquaculture, 2016
- Law on Fishing, 2012
- Law on Hunting 2010, amended in 2013
- Law on Declaring a moratorium on hunting in the Republic of Albania, 2016
- Law on the Protection of wild fauna, 2008
- Law on Forest and Forest Service
- Law on Pastures and Meadows

D) Institutional Framework

The Ministries and Agencies being responsible for the Agriculture sector are the Ministry of Agriculture and Rural Administration and the General Directorate of Water Administration which is responsible for issuing the permits related to water use and public assets (irrigation infrastructure), land use, farming cultivation, livestock farming.

1.4 THE ENERGY SECTOR IN ALBANIA

A) Current Status

Hydropower accounts for essentially all electricity generation in Albania. The country's transmission and distribution systems are characterized by very high loss rates of even up to 40%.

In overall energy demand, Transport is the major consumer with a share of 40.4%, households with 26.1%, industry with 16.3% and agriculture with 8.7%. The National Energy Strategy 2013-2020 includes predictions up to 2030 as in the Table 1 below.

Table 1 Albania energy balance and predictions

	2006	2020	2030	Annual Growth (%)	Total Growth (%)
Primary Energy (Ktoe)	2215	3481	4550	3.0%	105.5%
Final Energy (Ktoe)	1826	3252	4206	3.5%	130.3%
Installed Capacity (MW)	1492	2915	3484	2.8%	92.3%
Import (Ktoe)	1017	2068	2793	4.3%	174.5%

CO2 (Kt)	Emissions	3796	6478	8977	3.7%	136.5%
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B) Policies and Strategies

The *National Action Plan for Renewable Energy Resources in Albania 2015-2020*, sets out the specific sectoral objectives for increasing the share of renewable energy sources through 2020. It also outlines the planned changes in the legal framework for strengthening the support for renewable energy sources.

The national target is that by 2020 renewable energy will cover 38% of final energy consumption.

For the electricity sector, the Action Plan specifies that to meet the target, 830MW of new renewable energy will need to be installed by 2020.

C) Legislative Framework

Law no. 43/2015, dated 30.04.2015 “On the Power sector” sets out the main principles for the energy sector development, including RES power plants and the transmission and distribution networks. The law transposes the EU Directive 2009/72 on electricity and repealing the previous law on electricity (Law no. 40/2015, dated 22.05.2003).

This law also includes the requirements and criteria for granting a license to carry out an activity in energy sector. The law also includes a number of specific provisions regulating the construction of a direct line or of a commercial interconnection line.

Law no.125/2013, dated 25.04.2013 “On concessions and public-private partnership” establishes the legal framework for all concessions. The purpose of this law is to build a favorable framework to promote and facilitate the implementation of concessionary projects, increase transparency, justice, effectiveness, long-term stability for the development of infrastructure-related projects and public services, including the concessions for construction of hydropower plants.

Law no.111/2012, dated 15.11.2012 “On integrated management of water resources”, establishes the legal framework for the use of local water resources, including their use for power generation.

D) Institutional Framework

The Ministry of Infrastructure and Energy (MIE) is the responsible institution for the development of policies and mid-term and long-term strategies for the energy sector. MIE is also responsible for the assessment and revision of the requirements for the rights to concession for the construction of hydropower plants and for the authorizations of other types of technology for the energy production from renewable resources.

The National Agency of Natural Resources, focuses on the development and supervision of rational use of natural resources, based on governmental policies and monitoring of the phase after their use in mining, hydrocarbons and energy. The Agency Natural Resources has a number of responsibilities under the law for RES as the body responsible for RES development. The Energy Regulatory Entity (ERE) is an independent public body responsible for the regulation of activities in the sectors of electricity and natural gas. ERE is the body responsible for issuing licenses to carry out activities of generation, transmission, distribution, supply and trade of electricity. ERE has also the authority to adopt promotional tariffs (feed-in) to all eligible producers of renewable sources, including fees, and standard agreement for the purchase of energy applied to the priority RES producer. A key responsibility given to ERE is the development, adoption and monitoring of the rules related to the electricity market and the energy market.

The Ministry of Finance and Economic Development, Trade, Entrepreneurship is responsible for the overall development strategy for the country and for the capital investments in the sector.

The National Licensing Centre (NLC) is subordinate to the Ministry of Economic Development, Trade and Entrepreneurship. The mission of the National Licensing Centre is to facilitate licensing procedures, authorizations and permits issued by public authorities. NLC is designed to function as a "one-stop centre".

The National Territory Council (NTC) is the decision-making body responsible for the adoption of national territorial planning instruments. NTC is a collegial body attached to the Council of Ministers.

LEBANON

INTRODUCTION

Lebanon is a small and densely populated country which in recent years hosts a very large (compared to the native population) number of refugees fleeing the conflict in neighboring Syria. This development puts significant additional strain to the country's existing stressors regarding the availability of and access to key resources, such as food and energy.

Among the Mediterranean countries of Middle East and North Africa, Lebanon has the 2nd lowest self-sufficiency ratio (41% in 2013) in terms of value of agricultural production and trade, after Palestine. Additionally, undernourishment in 2014-2016 compared to 2003-2005, increased from 3.2% to 5.4% of the population; while this indicator was decreasing in the Region's non-conflict countries.

Lebanon has no fossil fuel reserves and has to rely on imports to meet essentially all its energy needs. The country is facing a chronic shortage in electricity production with consumers in many regions having to bear with frequent power cuts, and poor quality of grid infrastructure. Essentially all electricity in Lebanon is produced in power plants burning imported and expensive oil.

In terms of institutional coordination, Lebanon has a Climate Change Coordinating Committee, led by the Ministry of Environment, while a national committee coordinated and convened by the Council of Ministers is responsible for sustainable development.

2.1 THE COASTAL ZONE OF LEBANON

Lebanon has about 220 km of coastline, which is largely made up of sedimentary rocks, loose sands or gravel. In terms of marine biodiversity, the Lebanese coast is characterized by the presence of organogenic platforms consisting of vermetid terraces, considered as natural monuments in the Mediterranean.

The percentage of built-up area in Lebanon within the first 10 km from the coastline increased from 9.9% in 1975 to 21.6% in 2015 (UN Environment-GRID, 2017). In the first kilometer, this percentage was 24.2% in 1975, while in 2015 it was 46.1%. For both years, these represent the highest percentages of the built-up coastal zone in comparison to the rest of Mediterranean countries. Lebanon has increased its initial land-take between 1975 and 2015 by 118% in the first 10 km and by 90% in the first kilometer.

Lebanon ratified the ICZM Protocol in 2017, and the draft law for its implementation is currently under consideration for approval by the Council of Ministers. According to the draft law, construction is forbidden within a 200-meter zone from the highest sea level in winter. The National Physical Master Plan of the Lebanese Territory 2005 on Coastal Zone Assets and the urban planning laws are in place to limit linear urban expansion and protect open areas. Master plans are in place for some coastal areas.

A national committee coordinated and convened by the Council of Ministers is responsible for sustainable development. In addition, there is a Climate Change Coordinating Committee, led by the Ministry of Environment with focal points in the line ministries, government agencies, private sector and academic institutions. The coordination and the supervision of the management of the coastal area were attributed to the National Council of Environment in 2002. Individual ministries retain their specific mandates for the regulatory control of relevant activities on the coast. Lebanon's National Marine Science Center has been monitoring the marine and coastal environment for thirty years through a network of about thirty stations along the Lebanese coast measuring physical, chemical and bacteriological parameters.

The most significant wetland in Lebanon is located in Ammiq, just north of the Qaroun Lake, and covers up to 250 hectares during the wet season. It supports a dynamic ecosystem and lies on one of the most important bird migration routes in the world. Other wetlands include the Yammounh Lake in north Bekaa (most of which was drained) and Hima Kfar Zabad in West Bekaa.

2.2 THE WATER SECTOR IN LEBANON

A) Current Status

The net available surface water is estimated at about 2,700 Mm³ per year (estimates from the 1960s and 1970s). Most of the surface water used to secure supply comes from captured spring sources. Their total yearly yield exceeds 1,200 million m³ (but less than 200 million m³ during the summer period). The total annual exploited volume is 637 million m³. Lebanon also has a number of freshwater marine springs.

Lebanon has 16 perennial rivers and 23 seasonal rivers, with a total annual river flow of about 3,900 Mm³, of which an estimated 700 Mm³ flow into neighboring countries. The main rivers flowing into the Mediterranean are (from north to south): the Kebir river (forming the northern border between Lebanon and Syria), the Al-Jawz River, the Abraham river, the Awali river and the Litani river.

Together, high coastal population density (greater than 1,500 inhabitants per km²) and a heavy reliance on groundwater exert significant pressures on coastal aquifers. Seawater intrusion is the most common quality problem in coastal aquifers resulting from over-exploitation of groundwater. Agriculture is the main pressure driver for several risks associated with coastal aquifers, including salinization, nitrification and yield reduction. Industrial activities have also introduced heavy metals, organic compounds and hydrocarbons into some aquifers.

Pressures

Based on existing studies/reports, the country is witnessing signs of decreasing precipitation and increasing drought and desertification as a consequence of climate change, including a less extended snow coverage and a shorter average time the dense snow remains before melting. Rivers, springs and groundwater are adversely impacted by raw sewage and other wastes, both domestic and industrial, being discharged without any regulation or control and posing a direct health hazard. While all the water resources are being impacted by bacteriological contamination, in the agricultural areas the runoff and infiltration of residues from fertilizers and pesticides is exposing them to further environmental degradation. Furthermore, runoff from urban areas may contain heavy metals and hydrocarbons. Some studies have assessed the water quality in particular rivers, such as the Zahrani River, the Kabir River and the Upper Litani River Basin.

According to 2004 statistics, only 52 percent of buildings were connected to sewage networks and therefore at least 48 percent relied on septic tanks most of which are permeable or are deliberately drained to prevent overflow. The accumulation of pollutants during low flow periods directly also impacts the avifauna and mammals that inhabit the few existing wetlands. During the zero-rainfall period (April-

September), seasonal water courses dry up or are reduced to a trickle, which increases pollutant concentration and threaten aquatic ecosystems. The discharge of these pollutants into the sea threatens the survival of sea grasses, birds, and marine life such as turtles, fish and mammals.

Coastal waters receive 162 Mm³/year of untreated sewage (equivalent to 276,000 m³/day) from at least 53 major sewage outfalls spread along the coast. Additional pollution into coastal waters stems from coastline thermal power plants (Beddawi, Zouk, Jieh and Zahrani) and the overwhelming presence of heavy industries along the coast.

Rivers streams are among the sites protected by decisions from the relevant authorities. Permitting standards might be given for the construction and operation of facilities within a 500-meter protection radius (buffer zone). Other conservation legislation derives from international conventions including the 1971 Ramsar Convention.



Figure 2 Main Coastal Aquifers in Lebanon (UN Environment/MAP and UNESCO-IHP, 2015)

Water infrastructure

Water supply network coverage varies among Water Establishments and is overall higher than 75%. However, around 50 percent of the transmission and distribution pipelines require special attention given their age and the limited maintenance and surveillance. Intermittent water supply has economic repercussions on households. There are two dams, the Qaroun dam on the Litani River, and Chabrouh dam with respective static storage capacity of 220 Mm³ and 8 Mm³. Presently, only 30 Mm³ is being utilized from the Qaroun Dam for water supply and irrigation and the rest is used to generate electricity.

Trends

Although the assessment of future water needs varies according to different sources, there is a general agreement on the fact that Lebanon will face a water deficit situation in the near future. Based on estimations made during the preparation of the National Water Sector Strategy (2010), the deficit would reach 610 Mm³ in 2035. These estimations were made before the onset of the conflict in Syria, resulting in an important influx of refugees (1.4 million officially registered) in Lebanon associated with a rapid

rise in demand and additional pressure on the resources.

At present, renewable water resources per capita are slightly below the scarcity threshold, with expected decrease in the coming years. Groundwater aquifers are over-exploited, while surface water storage infrastructure is limited so far to the two dams of Qaraoun and Chabrouh (mentioned above). The other five dams are currently being built while a project is being carried out to transfer water from the Awali River to the Greater Beirut Area.

Hot spots

Based on the above it becomes clear that rivers and streams are overall hotspots for pollution that eventually reaches the coast and sea, although information on the extent of such pollution is sparsely available. A MEhSIP report relevant to Lebanon has highlighted major pollution hotspots in the following areas: Greater Beirut Area, Jounieh, Saida-Ghazieh, Sour, Tripoli and Batroun-Selaata.

B) Policies and Strategies

The General Direction of Hydraulic and Electrical Resources, Ministry of Energy and Water (MEW) has established a *10-year plan (2000-2010)* with the objective of ensuring the necessary volume of water to satisfy the needs of the population in all uses. This plan does not deal explicitly with groundwater resources or coastal aquifers. However, it recognizes the need for a global approach, including elements of an Integrated Water Resources Management Plan (IWRM).

A *National Water Sector Strategy (NWSS)* was developed by the MEW in 2010, that presents projections of how planned resource augmentation and other projects will meet future estimated demand and includes an Investment Plan (2010-2015) defining the distribution of capital investment. The Strategy describes: Institutional and Organizational Initiatives; Financial and Commercial Initiatives to improve the financial performance of the sector; Legal and Regulatory Initiatives; Environmental Concerns, such as the protection of water resources and recharge zones, flood mitigation.

A full *National IWRM and Water Efficiency Plan* was also launched with the support of GWP-Med/MED EUWI in 2011 by focusing on setting-up and making operational a decision support system (DSS) at the River Basin scale that is now available at the Centre d'Information et de Formation aux Métiers de l'Eau (CIFME). The DSS-model was implemented at six major river basins (three coastal and three inland basins): Orontes, El-Kebir, Upper Litani Basin, Abou Ali, El Jaouz and Hasbani basins. Currently MEW, under the lead of the Directorate General of Hydraulic and Electric Resources that is responsible for such issues and for the CIFME, is planning to extend and update the DSS system, that will also assist on-going efforts to develop a National Information System. In addition, the IMF approach was already applied to a practical example in the country (the Awali River Basin and Coastal Area) carried out in collaboration with the Ministry of Environment and MEW.

Priority needs

It is of high priority to collect reliable data about water resources so as to assist with the appropriate management and decision-making processes.

Coordination among the relevant institutions needs to be enhanced as well as the information of and consultation with the public about selected policies and management options.

C) Legislative Framework

The Law No. 241 (29/5/2000) reorganized the existing 22 water boards into four Regional Water Authorities: North Lebanon for the Governorate of North Lebanon, Beirut and Mount Lebanon for the Governorates of Beirut and Mount Lebanon, South Lebanon for the Governorates of South Lebanon and Nabatiyeh, and Bekaa for the Governorate of Bekaa. Working under the auspices of the Ministry of Energy and Water (MEW), the four authorities are in charge of managing irrigation water, drinking water and wastewater. Their responsibilities extend to water policy planning at national level, measurement of water flows in rivers and measurement of groundwater recharge, construction of water storage capacities (dams, reservoirs and earth ponds), monitoring the quality of drinking water and treated wastewater, water pricing, and water legislation. They are also responsible for studying, rehabilitating, implementing and managing water projects in the country (adduction and distribution network).

The Law No. 221/2000 empowers the regional water authorities to set and collect water tariffs for domestic and agricultural use.

D) Institutional Framework

The Ministry of Energy and Water is responsible for the water sector under Law 221 dated 26 May 2000 that describes its responsibilities, such as those relevant to surface and groundwater, e.g. the monitor, control and measurement of water resources, including their quality, determine their use and distribution, implement artificial recharge of groundwater when required and regulate the volumes of groundwater extracted, protect water resources from pollution and waste, license wells and all water extraction from rivers and public water resources according to applicable laws and regulations. The four water establishments (Beirut and Mount Lebanon, North Lebanon, Bekaa and South Lebanon) created through the same law and its amendments are in charge for the water services (supply and distribution, quality check of the water they supply, treatment of sewage and irrigation). The Litani River Authority has the responsibility of managing the Litani River Basin and planning/operating all potable, irrigation and hydro-electrical schemes associated with it and also of measuring all surface flows throughout the country. The Ministry of Environment is responsible for controlling pollution and regulating all activities that impact the environment, including water resources. The ministry has set standards for treated wastewater discharged into sewers and surface waters (Decision 8/1 dated 30/1/2001). At the river level, the ministry has designated eight rivers (Ibrahim, Jaouz, Damour, Kalb, Beirut, Awali, Arka and Assi) as natural sites and under its protection, and it has prepared environmental conditions for construction permits located within river banks (MOE Decision 90/1 dated 17/10/2000). The Ministry of Public Health monitors drinking water to ensure compliance with local and international standards. The Ministry of Agriculture studies irrigation projects and provides technical supervision during implementation. This ministry also regulates also the distribution of irrigation water and ways to use it and monitors the implementation of these regulations.

Coordination among Ministries is carried out ad hoc but the provisions of the Water Code that is pending approval by the Parliament foresees a National Water Council that would enhance and make official such coordination.

2.3 THE AGRICULTURE SECTOR IN LEBANON

A) Current Status

Agriculture consumes 64% of available water supplies. Increased water needs result in additional pressure on irrigated agriculture, leading to an increase in the number of lands abandoned due to lack of water or to decline in investment opportunities and agricultural profits for smallholders. The Lebanese agricultural production is mainly characterized by its high production cost and limited competitiveness due to the openness to international markets and to the signed trade agreements. Nevertheless, Lebanon's

geographical location, its diversified climate and its production are a strong asset if only it can seize available opportunities, make rational use of its natural resources, especially water, overcome the obstacles limiting its competitiveness, and preserve the environment. The main agricultural areas and their key products could be summarized as follows:

- Coastal strip: citrus, banana, horticulture and greenhouse production.
- Akkar plain with upper Mount Lebanon: cereals, potatoes, grapes and vegetables.
- Bekaa valley: potatoes, grains, fruits and vegetables.
- Mountainous region: orchards and vegetables.
- Western slope of Anti-Lebanon range: grapes, olives and cherries.
- Southern hills: olives, tobacco, almonds and grains.

Existing irrigation schemes suffer from poorly maintained distribution canals and ditches, leading to high water losses and low irrigation efficiencies (not exceeding 40 percent). Improving water efficiency (water metering, removing illegal connections, introducing on-farm practices for the efficient use of irrigation water, etc.) is important. In this respect, the establishment of water users' associations (WUAs) is important since they create an essential link between the water-providing institutions and the farmers.

In public irrigation schemes where water is delivered by gravity, water is charged at a flat rate per cropped area. In the irrigation schemes of the Litani, where water is delivered by means of pressurized pipes, volumetric metering is provided. This is the case of the Saida-Jezeen irrigation scheme and in some parts of the South Bekaa Irrigation Scheme. It is recognized generally that 60% to 70% of available water in Lebanon is consumed by irrigation. Data related such as irrigated area, cropping patterns, cropping calendars, intake volume and so on, are very limited. The Cultivated Area is estimated to 261,000 ha while the net irrigated area is 104,010 ha. The irrigated area equipped with surface irrigation, sprinkler irrigation and micro irrigation is 66,130 ha, 29,040 ha and 8,840 ha, respectively.

B) Policies and Strategies

General Development Strategies involving agriculture sector and land management:

The National Physical Master Plan of the Lebanese Territory (SDATL) is developed by the Council for Development and Reconstruction in 2005. SDATL aims mainly to reinforce:

- the unity of the country;
- equitable development of regions;
- optimal and sustainable use of natural resources;
- decrease of public debts and expenses; and
- improvement of productivity and economic growth.

Strategies related to irrigation:

The National Water Sector Strategy 2010–2020 (see also under Water Sector) includes the following agriculture/irrigation strategic objectives:

- Improve the management of the irrigation sector.
- Provide adequate quantities and quality of irrigation water and incentivize modern, water-saving irrigation techniques.
- Irrigation consumption is to be reduced, by improving irrigation efficiency of existing and planned irrigation schemes, as well as optimizing on-farm irrigation techniques.

- Uses government plans for the development of the irrigation sector and achieve an integrated and sustainable rural development.
- Irrigated areas are to be increased in line with government policies. From the current 90,000 ha of irrigated lands, targets of reaching 120,000 ha by 2020 and 150,000 ha by 2035.
- Adoption of high efficiency on-farm irrigation techniques, e.g., drip irrigation, sprinkler irrigation, overhead irrigation where applicable.
- Coordination with Ministry of Agriculture for the adoption towards lower consumption crops.
- Public outreach, awareness and farmer education programs.
- Farm audits and optimization according to local conditions.

Strategies related to agriculture and agricultural trade:

The Ministry of Agriculture Strategy 2015–2019 was formulated by the Ministry of Agriculture in 2014. The strategy identifies the main orientations, achievable objectives, expected results and activities.

C) Legislative framework

Legislative framework related to irrigation:

- See Law No. 241 under Water Sector.

Legislative framework related to land management:

- Law 444/2002 is the overarching instrument for environmental protection and sustainable management and use of natural resources in Lebanon. It sets the legal framework needed to protect the national environment against all forms of degradation and pollution, and the promotion of sustainable use of natural resources.

Legislative framework related to aquaculture:

- The Law 2775 - “Monitoring of Coastal Fishing” of 1929 is main law on fisheries. The Decision 20/1-2009 provides to “Define Marine Fishing Gear”.

Gaps in the Current Legal/Regulatory Setup:

- Agriculture and water related legal frameworks are weak or ambiguous. There is a need to develop legal requirements to support strategic priorities in the agriculture and water sectors. There is a need to modernize irrigation laws, thus abolishing the Ottoman law of 1913 in a view to facilitate and organize the use of irrigation water, mainly through the creation of Water Users Associations (WUAs).

D) Institutional framework

Responsible institutions related to irrigation:

The Ministry of Energy and Water - General Directorate of Hydraulic and Electric Resources has the responsibility to:

- Monitor the use of and assess the needs for water resources in all sectors and areas.
- Monitor the quality of surface and groundwater.
- Design, study, and implement major water infrastructure projects.
- Conduct artificial recharge of groundwater reservoirs where necessary and to monitor the quantities extracted from them.

The Council for Development and Reconstruction, established through Decree No. 5 on 31 January 1977, is engaged in all phases of project implementation from planning, feasibility analysis, detailed design, bidding, expropriation, execution, and operation and maintenance of most public facilities on the behalf of the Government of Lebanon or other Lebanese public establishments.

Responsible institutions related to agriculture:

- The Ministry of Agriculture (MOA) is responsible for the formulation of agricultural policy. At present, MOA is not directly involved in irrigation in terms of water resources development and extension services to farmers.
- The Lebanese Agriculture Research Institute (LARI) that is subordinate to the Ministry of Agriculture, is the governmental organization that conducts applied and basic scientific research for the development and advancement of the agricultural sector in Lebanon. In addition, the Institute keeps close ties with farmers and tries to develop research activities aiming at solving their problems.
- The Lebanese National Observatory for Agricultural Development (LNOAD) is hosted by the Ministry of Agriculture. The aim of the Observatory is to develop synergies for private and professional initiatives. LNOAD is involved in capacity strengthening for policy formulation, implementation and mentoring in support of agricultural development.
- The Green Project is a public administration with special administrative and financial powers subject to the custody of the Minister of Agriculture. Established in 1963 by Decree No. 13335 of July 10, 1963, has as one of its main objectives the reclamation of agricultural land, the completion of complementary work and the construction of agricultural roads and ponds.

Responsible institutions related to agricultural trade:

- The Investment Development Authority of Lebanon (IDAL) is the national investment promotion agency that was established in 1994 with the aim of attracting, facilitating and retaining investments in the country. In addition to its role as investment promotion agency, IDAL is entrusted with the active promotion and marketing of Lebanese exports including agricultural and agro-industrial products.

Responsible institutions related to aquaculture:

- The Directorate of Rural Development and Natural Resources of the Ministry of Agriculture is responsible for aquaculture development and for issuing fishing licenses. The Service of Forests and Natural Resources is part of this directorate and controls the Fisheries and Wildlife Department (DFW).

2.4 THE ENERGY SECTOR IN LEBANON

A) Current Status

Energy production

Lebanon has no fossil fuel reserves and has to rely on imports to meet its energy needs. Data suggests there are oil and gas reserves in Lebanon's waters, but no exploratory drilling has taken place to estimate their size. In early 2018 the Lebanese government signed with French, Italian and Russian companies its first offshore oil and gas exploration and production agreements for two blocks.

Energy consumption

The total consumption in 2015 in Lebanon was 4.77 mtoe. Oil products had a share of 64.5% and

electricity 29.3%.

Focus on the electricity sector. Lebanon is experiencing a chronic electricity crisis with consumers in many regions having to bear with frequent power cuts and often relying on domestic generators to compensate for them. The recent influx of refugees from Syria has exacerbated this crisis. As a temporary measure, two power ships have been leased and are anchored at a specially constructed dock off the coast of Beirut, to supply up to 370MW to the country's grid.

Electricity generation in Lebanon has been steadily increasing in recent years, reaching 17.9 TWh in 2015, up from around 10TWh in 2000. Essentially all electrical energy is produced by oil (97.4% in 2015), with the rest coming from hydro plants. Lebanon imports small amounts of electricity from neighboring countries, to the tune of 0.14TWh in 2015. Oil-fired power plants in Lebanon have a total installed capacity of 2.8 GW, and most are located on its coast. The country also has a few hydro plants with total installed capacity of 253MW. The two largest ones are located on the Awali river, while two smaller ones are located on the Litani and Bared rivers. Lebanon has not developed yet any renewable energy projects. During the 2009 UNFCCC Conference in Copenhagen, the Lebanese government pledged to develop renewable energy in the country aiming to produce 12% of its electricity and heating needs by renewables by 2020. The "National Renewable Energy Action Plan 2016-2020" (NREAP) released by the Ministry of Energy and Water in 2016 presents individual targets for the different renewable technologies needed to reach the 12% target: 2.1% for wind energy, 4.2% for solar (including solar heating), 3.2% for hydro and 2.50% for biomass. The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Lebanon from 1971-2015:

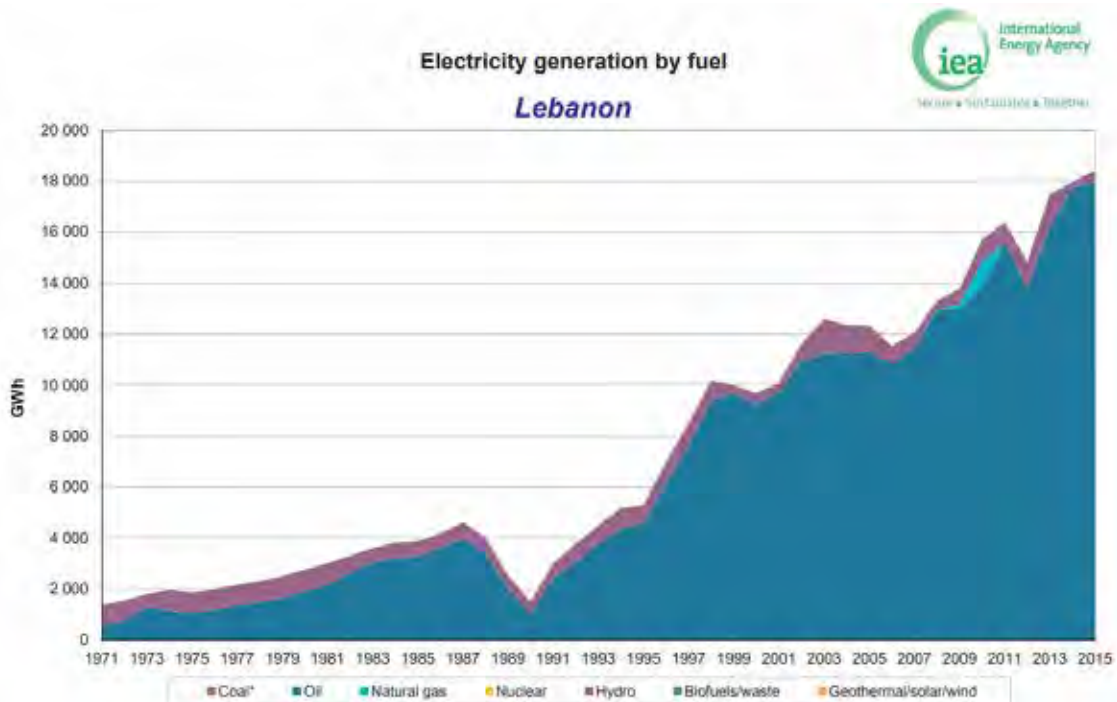


Figure 3 Evolution of electricity generation by fuel in Lebanon from 1971-2015 (Source: IEA)

The share of renewable energy in total final energy consumption is 3.6%, having dropped from 5.2% in 2010. The energy intensity of the Lebanese economy is worsening: 4.2 MJ/USD in 2015, up from 3.8 MJ/USD in 2010.

B) Policies and Strategies

The *Policy Paper for the Electricity Sector (2010)*, initiated by the Ministry of Energy and Water, comprised a comprehensive plan for the development and opening of the Lebanese electricity sector. It also included specific provisions to address renewable energy and energy efficiency. However, its provisions have not been fully implemented and the state-controlled utility mostly retains its monopolistic structure.

The *Second National Energy Efficiency Action Plan (NEEAP) 2016-2020* follows the first one developed in 2011 for the period 2011-2015. It was developed by the Lebanese Centre for Energy Conservation (LCEC) with the support and comments of many stakeholders and according to the format used by the EU. The Plan establishes the national baseline to be used as a reference against which savings are to be measured and presents the 2020 targets, lists the optimal measures required to reach these targets and establishes minimum energy performance standards. It focuses on primary energy savings in the electricity sector as well as on end-use measures in the buildings, industry, SMEs, agriculture, transport and public services sectors, with individual targets for 2020. The NREAP, also developed by LCEC, quantifies the individual targets for the different renewable energy technologies that are needed in order to reach the 2020 target of 12% share of renewables in total electricity and heating consumption which was first set in 2009. To that end and for each technology, it assesses the source potential as well as its financial and physical opportunities. The document also proposes a roadmap for a legal framework appropriate to meet the targets, together with support policies and financial schemes (including net metering, feed-in tariffs, capital subsidy or rebate). In September 2015 and ahead of the COP21 in Paris, Lebanon submitted to the UNFCCC its Intended Nationally Determined Contribution (INDC) where it outlines the national circumstances and the planned policies and measures in the fields of climate mitigation and adaptation. The document specifies energy-related targets for 2030, including 15% share of renewable energy in the country's power and heat demand, which can conditionally be upgraded to 20% share upon the provision of additional international support.

C) Legislative Framework

Law 462 on the Organization of the Electricity Sector (2002) The law aims to unbundle Lebanon's vertically integrated power sector, to create an independent regulatory authority for the sector (National Regulator for the Electricity Sector Organization - NRESO, affiliated to the MOEW) and to promote competition and private sector engagement. Some of the Law's provisions have not yet been implemented (mainly for political reasons) and the NRESO has not been established yet. The Lebanese Parliament has therefore enacted several laws granting the Council of Ministers the authority to issue licenses and permits for a specific period until the establishment of the NRESO. A draft law currently at the discussions phase, is expected to provide for several amendments to Law 462.

D) Institutional Framework

The Ministry of Energy and Water (MOEW) is responsible for planning and setting the general directions and policies for the country's energy sector, pending ratification from the Council of Ministers. It also proposes rules for the organization and the services of all segments of the electricity sector (generation, transmission, distribution and supply), proposes draft laws and decrees, and cares for the rights and interests of the consumers.

The Ministry of Environment (MOE) is responsible for Lebanon's climate change policies according to Law 690/2005. A Climate Change Coordination Unit (CCCU) has been established in the Ministry, composed of representatives of 40 different ministries, government agencies, academic institutions, NGOs and the private sector.

Electricité Du Liban (EDL), founded in 1964, is a state-owned but autonomous institution supervised by the Ministry of Energy and Water, and is essentially the sole producer and supplier of electricity in the country.

The National Energy Efficiency and Renewable Energy Action (NEEERA) is a national financing mechanism initiated in 2010 by the Central Bank of Lebanon (Banque du Liban-BDL) dedicated to support the financing of new and existing environmental projects, focusing on energy efficiency, renewable energy and green buildings. NEEERA allows private sector entities, including individuals and SMEs, to apply for subsidized loans. The green loans are offered at an interest rate of 0.6% for period up to 14 years and are provided through all the Lebanese commercial banks directly to the end user. In addition to the loans, NEEERA also includes a grant scheme based on an agreement signed between the BDL and the European Union.

MOROCCO

INTRODUCTION

Morocco has taken steps to modernize its agriculture sector, focusing on high-value products and increasing productivity. It has the highest self-sufficiency ratio in terms of value of agricultural production and trade among the Mediterranean countries of the MENA Region. In the water and agriculture sectors, of key concern is the over-abstraction of groundwater which leads to its growing salinization, locally exacerbated by seawater intrusion. Levels of wastewater treatment remain low, but the sector provides a significant growth opportunity for reuse of treated wastewater. Morocco also plans to significantly increase its desalination capacity aiming to reach 500 million m³ per year by 2030. Both these non-conventional water resources are typical examples of Nexus interlinkages and where a respective approach could yield additional overall efficiencies and benefits. Morocco has essentially no fossil fuel reserves and has to rely on imports to meet its energy needs, importing crude oil and oil products as well as coal and natural gas for electricity generation. It has recently embarked on arguably the most ambitious plan for the development of renewable energy in the Region aiming to reduce both its emissions and its import dependency.

There is significant experience of inter-institutional coordination in the country. The High Council for Water and Climate (CSEC) brings together the various stakeholders in the water sector and is responsible for formulating the orientations of the country's water and climate change policies. The Inter-ministerial Water Commission (CIE) is an administrative commission composed of representatives of all the ministerial departments concerned with water issues, aiming to ensure and monitor the implementation of CSEC recommendations.

3.1 THE COASTAL ZONE OF MOROCCO

Morocco's Mediterranean coast is approximately 512 km in length and is subject to the influence of Atlantic waters. It is characterized by an often-uneven relief with cliffs valleys, bays and beaches. The eastern part of the Mediterranean coast of Morocco is flatter and is characterized by the presence of a large coastal lagoon (Nador Lagoon) and the mouth of a major watercourse (La Moulya). Anthropogenic pressure on the Mediterranean coast of Morocco is concentrated in three major urban agglomerations (Tangiers, Tétouan and Nador), two major industrial centers (Tangiers and Nador), and three important ports (Tangier, Al Hoceima and Nador). In addition, the area is subject to the impact of heavy shipping traffic crossing the Strait of Gibraltar. Morocco's coastal zone attracts both domestic and international tourism with hotel units, second homes, and marinas (Saïdia, Marina Smir and Kabila) benefiting from the natural attractiveness of the area. Fishing in the northern zone of Morocco is essentially coastal and artisanal. Marine biodiversity is supported by habitats provided by several natural areas on the Mediterranean coast of Morocco including:

Mouth of Moulouya, Nador Lagoon, Cape Three Forks, Cirque of Jebha, Coast of Rhomara, Koudiat Taifour, Smir Lagoon and Jebel Moussa. The percentage of built-up areas in Morocco within the first 10 km from the coastline increased from 0.8% in 1975 to 2.8% in 2015 (UN Environment-GRID, 2017). In the first kilometer, this percentage was 3.2 % in 1975, while in 2015 it was 8.5%. Morocco has increased its initial land-take between 1975 and 2015 by 234% in the first 10 km, and by 170% in the first kilometer.

Morocco ratified the ICZM Protocol in 2012. The comprehensive Littoral Law adopted in 2015 establishes the framework for the integrated management of the coast. The Law requires the development of a National Coastal Plan and Regional Schemes for the coast, taking into account the limit of the non-buildable area and the areas in which certain types of activities are prohibited or subject to certain restrictions. Although the Littoral Law has been adopted, it has not been fully implemented. In addition, the geographical extent of the coast in Morocco has not been defined according to the Article III of the ICZM Protocol. The Littoral Law defines a “non-constructible zone” of 100 meters from the coast within which development is prohibited, except for necessary constructions or installations. This non-constructible zone may be extended for reasons of habitat protection or coastal erosion. Non-marine transportation infrastructure must be located at least 2,000 meters from the shoreline.

Currently, the Moroccan coastline is governed by multiple, fragmented texts, often outdated and applied in an uncoordinated manner by many institutions, including sectoral ministries and departments. The Ministry of the Environment leads on ICZM and is implementing the ICZM approach through actions and projects with partners at local, national, regional and international levels.

Management of the coast is still heavily influenced by sectoral administrative boundaries. However, the Littoral Law is promoting a more integrated approach going forward. The Law requires that the National Coastal Plan (PNL) and the Regional Schemes be submitted to a "National Commission for Integrated Coastal Management", composed of relevant administrations, councils of the regions, public institutions, research institutes, concerned organizations and professional bodies, as well as representatives of associations active in the field of coastal protection.

3.2 THE WATER SECTOR IN MOROCCO

A) Current Status

The total surface water availability in Morocco is estimated at 18 billion m³ per year of which nearly 8 billion are used. In an average year, surface water supplies amount to a few million cubic meters for the poorest basins: Saharan Basin (25 Mm³), Souss Massa (625 Mm³), Ziz, Guir, Rhéris and Maïder (625 Mm³), and in billions of cubic meters for the most favored basins: Loukkos, Tangérois, Mediterranean Coast (3600 Mm³) and Sebou (5600 Mm³).

The main river in Morocco flowing into the Mediterranean is the Moulouya river.

Moroccan Mediterranean coastal aquifers are relatively small (less than 300 km²). They are important for the local rural economy and constitute a source of water mainly for agriculture, but also for local domestic water supply and industrial use. The Bou Areg aquifer is connected with the regionally important Nador coastal wetland and related ecosystems.



Figure 4 Main Coastal Aquifers in Morocco (UN Environment/MAP AND UNESCO-IHP, 2015)

Pressures

A coastal population density that is already high (more than 500 inhabitants/km²) and growing is driving coastal aquifer degradation. Other pressures on water resources include the lack of wastewater treatment plants, unregulated water use for irrigation, and the use of fertilizers. Growing salinization of groundwater – often beyond the limits for irrigation - is generalized and mostly linked to excessive extractions and continuing use for irrigation, interactions with saline surface waters (Bou Areg), and locally to seawater intrusion (Nador). Nutrient enrichment of surface water and groundwater is common in both agricultural and urban areas. The siltation of dams is an important constraint to the mobilization of surface water that results in the loss of nearly 75 Mm³ / year. The total loss by siltation is currently estimated at around 1740 Mm³. This capacity would be of the order of 3 billion m³ in 2030, almost equivalent to the total capacity of scheduled dams. Climate projections established by the National Meteorology Directorate (MND), show an increase in temperatures of + 2 ° C to + 5 ° C depending on the region and a decrease in precipitation of -5 to -50% by the end of the century. Water inflows have already decreased by 20% on average since 1950, rainfall intensity and variability are increasing, generating floods and droughts. The 2008-2011 period witnessed a significant increase in the number of floods. Conversely, several drought sequences have affected some areas or all of Morocco in recent decades (State of the Environment of Morocco, 2015). Moreover, eutrophication related to the amounts of fertilizer or organic matter carried by water and sediments, sometimes makes the waters unsafe or involves an additional cost in terms of the treatments needed to make them potable. This is a direct consequence of the releases of organic and mineral from agglomerations urban areas, industrial infrastructures or farms.

Water infrastructure

There are 139 dams in Morocco with a total storage capacity estimated at 17.6 billion cubic meters. 12 dams are currently under construction to mobilize additional surface water, for a total of about 600 million cubic meters per year (the total capacity of these dams is approx. 3.04 billion cubic meters). In addition, the construction of 38 large dams is planned with a total capacity of about 4.3 billion m³, that will allow to

mobilize an additional volume of nearly 1 billion cubic meters per year by 2030. The access to drinking water in urban areas is 100%, while the access in rural areas has reached in 2016 a rate of 94.5%, varying among provinces from almost 63% to 100%. Concerning sanitation, in urban areas the connection rate to the wastewater network is estimated at 74% and the level of wastewater treatment around 38% in 2014. In rural areas the connection rate to the wastewater network does not exceed 10% and the wastewater treatment rate does not exceed 3%. 50 wastewater treatment plants are underway to serve 52 cities and towns for a population of around 3 million inhabitants.

Trends

The average water availability per inhabitant has fallen to less than 700 m³ / person / year, which is close to the threshold of 500 m³ / person / year commonly accepted as a scarcity threshold. This availability would fall below 500 m³ / person / year as early as 2025: this is the so-called "absolute shortage" threshold. In 2020, 35% of the Moroccan population will be below this threshold of "absolute shortage". To cope with the increased demand new dams and hill lakes are being built, as mentioned above, while the national water strategy estimates the volume of water that can be mobilized in 2030 from unconventional water resources to nearly one billion cubic meters. This includes the reuse of wastewater, the artificial recharge of groundwater and the production of freshwater by desalination of seawater or of brackish water.

Hot spots

The Sebou basin (which concentrates organic pollution rejected by sweets and oil mills and chromium from tanneries), the Loukkos basin, and Oum Er Rbia and Sous basins (where effluents rich of heavy metals from tanneries are discharged) are the most affected by pollution.

B) Policies and Strategies

Overarching cross-sectoral strategies on Sustainable development

The *National Charter for the Environment and Sustainable Development (2010)* is the first environmental charter of its kind in the Arab and Muslim world. The Charter forms the framework for future national environmental laws and policies aiming to ensure that all projects will adhere to environmentally-friendly specifications. It was developed through a unique nationwide, public consultative process.

The *National Strategy of Sustainable Development 2030 (2016)* following the earlier one with a horizon to 2020, is a transversal policy document framing the actions required to achieve the transition to a low-carbon economy. It is structured around the following seven issues, each accompanied by separate strategic axes:

1. Consolidating the governance of sustainable development
2. Successful transitioning to a green economy
3. Improving the management and enhancement of natural resources and strengthening the conservation of biodiversity
4. Accelerating the implementation of the national policy to fight against climate change
5. Providing special vigilance to sensitive territories
6. Promoting human development and reducing social and territorial inequalities
7. Promoting a culture of sustainable development

The *National Water Plan (PNE)* is a planning instrument that sets the basic guidelines for water policy and constitutes the reference framework, consolidating the IWRM approach. The *Integrated Master Plan for Water Resources Management (PDAIRE)* is a planning instrument that sets the basic guidelines for an integrated management of water resources for each basin or set of water basins considering the strategic

orientations and prescriptions of the PNE. It is established by the Basin Organization, in coordination with other administrations for a period of at least 30 years. It may be revised every 10 years, except in exceptional circumstances requiring a change in its content before this period. Local Water Management Plans (PLGE) can be established by the Basin Organizations to specify the measures to be taken to implement the PDAIRE requirements at the local level. The PLGE must define specific objectives and indicators for monitoring the achievement of these objectives.

C) Legislative Framework

A new Water Law (No. 36-15) was adopted in 2016 and introduced reforms aimed primarily at consolidating decentralized, integrated, and participatory management and planning of water resources (basin-wide management, the "polluter-pays" principle and the "taker-payer" principle). It stressed in particular on the:

- Creation of councils at the level of the hydraulic basins;
- Establishment of a legal framework for seawater desalination;
- Obligation for managers of hydraulic structures to maintain a minimum ecological flow;
- Obligation to provide urban agglomerations with sewage schemes that take account of rainwater and the requirements for the possible use of wastewater;
- Establishment of rules for the establishment of participatory management contracts, the rights and obligations of the administrations, public institutions and users; and
- Establishment of a comprehensive legal framework for flood prevention and protection.

A draft law has also been prepared to increase the safety of the dams and of the dykes and facilities attached to them. To this end, it proposes a reform of the legal regime governing the establishment and exploitation of these works.

D) Institutional Framework

Inter-ministerial coordination

The High Council for Water and Climate (CSEC) brings together the various stakeholders in the water sector, namely decision-makers, elected officials and users and public and private actors and has the fundamental mission of formulating the general orientations of the water and climate change policies. The Interministerial Commission on Water (CIE), created in 2001, examines and implements the necessary provisions to ensure coherent and concerted development of the water sector, to ensure and monitor the implementation of CSEC recommendations. It is made up of representatives of all the ministerial departments concerned with water issues. Water management is the responsibility of the Ministère Délégué Chargé de l'Eau (MDCE) that is in charge for the assessment and monitoring of water resources and their qualities; the development and monitoring of the implementation of the National Water Plan; the construction, maintenance and rehabilitation of hydraulic structures for mobilizing water resources; the construction of flood protection works; the development of legal and regulatory texts related to water resources management. In the Ministry of Agriculture and Marine Fisheries, the Department in charge of Agriculture is responsible for rationalizing the use of water resources in irrigation. The Ministry of Interior controls local public water and sanitation resources. The Ministry of Health contributes to the global definition of priority objectives on programmes concerned with drinking water supply and sanitation. The National Agency for Drinking Water ensures domestic water supply, controls of water pollution for domestic use and, in some cases, sanitation. Nine regional agencies across Morocco are concerned with agricultural development, entitled to authorize water abstraction (but not drilling a well) for irrigation, and to control law enforcement. Coordination is established by the Interministerial Water Commission (CIE),

an administrative commission which reports to the Head of Government and is composed of representatives of ministries with responsibilities for water. The “Office National de l’Électricité et de l’Eau potable” (ONEE), was born from the merger in 2012 of the Office National de l’Eau Potable (ONEP) and the Office National de l’Électricité (ONE). It is the pillar of the energy strategy and the main actor in the drinking water and sanitation sector in Morocco.

In the water and sanitation sector, ONEE is in charge of planning the supply of drinking water; programming investments in drinking water and in sanitation; managing on behalf of the municipalities drinking water distribution and sanitation services; controlling the quality of produced and distributed water; assisting in the elaboration of legislative and regulatory texts and technical studies.

3.3 THE AGRICULTURE SECTOR IN MOROCCO

A) Current Status

Situated at the mouth of the Mediterranean Sea, the country can be divided into three physiographic regions:

- The coastline with plains (800 km) (they are narrow along the Mediterranean and wide along the Atlantic) which are well-watered and fertile, supporting cultivation of citrus fruits, vegetables and grain crops.
- The Atlas and Rif mountain ranges which are covered with a barren steppe situated in the east of the country.
- The southern coast stretches to the edge of the Western Sahara where water gradually peters out in the endless sand and stony wastes of the desert, and life is only possible within the sanctuary of the oases.

The potential of irrigable land is 1,664,000 ha. The post-independence agricultural policy has directed the bulk of public budgets for large-scale hydropower over the long term. As a result of this effort, the irrigated sector, grew from 90,000 hectares in 1961 to 218,000 hectares in 1966 and 1,458,000 hectares in 2011, of which 1,016,730 ha were developed by the public authorities and 441,430 ha by the private sector.

B) Policies and Strategies

In April 2008, the Ministry of Agriculture, Rural Development and Maritime Fishing launched the *Green Morocco Plan* (Plan Maroc Vert [PMV]) setting out the agriculture development strategy through 2020. It has two pillars:

- The accelerated development of modern and competitive agriculture, vital for the national economy, through the realization of thousands of new projects, with a focus on high-value agriculture.
- Support to small-holder agriculture through the implementation or professionalization of 545 projects of small farms in difficult rural areas, thereby promoting greater productivity, greater recovery of production and sustainability of farm income. This second pillar also seeks the conversion of cereal crops to higher-value alternatives and as well as value-added processing.

C) Legislative Framework

See Water Law under Water Sector.

D) Institutional Framework

The Ministry of Agriculture and Fisheries' Department of Agriculture is responsible for developing and implementing the Government policy concerning Agriculture and Rural Development. It is in charge to ensure the Secretariat of the Permanent Interdepartmental Commission of the Rural Spaces and Mountain Areas Development.

The General Council for Agricultural Development was created in 1993 (Decree No. 2-93-24 of 13 May 1993) as part of the reorganization of the Ministry of Agriculture. Organically attached to the Minister and detached from day-to-day management and direct administration.

The Regional Offices of Agricultural Development (ORMVA) were created in 1966 and are responsible for planning and agricultural development of irrigation schemes of large hydro. Their three fundamental missions: planning, agricultural development and water service.

The Provincial Directorates of Agriculture (DPA) are responsible for the realization and monitoring of small and medium hydraulic schemes outside ORMVA action areas, on the basis of centralized planning at the level of the Administration. rural engineering. They intervene in the management of irrigation networks only to ensure heavy maintenance work.

The Agency for Agricultural Development of Morocco (ADA) is a national public entity based in Morocco, which provides action plans and value-added solutions to address agricultural needs at the local and national levels. Its mandate, under the national green plan in place since 2008, is to contribute to social and economic development through more resilient and productive agriculture. ADA has developed a comprehensive portfolio of climate change related projects and programmes worth approximately US\$ 33 million, which have been financed by bilateral and multilateral organizations.

The National Office for Food Safety (ONSSA) is located within the Ministry of Agriculture, Fisheries, Rural Development, Water, and Forests, is the competent authority in charge of implementing regulations and agreements related to biotechnology.

The National Agronomic Research Institute (INRA) leads the work in agricultural biotechnology research and development as a means for addressing the country's food security challenges. Its work is focused on finding solutions for Morocco's major crops, including cereals, forage, date palm, citrus, and olives.

3.4 THE ENERGY SECTOR IN MOROCCO

A) Current status

Energy production

Morocco has essentially no fossil fuel reserves and has to rely on imports to meet its energy needs, importing crude oil and oil products as well as coal and natural gas for electricity generation.

Energy consumption

Primary energy consumption in Morocco has been increasing by 3.1% on average in the period 2006-2016 reaching 19.6 mtoe in 2016. In terms of total final consumption, in 2015 oil had a share of 73.3%, electricity 17.3% and biomass 9%.

Focus on the electricity sector

Electricity generation in Morocco has been increasing with an annual growth rate of 4.2% in 2006-2016. Morocco has the most diversified energy mix in the region regarding its fuel for electricity generation. In 2015 54.8% of its electrical energy was produced by coal, 18.5% by natural gas, 7.3% by hydro plants and 12.2% from other renewables, mainly wind (8.1%). The Moroccan electricity system is part of the Maghreb regional interconnection, together with Algeria and Tunisia. Since the late 1990s Morocco is also interconnected to Spain (the only country in North Africa currently directly interconnected with the European system) making the region's system synchronized with the pan-European high-voltage

transmission network. Morocco imports a significant part of its electricity needs, predominantly from Spain. In 2015 imports amounted to 5.14 TWh out of total consumption of 36.19 TWh.

Coal-fired power plants in Morocco have a total installed capacity of 2.9GW, with additional 2.7 GW expected to come online by 2021. The two largest coal plants are located on the Atlantic coast (near Casablanca and El Jadida), with a third one is near Oujda, close to the north-east borders with Algeria. Natural gas power plants have a total installed capacity of 2.6 GW. Two are located near Casablanca, two near Tangiers and hybrid gas-solar plant is near Oujda. Morocco has many hydro plants with a total installed capacity of 1.8 GW. The largest one (465MW) is a pumped-storage plant in Afourer on the El Abid river. The Al Wahda plant (240 MW) is located on the Ouergha river and the Allal al Fassi (240 MW) is on the Sebou river. Morocco was the first country in the region to embark on an ambitious programme for renewable energy. In 2016 it had wind parks with a total capacity of 1 GW as well as 180 MW of solar. The Ouarzazate Solar Power Station, currently under construction, when completed will have a capacity of 580 MW. Since 2015, Morocco has a target of meeting 52% of its electricity needs by renewable energy by 2030, a target which entails the addition of 4.6 GW of solar, 4.2 GW of wind and 1.3 GW of hydro power.

The below chart by the International Energy Agency illustrates the evolution of electricity generation by fuel in Morocco from 1971-2015:

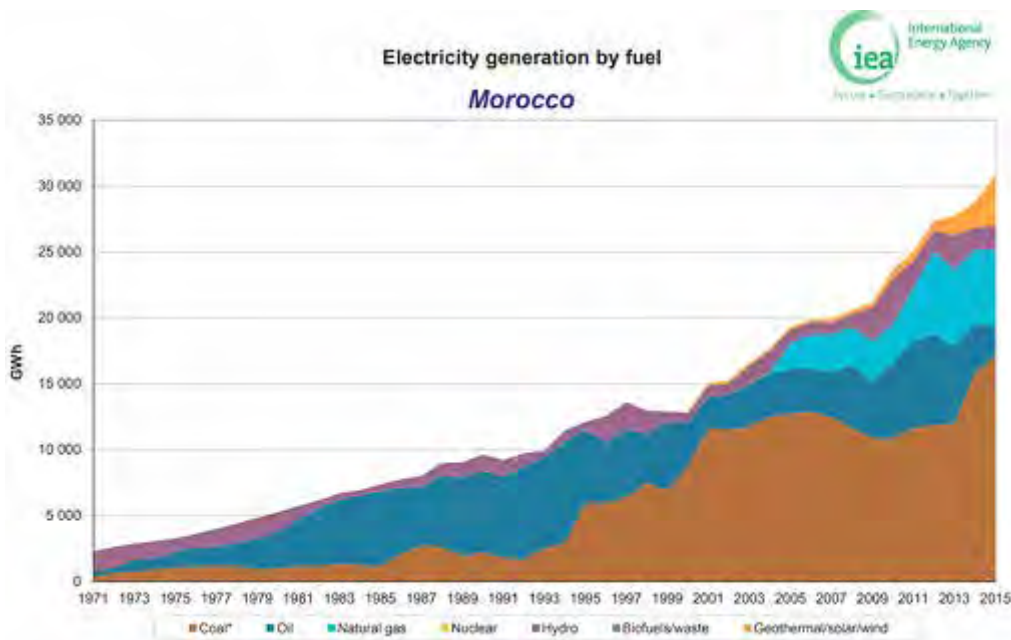


Figure 5 Evolution of electricity generation by fuel in Morocco 1971-2015 (Source: IEA)

The share of renewable energy in total final energy consumption has been reduced from 14.4% in 2010 to 11.3% in 2015. The energy intensity of the Moroccan economy is quite good at least relative to other countries in the Region, with 3.2 MJ/USD in 2015, improved from 3.4 MJ/USD in 2010.

B) Policies and Strategies

The Nationally Determined Contribution (NDC) to the Paris Agreement is Morocco's first NDC, submitted to the UNFCCC on 19 September 2016. It is an update of its Intended NDC that had been submitted in 2015 in view of the COP 21 in Paris. The NDC includes a commitment to reduce GHG emissions by 42%

below business as-usual (BAU) levels by 2030, conditional on international support. Its unconditional target is 17% below BAU levels by 2030.

These targets rely in large part on the transformation of the country's energy sector, reducing the country's heavy reliance on imported energy sources and increasing the share of renewable energy. The document also presents individual aims and targets, including:

- Reaching at least 52% share of renewable sources in electricity consumption by 2030.
- Reducing energy consumption by 15% by 2030, compared to BAU.
- Substantially reducing public fossil fuel subsidies, building on reforms already undertaken in recent years.
- Substantially increasing the use of natural gas, through infrastructure projects allowing liquefied natural gas imports.

Of the actions mentioned in Morocco's NDC, the following are of direct relevance to a Nexus perspective:

- Development of a 350 MW Pumped-Storage Power Plant (PSPP) at the Abdelmoumen site, 300 MW for another PPSP and 125 MW at the El Menzel hydroelectric facility.
- Development of multiple micro-hydro power plants, reaching a capacity of 100 MW by 2030.
- Desalination of seawater reaching a capacity of 500 million m³ per year by 2030.
- Development of solar water heaters reaching 1,700,000 m² by 2030.
- Utilization of biogas from wastewater treatment plants for electricity generation.

C) Legislative Framework

Law No. 13-09 relating to renewable energies (2010). This law provided a legal framework for the development of renewable energy projects in Morocco by addressing legal gaps, encouraging investments in such projects and establishing a project authorization regime. The law was updated in 2015 by Law n° 58-15 (see below).

Law No. 16-09 on the National Agency for the Development of Renewable Energy and Energy Efficiency (2010). This law transformed the mandate of the Renewable Energy Development Center into a National Agency for the Development of Renewable Energies and Energy Efficiency, as an operational institution for the implementation of policies on renewable energies and energy efficiency.

Law No. 48-15 on the regulation of the electricity sector (2015). Its provisions include:

- Public service principles guaranteeing everyone the supply of electricity throughout the territory.
- Creation of an independent entity dedicated to the management of the national electricity transmission network within ONEE.
- Creation of an independent National Regulatory Authority of the electricity sector.

Law n° 58-15 amending and supplementing the law n° 13-09 Relative to the renewable energies (2015).

Main provisions of this law include:

- Increasing the capacity threshold for excluding hydro projects from the law's scope, from 12 to 30MW.
- Opening of the electricity market of renewable sources also at the Low Voltage, thus allowing the development of small and medium-sized installations, in particular for photovoltaics, and the associated creation of jobs.
- For any hydro project, the granting of the authorization will also be subject to the opinion of the relevant water basin and not only to the technical opinion of the manager of the national water network.
- Introduction of a net metering scheme for solar and wind power plants connected to the high-voltage grid, with private investors in renewables being allowed able to sell their surplus output to the grid, up

to 20% of their annual production.

Law no 47-09 on energy efficiency (2015). This law sets criteria of minimum energy performance for appliances and electrical equipment. It makes mandatory energy audits for companies and institutions in the production, transmission and distribution of energy, as well as the performance of an energy impact study for new construction and urban projects. It also defines the role of energy services and facilities and establishes technical control.

D) Institutional Framework

The Ministry of Energy, Mining, Water and Environment (MEMWE) is the responsible Ministry for the development and implementation of government policy in the energy sector. It supervises the businesses and public institutions that fall under its jurisdiction. The National Office of Electricity and Drinking Water (Office National de l'Electricité et de l'Eau Potable - ONEE), fully owned by the government, is the main player in the power sector in Morocco, operating throughout all the segments of the Electricity System (generation, transmission, distribution, supply). It has the status of single buyer of electricity produced, except for renewable energies, where the law allows transactions between private entities. The National Energy Regulatory Authority (Agence Nationale de Regulation de l'Electricité - ANRE), established in 2016, is responsible for regulating access and use of the medium and high voltage grids and for setting tariffs for their use. It will also manage any conflicts between operators and network users. ANRE is expected to become operational during 2018. The Energy Investment Company (Société d'Investissements Énergétiques - SIE) was established in 2010 with the main mission of supporting national renewable energy programmes as a lender, investor or project co-developer. It is essentially the financial arm of the state in the context of the objectives of the national strategy for renewable energies. The Moroccan Agency for Sustainable Energy (MASEN), previously responsible for the implementation of the Moroccan Solar Plan, was restructured in 2016 as the Moroccan Agency for Sustainable Energy, becoming an associated company with a Board of Directors, responsible for the development of renewable energy projects as well as planning, financing, management and maintenance. It is envisaged that by 2021 all renewable energy assets of ONEE will be transferred to MASEN. The Moroccan Agency for Energy Efficiency (Agence Marocaine pour l'Efficacité Énergétique - AMEE), is the successor to the National Agency for the Development of Renewable Energy and Energy Efficiency (ADEREE), and now focuses only on energy efficiency.

Annex T Typologies of stakeholders and expected role for Child Project 2.2

Type of organization	Examples	General roles, responsibilities in the project
<p>Public Sector: ministries/entities responsible for water resources; environment; spatial and development planning; transport; tourism; fisheries; industry; maritime affairs; health; community development; education; culture; local government authorities</p>	<p>Ministries responsible for:</p> <ul style="list-style-type: none"> • Food Security (Fisheries, Aquaculture, Agriculture, Forestry) • Environment/ Sustainable Development • Tourism • Finance and Planning • Foreign Affairs • Energy and Mining • Meteorological Services; Coast Guards; Statistics, etc. 	<p><u>Overall:</u></p> <ul style="list-style-type: none"> • National governments should address transboundary issues • In execution of specific roles and responsibilities, national government agencies should develop and implement mechanisms to facilitate participation of stakeholders in the project and related programmes and projects <p><u>Specific:</u></p> <ul style="list-style-type: none"> • Lead or participate in development and implementation of national and regional programmes, projects and initiatives aimed at reducing habitat degradation, pollution and unsustainable freshwater abstractions. • Act as focal points of the project responsible for implementation at the national level • Collect, manage, analyze and share information relevant to the governance of the shared coastal/marine space
<p>Private Sector: national and regional organizations representing: farmers; fisherfolk; manufacturers/industrialists; tourism and aquaculture sector; banks; insurance sector</p>	<ul style="list-style-type: none"> • Regional and national private sector associations (e.g. energy providers, water utilities, food companies, etc.) • Individual large and medium-sized companies (e.g. agriculture, water supplies/sanitation, macro-farming companies; hotels, restaurants, oil and gas companies; shipping companies, banks, insurance companies) • Small and micro enterprises and their associations (e.g. individual farmers and national farmer organizations; etc.) 	<ul style="list-style-type: none"> • <u>Overall:</u> • Diverse group with varied and often competing interests, roles and responsibilities (e.g. energy companies are key stakeholders in using water resources, while water utilities are key stakeholders in addressing all transboundary issues) • <u>Specific:</u> • Provide and collect data and information on different aspects of the shared coastal/marine space and the factors affecting it • Assist in implementation of the policies and application of best practices to ensure that recommended environmental, safety and other standards and regulations are being met • Some private sector groups directly involved in decision making on the different transboundary • Assist in development of policies, regulations and plans related to the marine environment
<p>Non-governmental Organizations (NGOs): national trusts; conservation associations; women's organizations; community-based organizations (CBOs);</p>	<ul style="list-style-type: none"> • Regional and nation NGOs active in the water, energy and food sectors. • conservation associations for water and biodiversity • community base association on sustainable food productions, etc. 	<ul style="list-style-type: none"> • Provide feedback, advice and contribute to the nation dialogues, training and roundtables. • Assist in review and evaluation of policies proposals.
<p>National and regional academia and research institutes</p>	<ul style="list-style-type: none"> • Research institutes for water management, energy production, sustainable food production, etc. 	<ul style="list-style-type: none"> • Conduct research and collect, manage, analyze and share information on cross-cutting issue related to the nexus • Provide technical analysis and advice to national governments on policy implications of research • Assist in technical review and evaluation of policies at the regional and national levels

Table 2 Key stakeholders for the Child Project 2.2

Link to the Project's Outcomes and Outputs	Key stakeholders and partners (and role)	Other relevant stakeholders
<p>Outcome 1: Enhanced regional and National capacities on the use of the nexus approach to address land-based issues</p> <p>Output 1.1: Regional Dialogue and Capacity Building on Nexus assessment and approach.</p>	<ul style="list-style-type: none"> • UN Environment/MAP (Executing agency [EA]) • GWP Med (Executing partner [EP]) 	<p>Albania:</p> <ul style="list-style-type: none"> • Ministry of Tourism and Environment • Ministry of Agriculture and Rural Development • Ministry of Infrastructure and Energy • Water Resources Management Agency • National Environmental Agency • National Coastline Agency • National Agency of Protected Areas • National Agency of Natural Resources • Albanian Power Corporation <p>Lebanon:</p> <ul style="list-style-type: none"> • Ministry of Energy and Water • Ministry of Environment • Ministry of Agriculture • Council for Development and Reconstruction • Lebanese National Observatory for Agricultural Development • Electricité Du Liban • National Energy Efficiency and Renewable Energy Action • Water Establishments <p>Morocco:</p> <ul style="list-style-type: none"> • High Council for Water and Climate • Inter-ministerial Commission on Water • Delegate Ministry in Charge of Water (Ministry of Equipment, Transport, Logistics & Water) • Ministry of Agriculture, Sea Fishery, Rural Development, Water Bodies & Forests • Ministry of Energy, Mines & Sustainable Development • National Office of Electricity and Drinking Water • Agency for Agricultural Development • National Environment Observatory • Energy Investment Company • Moroccan Agency for Sustainable Energy • Regional Council of Tangiers-Tétouan-Al Hoceima <p>Algeria:</p> <ul style="list-style-type: none"> • Ministry of Water Resources • Ministry of Environment and Renewable Energies • Ministry of Agriculture, Rural Development and Fisheries • National Electricity and Gas Company • Regulatory Commission for Electricity and Gas • Hydrographic Basin Agencies <p>Tunisia:</p>

		<ul style="list-style-type: none"> • Ministry of Agriculture, Hydraulic Resources and Fisheries • Ministry of Energy, Mines and Renewable Energies • Ministry of Local Affairs and the Environment • Ministry of Development, Investment and International Cooperation • National Water Exploitation and Distribution Company • National Office of Sanitation • Centre for Water Research and Technologies <p>Libya:</p> <ul style="list-style-type: none"> • Ministry of Agriculture, Animal and Marine Wealth • Ministry of Electricity & Renewable Energy • General Water Resources Authority • General Environment Authority <p>Egypt:</p> <ul style="list-style-type: none"> • Ministry of Water Resources and Irrigation • Ministry of Agriculture and Land Reclamation • Ministry of Electricity and Renewable Energy • Ministry of State for Environmental Affairs • High-Level Ministerial Committee on Water Resources • Holding Company for Water and Wastewater • Egyptian Water and Wastewater Regulatory Agency • New & Renewable Energy Authority • Egyptian Environmental Affairs Agency • The National Water Council <p>Montenegro:</p> <ul style="list-style-type: none"> • Ministry of Sustainable Development and Tourism • Ministry of Agriculture and Rural Development • Ministry of Economy • National Water Council • National Council for Sustainable Development, Climate Change and Integrated Coastal Zone Management • Environmental Protection Agency • Public Enterprise for Coastal Zone Management “Morsko dobro” • Electricity Company of Montenegro • Vodacom <p>Bosnia & Herzegovina:</p> <ul style="list-style-type: none"> • Ministry of Environment and Tourism • Ministry of Agriculture, Water-Management and Forestry • Ministry of Energy, Mining and Industry • Environment Protection Fund • Institute for Hydrometeorology • Institute for Agriculture • Agency for Water Area of the Adriatic Sea Basins
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<p>Outcome 2: Interlinkages among Nexus Sectors identified and strengthened through Nexus Assessments and Policy Dialogues, feeding into policy making in priority Mediterranean coastal areas.</p> <p>Output 2.1: New, or existing inter-institutional bodies convening and steering the development of Nexus Assessments and strategic documents.</p> <p>Output 2.2: Water-energy-food-ecosystems Nexus Assessments and multi-stakeholders consultation dialogues in priority coastal areas.</p> <p>Output 2.3: Nexus strategies/action plans for priority coastal areas, possibly as part of other strategic documents for coastal areas.</p>	<ul style="list-style-type: none"> • UN Environment/MAP (EA) • GWP Med (EP) 	<p>Albania:</p> <ul style="list-style-type: none"> • Ministry of Tourism and Environment • Ministry of Agriculture and Rural Development • Ministry of Infrastructure and Energy • Water Resources Management Agency • Water Regulatory Authority • National Environmental Agency • National Coastline Agency • National Agency of Protected Areas • National Agency of Natural Resources • Albanian Power Corporation • Energy Regulatory Entity <p>Lebanon:</p> <ul style="list-style-type: none"> • Ministry of Energy and Water • Ministry of Environment • Ministry of Agriculture • Council for Development and Reconstruction • Lebanese Agriculture Research Institute • Lebanese National Observatory for Agricultural Development • Green Project • Investment Development Authority of Lebanon • Electricité Du Liban • National Energy Efficiency and Renewable Energy Action • Water Establishments • Litani River Authority • American University of Beirut <p>Morocco:</p> <ul style="list-style-type: none"> • High Council for Water and Climate • Inter-ministerial Commission on Water • Delegate Ministry in Charge of Water (Ministry of Equipment, Transport, Logistics & Water) • Ministry of Agriculture, Sea Fishery, Rural Development, Water Bodies & Forests • Ministry of Energy, Mines & Sustainable Development • National Office of Electricity and Drinking Water • Agency for Agricultural Development • National Environment Observatory • National Agronomic Research Institute

		<ul style="list-style-type: none"> • National Energy Regulatory Authority • National Commission for Integrated Coastal Management • Energy Investment Company • Moroccan Agency for Sustainable Energy • Moroccan Agency for Energy Efficiency • Regional Council of Tangiers-Tétouan-Al Hoceima • Port Authority of Tangiers-Med • Regional Offices of Agricultural Development
<p>Outcome 3: Interventions facilitated and upscaled bringing co-benefits by maximizing on the technologies and approaches to address Nexus tradeoffs.</p> <p>Output 3.1: Nexus demonstration activities.</p>	<ul style="list-style-type: none"> • UN Environment/MAP (EA) • GWP Med (EP) 	
<p>Outcome 4: Priority nexus interventions agreed upon including relevant mechanisms and arrangements.</p> <p>Output 4.1: Identified interventions, including potential sources of funding.</p>	<ul style="list-style-type: none"> • UN Environment/MAP (EA) • GWP Med (EP) 	<p>Albania:</p> <ul style="list-style-type: none"> • Ministry of Tourism and Environment • Ministry of Agriculture and Rural Development • Ministry of Infrastructure and Energy • Water Resources Management Agency • National Environmental Agency • National Coastline Agency • National Agency of Protected Areas • National Agency of Natural Resources • Albanian Power Corporation <p>Lebanon:</p> <ul style="list-style-type: none"> • Ministry of Energy and Water • Ministry of Environment • Ministry of Agriculture • Council for Development and Reconstruction • Lebanese National Observatory for Agricultural Development • Electricité Du Liban • National Energy Efficiency and Renewable Energy Action • Water Establishments <p>Morocco:</p> <ul style="list-style-type: none"> • High Council for Water and Climate • Inter-ministerial Commission on Water • Delegate Ministry in Charge of Water (Ministry of Equipment, Transport, Logistics & Water) • Ministry of Agriculture, Sea Fishery, Rural Development, Water Bodies & Forests

		<ul style="list-style-type: none"> • Ministry of Energy, Mines & Sustainable Development • National Office of Electricity and Drinking Water • Agency for Agricultural Development • National Environment Observatory • Energy Investment Company • Moroccan Agency for Sustainable Energy • Regional Council of Tangiers-Tétouan-Al Hoceima <p>Algeria:</p> <ul style="list-style-type: none"> • Ministry of Water Resources • Ministry of Environment and Renewable Energies • Ministry of Agriculture, Rural Development and Fisheries • National Electricity and Gas Company • Regulatory Commission for Electricity and Gas • Hydrographic Basin Agencies <p>Tunisia:</p> <ul style="list-style-type: none"> • Ministry of Agriculture, Hydraulic Resources and Fisheries • Ministry of Energy, Mines and Renewable Energies • Ministry of Local Affairs and the Environment • Ministry of Development, Investment and International Cooperation • National Water Exploitation and Distribution Company • National Office of Sanitation • Centre for Water Research and Technologies <p>Libya:</p> <ul style="list-style-type: none"> • Ministry of Agriculture, Animal and Marine Wealth • Ministry of Electricity & Renewable Energy • General Water Resources Authority • General Environment Authority <p>Egypt:</p> <ul style="list-style-type: none"> • Ministry of Water Resources and Irrigation • Ministry of Agriculture and Land Reclamation • Ministry of Electricity and Renewable Energy • Ministry of State for Environmental Affairs • High-Level Ministerial Committee on Water Resources • Holding Company for Water and Wastewater • Egyptian Water and Wastewater Regulatory Agency • New & Renewable Energy Authority • Egyptian Environmental Affairs Agency • The National Water Council <p>Montenegro:</p> <ul style="list-style-type: none"> • Ministry of Sustainable Development and Tourism • Ministry of Agriculture and Rural Development • Ministry of Economy
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<p>Outcome 5: The medium and long-term sustainability of results ensured by engaging the relevant stakeholders.</p> <p>Output 5.1: A Stakeholders Engagement Strategy (SEG) coherent with the MedProgramme Gender Mainstreaming and Knowledge Management Strategies.</p>	<ul style="list-style-type: none"> • UN Environment/MAP (EA) • GWP Med (EP) 	<p>Albania:</p> <ul style="list-style-type: none"> • Ministry of Tourism and Environment • Ministry of Agriculture and Rural Development • Ministry of Infrastructure and Energy • Water Resources Management Agency • National Environmental Agency • National Coastline Agency • National Agency of Protected Areas • National Agency of Natural Resources • Albanian Power Corporation <p>Lebanon:</p> <ul style="list-style-type: none"> • Ministry of Energy and Water • Ministry of Environment • Ministry of Agriculture • Council for Development and Reconstruction • Lebanese National Observatory for Agricultural Development • Electricité Du Liban • National Energy Efficiency and Renewable Energy Action • Water Establishments <p>Morocco:</p> <ul style="list-style-type: none"> • High Council for Water and Climate • Inter-ministerial Commission on Water • Delegate Ministry in Charge of Water (Ministry of Equipment, Transport, Logistics & Water) • Ministry of Agriculture, Sea Fishery, Rural Development, Water Bodies & Forests • Ministry of Energy, Mines & Sustainable Development

		<ul style="list-style-type: none"> • National Office of Electricity and Drinking Water • Agency for Agricultural Development • National Environment Observatory • Energy Investment Company • Moroccan Agency for Sustainable Energy • Regional Council of Tangiers-Tétouan-Al Hoceima <p>Algeria:</p> <ul style="list-style-type: none"> • Ministry of Water Resources • Ministry of Environment and Renewable Energies • Ministry of Agriculture, Rural Development and Fisheries • National Electricity and Gas Company • Regulatory Commission for Electricity and Gas • Hydrographic Basin Agencies <p>Tunisia:</p> <ul style="list-style-type: none"> • Ministry of Agriculture, Hydraulic Resources and Fisheries • Ministry of Energy, Mines and Renewable Energies • Ministry of Local Affairs and the Environment • Ministry of Development, Investment and International Cooperation • National Water Exploitation and Distribution Company • National Office of Sanitation • Centre for Water Research and Technologies <p>Libya:</p> <ul style="list-style-type: none"> • Ministry of Agriculture, Animal and Marine Wealth • Ministry of Electricity & Renewable Energy • General Water Resources Authority • General Environment Authority <p>Egypt:</p> <ul style="list-style-type: none"> • Ministry of Water Resources and Irrigation • Ministry of Agriculture and Land Reclamation • Ministry of Electricity and Renewable Energy • Ministry of State for Environmental Affairs • High-Level Ministerial Committee on Water Resources • Holding Company for Water and Wastewater • Egyptian Water and Wastewater Regulatory Agency • New & Renewable Energy Authority • Egyptian Environmental Affairs Agency • The National Water Council <p>Montenegro:</p> <ul style="list-style-type: none"> • Ministry of Sustainable Development and Tourism • Ministry of Agriculture and Rural Development • Ministry of Economy • Ministry of Finance • National Water Council
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During the project development phase, several additional relevant stakeholders were identified in the Mediterranean region. These stakeholders will not have a direct role in the project execution. Nevertheless, they will be involved in meetings, trainings and outreach activities by the executing partners of the Child Project 2.2.