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***PROGRESS IN IMPLEMENTING THE GPA
2007 – 2011***

INCOMPLETE UNEDITED DRAFT

Progress in implementing the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities at the national, regional and international levels in the period 2007-2011

Note by the secretariat

1. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) was adopted by 108 governments, the European Commission and other relevant stakeholders in an intergovernmental conference held in Washington D.C, USA in November 1995. The Programme represented a clear commitment among national governments, international and regional organizations and programmes, non-governmental organizations and major groups to protect and preserve the marine environment from adverse impacts of land based activities. The GPA framework calls for comprehensive, continuing and adaptive actions and provides a series of recommendations as well as criteria for their development at different levels with a focus on actions by governments. It provides a comprehensive yet flexible framework to assist countries in fulfilling their duty in accordance with international law to preserve and protect the marine environment from sewage, physical alterations and the destruction of habitat, nutrients, sediment mobilisation, persistent organic pollutants, oils, litter, heavy metals and radioactive substances. There have been two inter-governmental reviews of the progress in implementing the GPA, the first in Montreal, Canada in 2001, the second in Beijing, People's Republic of China in 2006.
2. This report provides a summary and overview of the implementation of the GPA by countries in the period since the last review in Beijing in 2006, along with the assistance provided in so doing by UNEP as the Secretariat through the UNEP/GPA Co-ordination Office. UNEP as the Secretariat of the GPA is tasked with facilitating and promoting the implementation of the Global Programme of Action through international, regional and national action.
3. The Governments attending the 2nd Intergovernmental Review meeting (IGR-2) of the Global Programme of Action in Beijing, People's Republic of China in October 2006, agreed that over the period 2007 – 2011 they would “focus on mainstreaming the implementation of the Global Programme of Action in national development planning and budgetary mechanisms”. The Governments indicated that mainstreaming will require integration of the Global Programme of Action across sectors and ministries and also integration into domestic and international aid budgets, development plans, strategies and actions. Furthermore, through the Beijing Declaration, Governments also agreed that over the same period in order to help focus implementation of the GPA more effectively they should “devote additional effort, finance and support to address point and non-point source nutrients, including municipal, industrial and agricultural wastewater, as major and increasing source categories directly affecting human health, well-being and the environment, including marine ecosystems and their associated watersheds.”

4. In line with this approach, the governments agreed in Beijing that during the period 2007-2011, the UNEP/GPA Coordination office should facilitate the implementation and mainstreaming of the GPA at the national level, and to provide assistance to countries in assessing how the conservation of marine and coastal ecosystems contributes to poverty alleviation and the achievement of the Millennium Development Goals, and to support them in mainstreaming the sustainable development of oceans and coasts into international development frameworks and national planning and budgetary processes. Finally, governments agreed that there should be a focus on and strengthening of the UNEP Regional Seas Programmes in order to implement the Global Programme of Action, and called upon the Global Environment Facility (GEF) to continue to support and catalyze implementation of the Global Programme of Action through the GEF supported projects.
5. The information in the present report provides a concise overview of progress made in advancing the Global Programme of Action during the period 2007-2011 supported by various actors. A number of important considerations, however, should be borne in mind in regard to the compilation of this summary report. First, the primary responsibility in implementing the GPA lies with governments. Secondly, the GPA, remains a valuable and flexible tool to achieve various goals and targets set by the international community as they relate to the coastal and marine environment and their associated watershed. Therefore, the governments and their stakeholders are able to implement the Programme in a variety of ways and under different initiatives. For example, action on persistent organic pollutants (POPs), a major source category under the GPA, is now taken forward at a multilateral scale under the Stockholm Convention adopted in 2001. Similarly, countries now adopt analogous approaches to the GPA, such as integrated coastal zone management and/or integrated water resources management plans. For these reasons it is not possible to capture the full extent, and in a systematic way, as to how countries are taking forward implementation of GPA related activities. The report therefore is a summary and overview, though additional information on national actions is given in 'Information Document UNEP/GPA.....'
6. Given the specific role afforded to the UNEP/GPA Co-ordination Office y, as outlined above, in assisting countries, the role of the UNEP/GPA Coordination Office is able to be more fully documented in this report and the focus tends to be on activities where it has helped support action by countries. It is however, important to note that the UNEP/GPA Coordination Office delivered the results as noted in this report with minimum resources projected in the programme of work that was approved during the IGR-2 in Beijing. During the reporting period the UNEP/GPA Coordination Office had only 3 professional staff and one support staff , all paid out of Environment Fund, with limited extra-budgetary resources for implementation of activities.

Key achievements

7. The progress outlined in the present report demonstrates the political determination on the part of governments to undertake tangible action to address the underlying causes of marine degradation resulting from land-based activities. In many countries as it would be demonstrated in the subsequent paragraphs, the governments have taken actions to integrate the implementation of the Global Programme of Action across sectors and ministries and into national budgets, development plans and strategies. In summary, many of the goals set by the international community for the further implementation of the Global Programme of Action by governments and the facilitating role of the UNEP/ GPA Coordination Office for the period 2007–2011 have been met. The strategic direction set during the IGR2 on the implementation of the Global Programme of Action through strengthening the UNEP Regional Seas Programmes to address the Global Programme of Action and developing strategic partnerships with the GEF and the GEF supported International Waters projects, and the regional seas conventions and action plans have been instrumental in bringing about these results. Notwithstanding the above, as it will be outlined in this report much remains to be done to protect the marine environment from land-based activities.

National implementation of the Global Programme of Action

8. **National Programmes of Action – an overview.** A national programme of action (NPA) was the policy framework envisaged under the GPA to facilitate implementation and mainstreaming of the GPA at the national level. On information received from governments, some 70 countries (**to check with Razi**) have established framework NPAs since the inception of the GPA. Since the IGR-2 in 2006, countries have embarked on the development of NPA,have revised their NPA and many of them successfully

integrated coastal and marine environmental management and pollution reduction measures into national sustainable development plan/strategy and budgetary processes. Details on the state of play of NPAs are given in the Information Document

9. A number of countries that have finalized the development of framework NPAs since 2006 moved into actual implementation of the NPA through pilot projects to address priority issues. The pilot projects implemented by the countries aim to demonstrate sustainable management approaches, testing of new technology (e.g., use of constructed wetlands or mangroves for wastewater management), stimulating multi-agency cooperation and developing partnership between the state and non-state actors to address land-based sources of coastal and marine pollution. The partnership with non-state actors (non-governmental organizations and private sector institutions) is an important contribution to the development of new institutional arrangements for coastal resources management and addressing land-based sources of marine pollution through application of appropriate technology and management systems suited to local circumstances. These pilot projects also made contributions to the implementation of Bali Strategic Plan for Technology Support and Capacity-building (BSP)¹ and South-South Cooperation. For many of these pilot projects under the UNEP/GPA Coordination Office, the GEF and other development partners have provided technical and financial assistance, while significant amount of resources came from the participating government institutions and other national partners. A list and short description of relevant projects is included in 'Information Document ... National and regional implementation and reporting'.

Mainstreaming of coastal and marine issues into national development plan and budgetary process

10. Pursuant to the decisions taken during IGR-2, the UNEP/GPA Coordination Office in partnership with the Stockholm Environment Institute (SEI) produced a guidance document "Making Mainstreaming Work: An Analytical Framework, Guidelines and Checklist for the Mainstreaming of Marine and Coastal Issues into National Planning and Budgetary Processes". Following the finalization of this guidance document, UNEP/GPA Coordination Office organized a series of regional training workshops, in partnership with the governments, Regional Seas Programme and other institutions, to familiarize national governments and key stakeholders with the concept of mainstreaming and the key steps that would entail to mainstream coastal and marine issues into national planning and budgetary processes leading to integrated planning. These workshops took place in Asia (November 2007) Eastern Africa (May 2008), the Caribbean (July 2008) and the South Pacific (September 2009). These regional workshops were attended by senior officials of the Ministry of Environment, as well as from other Ministries such as planning, finance, public utilities, tourism, water resources and fisheries, all of whom have a great stake in the maintenance and improvement of the environmental quality and ecosystem function of estuarine, near shore and ocean waters. These workshops enhanced the opportunities for many policy makers to recognise the contribution of the coastal and marine resources to national gross domestic product and the livelihoods of coastal population.
11. The Asia regional workshop, held in Chennai, India was organised in collaboration with the Ministry of Environment and Forests, Government of India and the Institute for Ocean Management of Anna University. The delegates representing the ministry of environment, finance and planning from Bangladesh, Sri Lanka, India, Indonesia, Philippines and Vietnam took part in this workshop. The senior government officials drawn from ministries and agencies responsible for environment, economic affairs and finance from Seychelles, Comoros, Madagascar, Mauritius, Kenya, Tanzania, Mozambique and South Africa attended the Eastern Africa regional workshop held in Port Luis, Mauritius, hosted by the Mauritius Ministry of Environment and National Development and facilitated by the Secretariat of the Nairobi Convention. The Caribbean regional workshop was hosted by the Jamaican Ministry of Environment, and facilitated by the Secretariat of Cartagena

¹ The Bali Strategic Plan constitutes an inter-governmentally agreed approach to strengthen technology support and capacity building in developing countries, as well as countries with economies in transition. It seeks to strengthen the capacity of Governments of developing countries and of countries with economies in transition at all levels and provide systematic, targeted, long- and short-term measures for technology support and capacity building. Another objective of the Plan is to promote, facilitate, and finance access to and support for environmentally sound technologies and corresponding know-how. The Plan also aims to enhance delivery by UNEP of technology support and capacity building based on best practices from both within and outside UNEP. In particular, the Plan seeks improving coordination of disparate efforts to strengthen capacity by various multilateral and bilateral institutions. It does so by providing a framework for strengthening cooperation among UNEP, multilateral environmental agreement (MEAs), and other bodies engaged in environmental capacity building, including the UN Development Programme, the Global Environment Facility, civil society, and other relevant stakeholders.

Convention/Caribbean Environment Programme. Government officials from ministries of environment, economic affairs and finance from Jamaica, Belize, Trinidad and Tobago, Bahamas, Barbados and St Lucia, and representatives from the Caribbean Development Bank and Organization of Eastern Caribbean States (OECS) attended the workshop. The South Pacific regional workshop was organised by the Permanent Commission for the South Pacific (CPPS), and was attended by the delegates nominated by the National Focal Points of the Action Plan of the Southeastern Pacific representing Chile, Colombia, Ecuador, Panama and Peru as well as representatives of various government and non-governmental institutions from Ecuador.

12. These regional mainstreaming workshops facilitated sharing of national level experiences in integrating coastal and marine environmental issues into national development plans and budgets. The presentations and discussions of the workshops helped the participating country delegates to reach a new understanding of the mainstreaming approach and created new incentive to expedite the mainstreaming process. These meetings have subjected the 'mainstreaming analytical framework' to robust examination by policy makers and the results have been extremely positive, with several countries indicating their enthusiasm for starting a mainstreaming process and the discussions identifying elements of existing planning and institutional systems that provide building blocks for such a process. The participants reached the conclusion that to move the mainstream process it would be important to set priorities that have wide and high level support and good prospects for success, and articulate these priorities based on an economic analysis that demonstrates the full value of the sustainable management of marine and coastal resources to national development.
13. One of the key outputs of these workshops was an outline for a national mainstreaming strategy for each participating country. The outlines prepared by the government representatives describe the steps to be undertaken in the short term to initiate the mainstreaming process in their respective countries, responding to the specific national circumstances. The outlines of a mainstreaming strategy were aimed at creating awareness in the governments about the opportunities created by mainstreaming of marine and coastal issues into national planning and budgetary processes, as well as at providing a first insight into the tasks that would need to be done to address the issue.
14. As a follow-up of these regional mainstreaming workshops several countries achieved progress in their efforts to mainstream coastal and marine environmental management issues into the wider framework of governance. For example, the Government of Indonesia has focused on strengthening the link between river basin management, land-based sources of pollution and the impacts of climate change to facilitate the integration of coastal issues into national development frameworks and budgets, and the reduction of poverty. The Indonesian government has also initiated harmonization of various existing rules and regulations; such as the Act on Spatial Planning (No.26 of year 2007) and the Act on the Coastal Areas and Small Islands Management (No. 27 of year 2007). The Indian government in its efforts to implement the NPA has embarked on a large scale coastal zone management programme to address policy and legal issues with pilot projects in several key coastal states and also established a National Centre for Sustainable Coastal Management (NCSCM) to promote sustainable coasts through increased partnerships, conservation practices, scientific research and knowledge management for the benefit and wellbeing of current and future generations.
15. In the Caribbean, the Jamaican government was able to incorporate key areas of concerns identified in the Jamaican NPA into the Government of Jamaica's policy and legislative frameworks, and these have become an integral part of the Jamaica's National Environmental Action Plan (JaNEAP). The JaNEAP is a three-year cycle plan and its implementation is monitored through the JaNEAP annual report. In Jamaica the NPA also supported the development of the National Sustainable Tourism Plan in the form of the Blue Flag programme, increases in beach license fees, and improved understanding of the contribution to be gained by an integrated watershed and coastal zone management approach. In Belize completion of the NPA was accompanied by legislative changes to the Environmental Protection Act including the passing of Effluent Limitations Regulations and the Integrated Water Resources Management Act. The NPA has influenced the implementation of solutions to environmental and coastal issues to the extent that it has enabled a greater focus on environmental actions in support of the country's national development priorities. Guyana which finalized the development of its NPA in 2009 has now drafted new "standards for industrial effluent discharge into the environment" and established an inter-agency coordinating mechanism to mainstreaming public health into the main budgetary process utilizing the GPA approach. Integrative planning and cross-agency coordination mechanism has also been strengthened in Saint Lucia and through the development of its NPA and coastal zone management policies and actions, Saint Lucia has been successful in promoting marine and coastal environmental protection through key sectors within Saint Lucia's economy, including the development of recreational water quality standards.

16. The UNEP/GPA Coordination Office in its efforts to facilitate mainstreaming of coastal and marine issues into national planning and budgetary processes also assisted countries to undertake review studies and introduce policy reforms in utilizing their own resources effectively and efficiently, and to find possible new domestic resources, make the most of foreign assistance and optimize possibilities of utilizing international financial institutions and commercial financing. In Sri Lanka, the Ministry of Environment and Natural Resources based on a study² supported by the UNEP/GPA Coordination Office established an environmental conservation levy exclusively for environmental conservation. The Environmental Conservation Levy Act, No.26 of 2008, in Sri Lanka empowered the Ministry of Environment and Natural Resources to impose environmental levy on specific products and services that clearly pose an environmental hazard and the revenue accruing from this levy can be directly utilized for taking corrective action to eliminate or alleviate the hazard. Trinidad and Tobago is another example, where the government has established a “Green Fund” through imposition of a 0.1% tax on the gross sales and receipts of any company doing business in the country and the Green Fund which amounts to date millions of Dollars, and used to support projects for the sustainable management of the environment.
17. In the light of these experiences, UNEP/GPA Coordination Office also organised workshops for sharing of cross-regional mainstreaming experiences in Hanoi (2008) during the meeting of the Global Forum on Oceans, Coasts and Island and in Manila (2009) during the East Asian Seas Congress. The aim of these workshops, were to inform and reflect on country experiences in ‘mainstreaming’ and thus to define a collective strategy to further expedite the process and seek answers to ‘what a policy should contain’ and ‘what policy choices a nation can afford’, so that mainstreaming becomes a focus on solutions with a strong evidentiary (economic and physical) and institutional basis.
18. Finally, and consistent with the approaches outlined above, it should be noted that the GPA and its NPA and mainstreaming approach have helped catalyse broader approaches to integrated coastal management. In China, the development of an NPA and associated coastal pollution control programmes are being embedded in the 12th five-year plan (2011-2015). The government of Seychelles, while revising its Environment Management Plan for the period 2011-2020, set out that the Environment Management Plan of Seychelles represents the country’s environmental programmes foreseen over a ten year period and constitutes a national environmental strategy for Seychelles. The Kenyan Ministry of Environment and Mineral Resources has finalized its Integrated Coastal Zone Management Action Plan 2011-2015, while in Japan, the “Basic Act on Ocean Policy” was enacted in 2007. The “comprehensive governance of the oceans” and “integrated management of the coastal zone” stipulated in this Basic Act are intended to protect the marine environment from land-based activities.
19. In view of the experiences gained to date, strong leadership and political will still remain vital to supporting the process of translating the Global Programme of Action into national programmes of action and implementation of long-term activities and to ensure mainstreaming of coastal issues in the overall national development framework. Legislation dealing with coastal and marine resources needs to address a wide range of land-based pressures upon coastal and marine environments. At the same time, greater support in developing environmental financing strategies and other supporting mechanisms is needed. Furthermore, the integrated coastal management as a continuous, proactive and adaptive process of resource management that builds on participation and provides a framework for the management of multi-sectoral activities and maintain options for future uses of resources could also be used as a complementary framework to harmonize sectoral planning and to resolve multiple use conflicts of coastal resources.

Addressing Key Source Categories

20. The following section reviews progress on addressing a number of key land based sources of pollution identified under the GPA in line with the desire of governments at the 2nd IGR in Beijing to focus on a few key activities in GPA source category implementation. These are nutrients, wastewater and marine litter.

Nutrient Management

² Development of Market Based Instruments for Environmental Management in Sri Lanka, May 2008.

21. During the IGR-2 the Governments through the 2006 Beijing Declaration resolved “to devote additional effort, finance and support to address point and non-point source nutrients, including municipal, industrial and agricultural wastewater, as major and increasing source categories directly affecting human health, well-being and the environment, including marine ecosystems and their associated watersheds”.
22. Pursuant to this call, UNEP/GPA Coordination Office facilitated series of meetings ad consultation with governments and other relevant stakeholders to design a comprehensive nutrient management programme. In a meeting of policy makers, fertilizer industry, representative of science community and UN agencies, May 2007 in The Hague (co-sponsored by the Netherlands’ Ministry of Environment) UNEP/GPA Coordination Office presented the primary design of a nutrient programme and the architecture of a global partnership. This was subsequently presented to a wider group of experts during the 4th International Nitrogen Conference in Brazil 2007 to solicit feedback and support. This consultative process subsequently led to the establishment of the Global Partnership on Nutrient Management (GPNM).
23. The GPNM is a partnership of governments, scientists, policy makers, private sector, NGOs and international organizations³ to address the growing problem of nutrient over-enrichment. The Partnership was launched formally on 6 May 2009 in New York during the 17th session of the UN Commission on Sustainable Development.⁴ The GPNM recognizes the need for strategic, global advocacy to trigger actions by governments and other stakeholders in moving towards lower nitrogen and phosphorous inputs to human activities. The GPNM aims to raise awareness and facilitate the exchange of good practice to address the root causes of harmful algal blooms. The partnership provides a platform for governments, UN agencies, scientists and the private sector to forge a common agenda, so that policies and investments are effectively ‘nutrient proofed’. The GPNM also provide a space where countries and other stakeholders can forge more co-operative work across the variety of international & regional fora and agencies dealing with nutrients. The GPNM is guided by a Steering Committee, chaired by the Government of the Netherlands, while the other members are Governments of the USA and India, China-UK Sustainable Agricultural Innovation Network (SAIN) and UN-Habitat. UNEP/GPA Coordination Office acts as the Secretariat of the GPNM.
24. With support from the GPNM partners, UNEP/GPA Coordination Office secured GEF funding for the project “Global foundations for reducing nutrient enrichment and oxygen depletion from land based pollution, in support of Global Nutrient Cycle”. The project aims to address the underlying problem of the lack of a sufficient governance and management framework for effective action on reducing nutrient inputs and improving efficiency of use. The project intends to; (a) provide countries (notably developing countries and those in transition), with the information, tools, and policy options, including up-scaling and replication, in a systematic and accessible way. This is necessary to analyse and take cost effective action in developing nutrient reduction strategies to the benefit of their coastal areas and stakeholders and (b) catalyse global, regional and national action through stakeholder partnerships, which foster the benefits of more effective nutrient management and (c) provide a platform for the uptake and application of the tools, policy options and information developed under the project. This approach will provide policy makers with a road map as to which investments and actions can be most cost effective.
25. Two key nutrients - nitrogen and phosphorus remains key to sustain crop production and ensure food security. These two nutrients also involved in complex cycles and associated with environmental impacts. The understanding of the nitrogen cycle is making progress thanks to the work of the International Nitrogen Initiative (INI), which is a member of the GPNM. The INI European and North American centres have completed their regional assessments, while additional support is needed for other regions (e.g., Africa, Asia and Latin America and the Caribbean) to go through the same assessment process. As to phosphorous, the priority is to update scientific knowledge. We have currently a poor understanding of the phosphorous cycle. It is urgent to quantify the phosphorous pools and flows in agriculture and waste at different scales (global, continental, watershed). It is thus critical to determine the potential of mitigating losses by farming systems, in particular through the reduction of soil erosion. Assessing the potential of recycling organic nutrient sources (in particular livestock manure and sewage sludge), and developing practices that improve their use efficiency are also priorities. A more precise understanding of the global nutrient cycle (covering nitrogen and phosphorous) is envisaged as an important area of action towards the development of policy options, based on

³ The Partners to date are the Governments of the USA, The Netherlands, Italy, Germany, the European Union, India, China, Thailand, Indonesia, International Fertilizer Industry Association, International Nitrogen Initiative, various academic and research institutions and UN agencies namely FAO, UNESCO/IOC, UN-HABITAT, UNDP and UNEP (for details visit: www.gpa.unep.org).

⁴ The launch was co-sponsored by the Government of the United States of America and Government of The Netherlands.

sound scientific facts, and therefore, proposed in the programme of work of the UNEP/GPA Coordination Office for the next phase.

Wastewater Management

26. The UNEP/GPA wastewater programme takes into consideration the fact that the water supply and wastewater treatment are closely linked. However, it is wastewater or sewage that impacts on the coastal and marine environment. The wastewater programme therefore, promote concrete action at the local and national levels aimed at addressing sewage through uses of alternative solutions, including low cost technologies, appropriate financial mechanisms and partnerships; and creating an enabling environment for action for wastewater collection, treatment and re-use (i.e. for agricultural purposes), and reallocation to the natural environment. In considerations of the above, the focus of UNEP/GPA wastewater programme has been to build capacities at the local, national and regional level and up-scale innovative and sustainable approaches in wastewater management through the delivery of regionally adapted training courses.

UNEP/GPA Coordination Office has been training municipal wastewater managers on “Improving Municipal Wastewater Management for Coastal Cities” together with the UNESCO-IHE Institute for Water Education and other partners around the world.. The emphasis of the programme is to promote community-based solutions to marine and freshwater pollution problems through improving sanitation and wastewater management practices. They aim to achieve these through additional vocational and academic training which will impart skills in building and maintaining water supply and sanitation infrastructure, and improve expertise in monitoring and quality assurance of the projects (for details see Para ...under Training and Capacity building activities to support implementation of the GPA) . The training is based on the ‘UNEP/WSSCC/WHO/UN-HABITAT Guidelines for Municipal Wastewater Management’ and their associated “10 Keys for local and nation action”, and was developed in the framework of the Train-Sea-Coast (TSC) programme of the United Nation’s Division for Ocean Affairs and the Law of the Sea (UN/DOALOS).⁵

In 2010, UNEP, UN-Habitat, and the UN Secretary General’s Advisory Board on Water and Sanitation (UNSGAB) - in partnership with the members of UN Water - combined their collective experience and expertise to highlight the challenges posed by excessive, illegal and unregulated discharge of wastewater. The report “Sick water - the central role of wastewater management in sustainable development”, identifies threats to human and ecological health and the consequences of inaction, while also presenting opportunities, where appropriate policy and management responses over the short and longer term can trigger employment, support livelihoods, boost the health of people and ecosystems and contribute to more intelligent water management.

27. To tackle immediate consequences the “Sick Water” report recommends for adoption of a multi-sectoral approach to wastewater management as a matter of urgency, incorporating principles of ecosystem-based management from the watersheds into the sea, connecting sectors that will reap immediate benefits from better wastewater management. The report also emphasized on the importance of a planning process that creates enabling environment for innovation and the need for innovative financing of design, construction, operation and maintenance of appropriate wastewater infrastructure. Finally, the report reminds that fact that in light of rapid global change, wastewater management plan should be developed against future scenarios, not current situations and the solutions must be socially and culturally appropriate, as well as economically and environmentally viable into the future. In the light of this “Sick Water” report a UN-Water Task Force on Wastewater proposes establishing a Multi-Stakeholder Collaborative Agenda on Wastewater that responds, amongst other things, to the challenges posed in the “Sick Water” report (see para.....)
28. The Caribbean Revolving fund for the management of Wastewater (CReW), supports the implementation of the Caribbean Protocol on Land-Based Sources of Marine Pollution, which was adopted on October 6, 1999, and entered into force in August 2010. The protocol sets ambitious goals to govern domestic sewage discharges into the waters of the wider Caribbean.
29. Although Caribbean governments recognize the need to address domestic wastewater management issues, priority has been the financing of potable water system and larger centralized wastewater treatment systems.

⁵ The United Nations TRAIN-X Network comprised of eight training programmes implemented by UN organizations in different fields of specialization. All programmes share similar objective and approaches to training. Since its inception in 1992, [TRAIN-X](#) has been coordinated by UNDP.

Significant challenges remain for funding decentralized and community-based treatment systems and to obtain affordable financing for wastewater infrastructure improvements at both the national and community levels. To fill-in these financing gaps not covered by other sources, UNEP in collaboration with the Inter-American Development Bank (IDB) proposed the creation of a Caribbean Regional Fund for the management of Wastewater (CReW) to finance innovative projects addressing the collection, transport, treatment re-use and/or safe disposal of domestic wastewater in the Wider Caribbean Region. The testing of innovative financial mechanisms in pilot countries supported by regional institutional, policy and legal reforms will form the basis for improving wastewater management systems throughout the Wider Caribbean Region and form a basis for establishing a sustainable framework for wastewater management in the future..

Marine Litter

30. Plastic debris in the oceans has been highlighted by UNEP as an emerging environmental issue. As a result of its slow rate of degradation in the marine environment, plastic debris continues to accumulate, while breaking down into smaller particles and micro-plastics. Concerns have been expressed regarding the potential impact of releases of persistent bio-accumulating and toxic compounds from such debris.
31. After the IGR-2 significant attention was given to this problem of marine litter under the broad auspices of the Regional Seas Programme and UNEP/GPA Coordination Office. This culminated in the publication of a global review of the approaches taken to mitigate this issue, as well as Guidelines on the Survey and Monitoring of Marine Litter and Guidelines on the Use of Market-Based Instruments to Address the Problem of Marine Litter. Considerable work was undertaken by the Regional Seas Programme in association with the Food and Agriculture Organization (FAO) to examine the threat posed by 'ghost fishing' with an appraisal of abandoned, lost, or otherwise discarded fishing gear. The FAO-UNEP 2009 joint publication FAO⁶ has outlined the impacts and causes of the problem, as well as possible preventive, mitigation and curative measures. Marine litter has been viewed by UNEP/GPA Coordination Office and Regional Seas Programme as a key crosscutting issue for the various programs operated under and in association with the UNEP Regional Seas Programme.
32. The UNEP/GPA Coordination Office in partnership with the US National Oceanic and Atmospheric Administration and other partners, organised the 5th International Marine Debris Conference, in March 2011, in Honolulu, Hawaii. The Conference discussed research advances and shared strategies and best practices to assess, reduce, and prevent the impacts of marine debris. The Conference adopted the Honolulu Commitment which, calls for a cross-sectoral approach to help reduce the occurrence of marine debris, and for the development a global strategy for the prevention, reduction and management of marine debris.

Training and capacity-building activities to support implementation of the Global Programme of Action

33. During the IGR2 the governments clearly recognised that lack of capacity is a major challenge faced by developing countries for the successful implementation of the Global Programme of Action. The governments noted that this capacity building should be achieved in close cooperation with the secretariats of the regional seas conventions and action plans and members of the United Nations Development Group, thus facilitating links with United Nations common country assessments, the United Nations Development Assistance Framework and other development frameworks.
34. With respect to building capacities in line with the Bali Strategic Plan, UNEP/GPA Coordination Office in partnership with UNESCO/IHE Institute for Water Education in the Delft, The Netherlands and various other regional and national institutions organized a series of training courses on Municipal Wastewater Management within the framework of the project "Pollution reduction through improved municipal wastewater management in coastal cities in Africa and the Caribbean countries with a focus on small island developing States (SIDS).⁷ The training course contributes to improving skills and knowledge needed in project identification, planning and financing at the municipal level in water, sanitation and wastewater management. .

⁶. FAO and UNEP 2009. Abandoned, lost or otherwise discarded fishing gear, UNEP Regional Seas series and studies no 185 and FAO Fisheries and Aquaculture Technical paper no. 523.

⁷. The delivery of this training programme has been made possible due to generous financial support of the European Union under the EU ACP Water Facility funding window, UNDP/GEF and the Belgium government.

35. During the period of 2007-2011 through the delivery of 73 courses in 30 countries a total of 1,426 professionals have been trained. Of the total professional trained one third are women. Countries covered under this training programme are Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Tanzania in the Eastern Africa; Benin, Cameroon, Côte d'Ivoire, Ghana, Mauretania, Nigeria, Republic of Congo, Senegal and Togo in Western Africa; Bahamas, Barbados, Belize, Guyana, Jamaica, St. Kitts and Nevis, Suriname, Trinidad and Tobago in the Caribbean; Cook Islands, Fiji, Kiribati, Tonga in the Pacific; and Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Oman, the Occupied Palestine Territory, Qatar, Saudi Arabia, Sudan, Syria, Tunisia and Yemen in the Middle East.
36. One of the courses was specifically organized for decision-makers from Arabic-speaking countries. Senior experts were trained from Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Oman, the Occupied Palestine Territory, Qatar, Saudi Arabia, Sudan, Syria, Tunisia and Yemen.
37. In addition to the abovementioned training of professionals, UNEP/GPA Coordination Office also developed a training-of-trainers (TOT) module and trained prospective instructors selected out of the participants attending the basic training on wastewater management. During this training the prospective trainers got a learning-by-doing exposure to the different logistic, pedagogical and methodological approaches used to facilitate workshops. The prospective instructors were provided with additional material directly after the course. The TOT was used to build a pool of local, regional and international instructors for the different modules in each language, and also ensure future capacity building well beyond the scope of present project. A total 27 instructors have been trained from 17 countries.⁸
38. The evaluation of the training programme noted improved skills and knowledge in project identification, planning and financing at the municipal level in water, sanitation and wastewater management. Participants use the training manual and guidelines when planning new infrastructure developments. The training of local and regional instructors has contributed to increased capacity to provide such training independent of UNEP/GPA Coordination Office support. There are also evidences that some of the training participants have been able to influence planning actions of their organizations, increasingly using their skills acquired in carrying out objective-oriented planning and systematic involvement of stakeholders in critical phases of the planning processes. Participants are also networking with each other, which is contributing to improved exchange of knowledge and implementation of best practices.
39. Representatives from a number of countries requested to expand UNEP/ GPA Coordination Office's support in building capacity in wastewater management. UNEP/GPA Coordination Office is assessing how the training project can be modified to increase aspects of institutional capacity-building.
40. In partnership with the East Asia Regional Seas Coordinating Unit (COBSEA) and the International Maritime Organization (IMO), the UNEP/ GPA Coordination Office organized a training workshop in Guangzhou, China to strengthened the capacity of the member countries in discharging their obligations towards the implementation of the marine pollution related Multilateral Environmental Agreements (MEAs) including MARPOL.
41. Regional Organization for the Protection of the Marine Environment (ROPME) under the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution organised a series of capacity-building activities in support of the implementation of Kuwait Action Plan. The training programmes were aimed to enhance the capabilities of ROPME member States (Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates) primarily towards implementation and undertaking of environmental assessment, environmental management, legal reforms and supporting relevant institutional and financial arrangements for the protection of the marine environment that is considered as the first priority with a view to promotion of human health and well-being of the member countries. In this effort, regional workshop for legal and technical experts on land-based protocol was conducted in Manama, Bahrain (October 2008), which

⁸ The instructors trained are from the following institutions: Caribbean Environmental Health Institute (CEHI), Saint Lucia, Moi University, Kenya, Pan American Health Organization (PAHO), Saint Lucia, Centre National de Recherches sur l'Environnement (CNRE) Madagascar, Centre Régional pour l'Eau Potable et l'Assainissement à Faible cout (CREPA) Burkina Faso, CREPA Senegal, CREPA Togo, Eduardo Mundlane University, Mozambique, Environmental Protection Agency (EPA) Ghana, Kwame Nkrumah University (KNUST) Ghana, Lagos State Environmental Protection Agency (LASEPA), Nigeria, Rivers State University of Science and Technology (RSUST), Nigeria, University of Calabar (UNICAL), Nigeria, University of Abobo-Adjamé University (UAA), Côte d'Ivoire, University of Dar es Salaam, Tanzania, South Pacific Applied Geoscience Commission (SOPAC), Fiji, University of the South Pacific (USP), Fiji, UNESCO-IHE Institute for Water Education, The Netherlands and few unaffiliated consultants from Madagascar and Egypt.

reviewed the requirements for the effective implementation of the Protocol and urged the member States to revisit their action plans to ensure appropriate institutional arrangements and incorporate the provisions of the Protocol into their national legislation. The regional workshop for modelling and monitoring of coastal marine processes (MAMCOMP) was conducted in Tehran (February 2007) in cooperation with UNESCO-IOC. MAMCOMP dealt at length with the Integrated Coastal Area Management (ICAM) principles and drew upon successful ICAM examples from around the world to promote ICAM applications in the region. Following the popularity and success of this workshop, MAMCOMP regional workshop was again conducted in Abu Dhabi (March 2009) and this was conducted completely with regional resource persons and examples, which demonstrate progress achieved in promoting ICAM since the 2007 workshop.

42. ROPME also organised trainings on integrated information system and developed ROPME Integrated Information System (RIIS), incorporating major regional databases on coastal contaminant survey, remote sensing data and oceanographic cruise results has been established. Besides the three said databases, RIIS also has a dedicated module for country level data representing both raster and vector formats. This regional template is available in RIIS for the member States to present exchangeable information on land-based sources of marine pollution and their impacts.
43. The Caribbean Environment Programme Regional Coordinating Unit (CAR-RCU) conducted workshop in Suriname and Grenada in 2009 to raise awareness among the various groups of stakeholders of the adverse impacts of land-based sources of pollution on marine environment and particularly the national gross domestic product and consequent need for ratification of the land-based sources and Activities (LBSA) protocol. A visible impact of these advocacy and capacity-building efforts was the ratification of the 1999 Protocol Concerning Pollution from Land-Based Sources and Activities by countries and that led the Protocol to coming into force in 2010.
44. UNEP/GPA Coordination Office through the Secretariat of the South Asian Seas Action Plan and in partnership with the Foundation for Environmental Education, Denmark, organized national workshops during February and March 2010 in Bangladesh, India, Maldives and Sri Lanka⁹ with participation of national focal points and other key stakeholder to develop a beach certification programme. These workshops provided a platform to further development of national programmes, and participating countries have agreed to pursue Beach Certification Programme to promote “A Clean beach – A Tourist Haven” concept.
45. In partnership with the Secretariat of the South Asian Seas Action Plan and South Asian Cooperative Environment Programme, UNEP/GPA Coordination Office organized a regional training workshop on “marine resources sampling and data collection and interpretation” in India (September 2009) targeting mid-level managers. The five days training workshop was co-sponsored by the Ministry of Earth Science, Government of India, and attended by senior officials of the Ministry of Environment, representing the governments of Bangladesh, India, Sri Lanka, Pakistan and Maldives.
46. The UNEP/GPA Coordination Office organized an International Workshop on ‘Deltas: Coastal Vulnerability and Management’ in partnership with the Environmental Information System (ENVIS), Ministry of Environment and Forests, Government of India, Land Ocean Interaction in the Coastal Zone (LOICZ) and the Institute of Ocean Management, Anna University, Chennai, India in December 2009. This international workshop facilitated sharing of experiences and knowledge among others on environmental effects of hydrological alterations, biogeochemistry and nutrient budgeting of the Deltas and their impacts on the agriculture and fisheries sectors with consequent vulnerability of human lives.

Regional cooperation in the implementation of the Global Programme of Action

47. The role and importance of regional organisation and regional seas programme were clearly acknowledged in the Washington meeting report while elaborating on the institutional framework for the implementation of the Global Programme of Action. In Paragraph 74, UNEP as the coordinator and catalyst of environmental activities within the United Nations system and beyond was asked to promote and facilitate implementation of the Global Programme of Action at regional, including sub-regional level through, in particular, a revitalization of the Regional Seas Programme.
48. The Beijing Declaration reaffirmed the importance of collaboration with regional seas and urged “to strengthen the United Nations Environment Programme regional seas conventions and programmes, as well as other regional conventions, agreements and programmes for the protection of the marine and coastal

⁹. In Pakistan the planned workshop could not be organized due to unforeseen reasons.

environment, to serve as effective mechanisms to further the implementation of the Global Programme of Action...through means such as the development and implementation of protocols addressing land-based pollution sources and activities.

49. The Regional Seas conventions and the action plans provide the key regional policy framework to implement the Global Programme of Action and many other global instruments dealing with the protection of the marine environment. The 18 Regional Seas Programmes (entailing some 140 countries) have successfully promoted coordination between regional and global conventions and they serve as an important vehicle for gathering information, facilitate exchange of experiences and mobilize political support for actions devoted to the maintenance of ecological integrity of coastal and marine environment. Two key legal instruments; the Land-based Sources and Activities (LBSA) protocol and Integrated Coastal Zone Management (ICZM) protocol are clear examples that the Regional Seas Programmes contribute to countries' efforts to protect their coastal and marine environment from land-based activities.

Land-based Sources and Activities (LBSA) Protocol

50. In the Caribbean, the 1999 Protocol Concerning Pollution from Land-Based Sources and Activities to the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region came into force on 11 July 2010. The LBSA protocol provides a regional framework by setting forth general obligations, including establishing legally binding effluent limitations for domestic sewage, and developing plans for the reduction and control of agricultural non-point sources.
51. UNEP/GPA Coordination Office through the regional project WIO-LaB (Addressing land-based Activities in the Western Indian Ocean) worked with the Nairobi Convention Secretariat to develop the Protocol for the Protection of the Coastal and Marine Environment from Land-based Sources and Activities in the Eastern and Southern Africa Region. The final act of the LBSA protocol was adopted by the member States through the Conference of the Plenipotentiaries in April 2010 and the Final Act of the Protocol was signed by all member States. The member States of the Nairobi Convention through one of its decision adopted during the 6th Conference of the Parties meeting (COP6) "urged the Contracting Parties to implement the LBSA Protocol, including through policy, legislative and institutional interventions, where appropriate" and further requested the Contracting Parties to compile by the end of 2011 a synthesis report on the activities undertaken under the implementation of the Nairobi Convention and its Protocols.
52. UNEP/GPA Coordination Office worked in collaboration with the Abidjan Convention and the GEF-funded project "Guinea Current Large Marine Ecosystem", in the development of a Protocol concerning Cooperation in the Protection and Development of the Marine and Coastal Environment from Land-based Sources and Activities (LBSA) in the Western, Central and Southern African Region. The ninth Conference of the Parties to the Abidjan Convention agreed to submit the final agreed text of the Draft LBSA Protocol, with a view to receive the necessary national approvals to enable its adoption at a conference of plenipotentiaries to be organized by the Secretariat, as requested in article 18 of the Convention.
53. UNEP/GPA Coordination Office implemented the legal component of the GEF "Black Sea Ecosystem Recovery" project (BSERP) and, in cooperation with the Black Sea Commission Permanent Secretariat, provided technical and legal support in the revision of the 1992 Bucharest Convention "Protocol on the Protection of the Marine Environment of the Black Sea from Land-Based Sources". The revised protocol "Protocol on the Protection of the Marine Environment of the Black Sea from Land-Based Sources and Activities" (LBSA) was extensively discussed and negotiated by the Contracting Parties in multiple national and regional workshops and negotiating meetings. Advocacy and outreach materials were also produced (in the six Black Sea national languages i.e., Bulgarian, Georgian, Romanian, Russian, Turkish and Ukrainian) explaining the need and reasons for the revision of the LBS Protocol including incorporation of the new provisions. The final draft LBSA Protocol was presented at the Ministerial Meeting/Diplomatic Conference held in Sofia, Bulgaria, on 7 April 2009, where the protocol was adopted and signed by all the Black Sea countries. It has already been ratified by Georgia.
54. Within the framework of GEF Phase II Project "Towards a Convention and Action Programme for the Protection of the Caspian Sea Environment" (CEP-SAP) and as Interim Secretariat of the Tehran Convention, UNEP Regional Office for Europe and GPA Coordination Office have supported the development and negotiation of the Protocol on the Protection of the Caspian Sea against Pollution from Land-based Sources and Activities (LBSA). Third Conference of Parties to the Tehran Convention, held in Aktau, Kazakhstan in August 2011 discussed the further steps on preparing the protocols for signing. The Programme of Work for

2012, adopted by the COP includes for among others, adoption and signature of the LBSA Protocol during the COP IV at the Caspian Presidential Summit, taking place later in 2011 in Moscow.

55. Regional Organization for the Protection of the Marine Environment (ROPME) under the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution through training of legal and technical experts of its member countries (held in Manama, Bahrain October 2008), urged the member States to revisit their action plans to ensure appropriate institutional arrangements and incorporate the provisions of the Protocol into their national legislation.

Integrated Coastal Zone Management (ICZM) Protocol

56. Within the framework of the Mediterranean Action Plan, the member States of the Barcelona Convention have adopted an Integrated Coastal Zone Management Protocol on 21st January 2008 through a Conference of the Plenipotentiaries. On the day of adoption 14 Contracting Parties signed the Protocol. The Protocol is comprehensive and forward-looking. It articulates the definition of the coastal zone and the coastal setback; makes provision for development of coastal strategies and strategic environmental assessment and reporting on the implementation of the Protocol.
57. The member States of the Nairobi Convention during its COP-6 taken the decision to use the integrated coastal zone management approach for the long-term sustainable development of the coastal and marine areas of the Western Indian Ocean region, and agreed “to develop an ICZM Protocol and request the Nairobi Convention Secretariat to support the development of such an ICZM Protocol, through a consultative process”. To this effect, a legal and technical working group (with 2 representatives per country) has been formed to draft the protocol. The working group through a series of meetings produced a draft text of the protocol and this is currently under review.

Examples of other regional cooperation and regional policy responses

58. During the East Asian Seas Congress hosted by PEMSEA and its partners¹⁰ the delegates reaffirmed their commitment to expedite implementation of the Global Programme of Action within the framework of the Sustainable Development Strategies for the Seas of East Asia (SDS-SEA). During the final plenary session the Congress delegates urged the ministers to stay on the course by strengthening capacities of the agencies at local and sub-national levels to scale up integrated coastal management to demonstrate innovative solutions for reduction of pollution, restoration and management of habitats to capture carbon, and enhancing sustainable livelihoods of the coastal population.
59. H.E. President Gloria Macapagal-Arroyo of the Philippines while addressing the plenary called for political commitment to translate the shared vision of the EAS countries reflected in the SDS-SEA into action through enactment of appropriate policies and legislations to bring various organs of the governments together, and also to bring governments and other actors into one platform for dialogues, policy and institutional reform to facilitate concerted actions. H.E. the President referred to the Executive Order 533 of the Philippines, as a case of illustration that has made ICM mandatory as a planning framework and also devolved authority to local and sub-national governments to design and implement programs on the grounds through introduction of taxes, fees and other economic instruments.
60. The Ministers and High-level delegates representing the governments of the East Asian Seas region¹¹ attending the East Asian Seas Congress and the Ministerial Forum for the sustainable development of the seas of East Asia hosted by PEMSEA and its partners¹² in its meeting of November 2009 reviewed the progress made by the countries in terms of implementation of the Sustainable Development Strategies for the Seas of

¹⁰ UNEP/GPA Coordination Office and PEMSEA has a longstanding partnership and over the years has undertaken collaborative activities, including sharing models of good practices through case studies; joint publications; linking PEMSEA and GPA websites, collaborating on the finalization of the “Sustainable Development Strategy for the Seas of East Asia (SDS-SEA)” and its adoption by the countries of the region at the ministerial forum in 2003, its implementation through national projects, holding of training and capacity building activities and period review through holding of EAS Congress and EAS Ministerial Forum once in every 3 years.

¹¹ The governments of Cambodia, P.R.China, DR Korea, Indonesia, Japan, Laos, Philippines, RO Korea, Singapore, Timor-Leste and Vietnam are members of the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).

¹² UNEP/GPA Coordination Office is one of partners of PEMSEA and a member of the East Asian Seas Partnership Council.

East Asia, and adopted the “Manila Declaration” through which among others, they reiterated their commitment to implement the Global Programme of Action and agreed to cover 20% of their coastal zone under the integrated management and adopt national coastal and ocean policies in 70 per cent of the countries by 2015. They also concluded to report on the state of the coastal health every three years during the EAS Congress.

61. The Asian-Pacific Economic Cooperation (APEC) Oceans-Related Ministerial Meeting of 2010 held in Paracas, Peru addressed the theme “Healthy Oceans and Fisheries Management Towards Food Security” and through the Paracas Declaration, among others¹³ committed to focus their efforts on the sustainable development and protection of the marine environment. They acknowledged that marine ecosystems are being used for an increasing variety and intensity of activities, resulting in more stress on these systems through, among other issues, habitat damage, marine and land-based pollution and invasive species.
62. The Ministers, therefore, noted that conserving the integrity of marine ecosystems requires urgent attention, and “recognized that the greatest possible benefits from marine environments can be obtained if we acquire a better understanding of oceans and their associated economic, social and environmental benefits, and improve our ability to sustainably manage marine ecosystems, particularly through better understanding and implementation of ecosystem-based management”. The Ministers also underscored the need to continue to consider the vital contribution of marine resources and fisheries and aquaculture products to food security in all relevant dialogues. The outcomes of this meeting was subsequently presented to the first APEC Ministerial Meeting on Food Security, held in October 16-17, 2010 in Niigata, Japan, which aimed at developing strategies of cooperation in food security among the APEC economies.
63. The Baltic Marine Environment Protection Commission (commonly referred to as the Helsinki Commission or HELCOM¹⁴) is promoting application of the ecosystem approach for the protection of its marine environment. In 2007 the HELCOM member States and the European Union in its meeting held in Krakow, Poland (15 November 2007) adopted a time-bound targeted regional action programme within the framework of Baltic Sea Strategic Action Plan to radically reduce pollution to the Baltic Sea and restore its good ecological status by 2021. One of the major highlights of this new plan is that it opens a new era in marine environment protection by including the concept of maximum allowable nutrient (nitrogen and phosphorus) input and maintaining the ecological status of the Baltic Sea.¹⁵ It also contains provisional country-wise annual nutrient input reduction targets to halt the degradation of the sea. It is important to note that the HELCOM countries have agreed to take actions not later than 2016 to reduce nutrient loads in waterborne and airborne inputs aiming to reach good ecological and environmental status by 2021.

Building partnerships and consensus at the international level for the implementation and mainstreaming of the Global Programme of Action into the international agenda

64. This section outlines how the Global Programme of Action is becoming increasingly mainstreamed in the international agenda. This is evident in the integration of the Global Programme of Action into the mandates of a number of international bodies and instruments and the growing number of international partnerships that address Global Programme of Action-related issues. In addition, progress has been made in providing technical guidance at a sectoral level on Global Programme of Action-related issues such as management of wastewater and nutrients. In order to benchmark progress made in implementing the Global Programme of

¹³ Through the Paracas Declaration (2010) the Ministers committed to focus their efforts on four sub-themes: (1) Sustainable Development and Protection of the Marine Environment, (2) Impact of Climate Change on the Oceans, (3) Promote Free and Open Trade and Investment and (4) The Role of Oceans in Food Security.

¹⁴ HELCOM is the governing body of the "Convention on the Protection of the Marine Environment of the Baltic Sea Area," known as the Helsinki Convention. HELCOM an intergovernmental organization made up of Denmark, Estonia, European Union, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden which works to protect the marine environment of the Baltic Sea from all sources of pollution and to ensure the safety of navigation in the region. The Convention covers not only the Baltic Sea, but also the whole surrounding drainage area of the coastal countries, which comprises more than 1.7 million sq km.

¹⁵ HELCOM has estimated that for good environmental status to be achieved, the maximum allowable annual nutrient pollution inputs into the Baltic Sea would be 21,000 tons of phosphorus and about 600,000 tons of nitrogen. Therefore HELCOM countries have agreed to jointly reduce the input of some 15,000 tons of phosphorus and 135,000 tons of nitrogen in order to reach the plan's crucial “clear water” objective.

Action, however, global assessments of Global Programme of Action-related topics are required and continued support for such activities.

Global Environment Facility

65. Further to the Beijing Declaration, which calls on international financial institutions and mechanisms to “expeditiously finance” activities of the Global Programme of Action, the GEF contribution to the implementation of the Global Programme of Action has increased significantly. During GEF-4, the GEF Council approved mandate of utilizing integrated, ecosystem-based approaches to management of transboundary water resources. This GEF support places human activities at the center of the transboundary waters and bases interventions on modifying those human activities so that multiple benefits may be sustained. In the Internal Waters Strategy of GEF-4 focus had been on four priority global themes¹⁶, and one of being Reducing Nutrient Over-Enrichment and Oxygen Depletion from Land-Based Pollution of Coastal Waters in LMEs Consistent with the Global Program of Action.
66. Under this thematic priority the GEF committed support projects and programs addressing economically and ecologically problematic “Dead Zones” of oxygen-deficient water related to excessive levels of nitrogen and phosphorus pollution and oxygen-demanding substances as part of its work on Large Marine Ecosystems¹⁷ and in support of the Global Programme of Action through: implementation of national policy, legal, institutional reforms to reduce land-based sources of nitrogen and other pollutants consistent with agreed transboundary action programs and the Global Programme of Action. It is worth noting that during the GEF-4 a total of 30 projects (2 global, 14 regional and 14 national projects) received nearly USD 160 million from the GEF with additional USD 2.2 as co-financing to address land-based sources of coastal and marine pollution in line with the Global programme of Action.
67. The goal of the GEF-5 International Waters focal area is the promotion of collective management for transboundary water systems and subsequent implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services. The GEF-5 IW strategy noted that “reduction of land-based sources of marine pollution will continue to demand GEF attention, particularly nutrients from sewage and agriculture that contribute to the alarming spread of coastal “Dead Zones” and adverse effects on coral reefs. It also noted that “GEF pilot successes in support for the GPA and nitrogen pollution reduction will be continued to reduce land-based nutrient pollution of shared LMEs and their coasts. This is aimed at catalysing global attention to disruption of the nitrogen cycle and to limit expansion of “Dead Zones” that interfere with food security and livelihoods. National and local policy, legal, institutional reforms to reduce land-based inputs of nitrogen and other pollutants will be pursued. The strategy recognised, however, that “support to the GPA can only be at a limited level given limited replenishment funding to help address the disruption to the global nitrogen cycle”.

Small Island Developing States (SIDS)

68. SIDS are recognized as a distinct group of developing countries with specific social, economic and environmental vulnerabilities and special efforts have been made to support them. UNEP has supported SIDS primarily through providing environmental policy guidance and coordination at the regional and inter-regional levels. UNEP/GPA Coordination Office and UNEP’s Regional Seas Programme assist SIDS in developing and implementing the ecosystem management approach, integrated coastal zone management plans, integrated water management resources, strategies to prevent further marine and coastal degradation.

¹⁶ Strategic Program 1: Restoring and Sustaining Coastal and Marine Fish Stocks and Associated Biological Diversity; Strategic Program 2: Reducing Nutrient Over-Enrichment and Oxygen Depletion from Land-Based Pollution of Coastal Waters in LMEs Consistent With the Global Program of Action (GPA); Strategic Program 3: Balancing overuse and conflicting uses of water resources in surface and groundwater basins that are transboundary in nature and Strategic Program 4: Reducing Persistent Toxic Substances and Testing Adaptive Management of Waters with Melting Ice.

¹⁷ Large marine ecosystems provide a framework for progress in the direction of adaptive management by recognizing the basic linkages between scientific assessments, protection of the marine environment, sustainable development of coastal and marine resources, and poverty alleviation. The five module large marine ecosystem approach has developed indicators relating to productivity, fish and fisheries, pollution and ecosystem health, socioeconomics and governance to facilitate analysis of ecosystem-wide changes. The approach provides the scientific foundation for management actions in current GEF large marine ecosystem projects and the management of coastal and marine resources through the Regional Seas Programmes.

69. UNEP is acting as an implementing agency for three SIDS regional projects funded by the Global Environment Facility on integrated water resources management (IWRM).¹⁸ UNEP through its SIDS Unit facilitates exchange of experiences and lessons learnt across the SIDS regions. The three SIDS regional projects have been given the opportunity to join in the development of a Resource Book and a Manual on IWRM for SIDS.
70. UNEP also supported the national, regional and global preparatory processes for the High-level Meeting on the Review of the Implementation of the Mauritius Strategy (MSI+5), which took place during the 65th session of the UN General Assembly in September 2010. It provided input and support to preparing national assessment reports and other relevant documents, and to the organisation of Regional Preparatory Meetings.
71. UNEP/GPA Coordination Office also provided technical and financial assistance to SIDS in response to the specific calls made in the Mauritius Strategy. Technical and financial support to address priority problems identified through national consultative processes were given to Mauritius, Seychelles, Comoros and Trinidad and Tobago.
72. The International Year of the Reef 2008 was implemented in the Caribbean through the regional Coral Reef Consultation for the Wider Caribbean, which ascertained the types of new science that are needed to improve coral reef management regionally and how existing science can best be applied to help regional managers. Support was also given to the conservation and sustainable use of coastal and marine ecosystems, including International Coral Reef Initiative activities.

The World Oceans Conference 2009

73. At the World Oceans Conference in Manado, Indonesia, May 2009, governments expressed concern that marine ecosystems continue “to be threatened by land-based and sea-based pollution ... poor land-use planning, and socioeconomic pressures.” Governments recognized that “healthy and productive coastal ecosystems ... have a growing role in mitigating the effects of climate change on coastal communities and economies *in the near term*” and that “an integrated coastal and ocean management approach is a key in promoting resilience, and thus *fundamental* to preparing for and adapting to the effects of climate change.” Importantly, governments in Manado committed to “strive to reduce pollution of ocean, coastal and land areas”.
74. UN-Water is a body composed of representatives of 28 United Nations organizations and external partners representing various organizations and civil society. It was established to promote coherence and coordination in UN System initiatives that are related to UN-Water’s scope of work and contribute to the implementation of the agenda defined by the 2000 Millennium Declaration and the 2002 World Summit on Sustainable Development. Its scope encompasses all aspects of freshwater and sanitation, including surface and groundwater resources and the interface between freshwater and seawater and water-related disasters.
75. UNEP/GPA Coordination Office based on the publication of the Sick Water report (for details see para) facilitated the establishment of an UN-Water Taskforce on Wastewater Management. Through the Wastewater Task Force, the UN Water aims to (a) highlight the issues surrounding wastewater management, including the extent of wastewater management across the globe, its role in integrated water resource management, its effects on health and the environment, and the market and non-market costs of neglecting wastewater management; (b) increase awareness by governments, at national and municipal scales, of the dividends of investing in wastewater management; (c) strengthen UN-System collaboration on activities related to wastewater management with a view to assisting governments create an enabling policy environment. A major output expected of the UN-Water Task Force is a Multi-stakeholder Collaborative Agenda on Sustainable Wastewater Management articulating the longer term actions by UN-Water member agencies, partners and other relevant stakeholders; areas and mechanisms for collaboration among various stakeholders; and links with other contemporary issues.

Global Forum on Oceans, Coasts and Islands

¹⁸ UNEP/GEF supported projects are: a. Integrating Management of Watersheds and Coastal Areas in Caribbean SIDS (covering Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines and Trinidad and Tobago); b. Implementing Sustainable Integrated Water Resource and Wastewater Management in the Pacific Island Countries” (countries are Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Samoa, Solomon Islands, Palau, Papua New Guinea, Tonga, Tuvalu and Vanuatu; and c. Implementing Integrated Water Resource and Wastewater Management in Atlantic and Indian Ocean SIDS (covering Cape Verde, Comoros, Maldives, Mauritius, Sao Tome and Principe, and Seychelles).

76. The Forum brings together an informal association of ocean leaders from Governments, inter-governmental and international organizations, non-governmental organizations, the private sector, donors, and scientific institutions to discuss how to advance implementation of the global oceans agenda. During the reporting period it has held several major meetings and has prepared some key documents analysing the synergies and gaps in policymaking, and conducted a multiplicity of outreach activities. UNEP/GPA Co-ordination Office has provided significant support for the work of the Forum.

International Year of Sanitation

77. The United Nations General Assembly designated 2008 as the International Year of Sanitation (IYS). The overall objective of IYS was to accelerate progress in providing adequate basic sanitation for 2.6 billion people worldwide who lack access to this fundamental human right. UNEP/GPA Coordination Office, on behalf of UNEP acted as one of the members of the UN-Water Task Force on Sanitation¹⁹ and worked with other members of the Task Force to raise awareness on sanitation issues, in particular wastewater issues, in order to accelerate progress towards the Millennium Development Goal target to reduce by half the proportion of people without access to basic sanitation by 2015. UNEP/GPA Coordination Office through its work promoted a broader concept of sanitation that is not strictly restricted to the provision of household sanitation services (i.e., provision of taps and toilets), but all the other components of waste management process, including the protection of water source, water supply, wastewater collection, treatment and re-use i.e. for agricultural purposes, and reallocation to the natural environment.

International assessments and knowledge generation on Global Programme of Action-related issues

78. In line with the normative mandate of UNEP and its role in increasing the knowledge base in the area of land-based pollution of marine and coastal areas, some efforts have been devoted by UNEP/GPA Coordination Office, its partners and by the UN agencies to generating new knowledge and/or synthesize existing knowledge in a form useful for decision and policy making for the protection and sustainable use of the coastal and marine resources
79. **Regular Process for Global Assessment of Marine Environment.** The UN General Assembly through its Resolution 60/30 of 2006 decided to undertake an Assessment of Assessment (AOA)²⁰ which could undertake a critical appraisal of the various marine assessments in order to evaluate their scientific credibility, policy relevance, legitimacy and usefulness. The findings of the group of experts, undertaking the assessment of assessment called for establishing a better coordinating mechanism of oceans assessments and governance building on the strengthens of the existing institutions and processes. The GPA acted as an initial catalyst for the need for a global assessment through its relationship with GESAMP.
80. **The Global Marine Biodiversity Outlook report:** prepared by UNEP's Regional Seas Programme, the report provides a systematic overview at a sub-global scale of the state of knowledge of marine biodiversity, the pressures it faces currently and the management frameworks. It is evident from the report that marine biodiversity faces increasing pressures from land-based sources of pollution, ship sourced pollution and impacts of fishing. These pressures are serious and generally increasing despite measures in place to address them, and they are amplified by predicted impacts of ocean warming, acidification and habitat change arising from climate and atmospheric change. The report concludes that without significant management intervention marine biological diversity is likely to deteriorate substantially in the next 20 years with growing consequences for resource and physical security of coastal nations. The report provides a snapshot of the situation in 2010, highlights the effectiveness of various management responses that have been taken to date, establishes a baseline and proposed a set of indicators for assessing the impacts of policy measures on the health of the marine environment.
81. **Sick Water Report.** UNEP/GPA Coordination Office in partnership with UN-Habitat and the UN Secretary General's Advisory Board on water and Sanitation (UNSGAB) published a rapid assessment report on wastewater management titled "Sick Water? The central role of wastewater management in sustainable development" in 2010. The primary aim of this exercise has been to mobilize and draw from the collective

¹⁹ The other members of the IYS Task Force have been UNICEF, WHO, UN-HABITAT, UNDP, the Water Supply and Sanitation Collaborative Council, the Water and Sanitation Programme of the World Bank and the United Nations University.

²⁰ The Assessment of Assessments is led by a group of UN agencies namely, UNEP, IOC/UNESCO, IMO, WMO and FAO.

experiences and expertise of UN Water partners to address the challenges posed by excessive and unregulated discharge of wastewater in to the natural environment. This report based on analysis of data and cases from various sources demonstrates the impact of poor wastewater management and degrading sewage systems is not only costing billions of dollars and degrading ecosystems, it is also challenging the achievement of the Millennium Development Goals, sustainable development, jobs, labour productivity and the health of hundreds of millions of people worldwide. It has been reported that at least 1.8 million children die annually as a result of contaminated water and over half the world's hospitals beds are occupied with people suffering from illnesses linked with contaminated water. The report also highlights the impacts of wastewater on the marine environment in terms of creation of dead zones (i.e., locations of reduced or absent oxygen levels), which now spreads over 245,000 km² of the marine environment covering North America, the Caribbean, Europe and Asia. Finally, the report sums up by charting a set of immediate and long-term actions taking into account the processes of on-going global change.

82. The report was simultaneously launched in Nairobi, Kenya (on the 2010 World Water Day) and Rio de Janeiro, Brazil (during the World Urban Forum). The merit of this report lies to the fact that it not only identifies the threats to human and ecological health and the consequences of inaction, but also presents opportunities, where appropriate policy and management responses over the short and longer term can trigger employment, support livelihoods, boost public and ecosystem health and contribute to more intelligent water management.
83. **Taking Steps toward Marine and Coastal Ecosystem-Based Management: An Introductory Guide:** This publication is to support implementation of UNEP Ecosystem management Programme programme which recognizes the general failure of sectoral approach to environmental management and takes a more holistic view of the links between ecosystem service delivery and human needs – an *ecosystem approach* – in the development and implementation of its programmes and activities. This publication highlights the need and importance of Ecosystem-Based Management of Oceans and Coasts as they provide many valuable services – from food security, resources for economic growth and recreation alongside tourism and coastline protection. They are also recognized as crucial reservoirs of biodiversity at a time when the loss of species on both land and in the sea is an increasing cause for concern.” However, it also well-acknowledged that “the future role of ecosystems for human well-being depends increasingly on developing the capacity of countries to manage human uses and impacts in order to ensure their health and self-repairing capacity is not undermined due to among others overfishing, pollution and unplanned urban development. This report “Taking Steps toward Marine and Coastal Ecosystem-Based Management e Ecosystem Approach” lays out a series of principles to guide management towards long-term sustainability of marine and coastal ecosystems. With this Guide, UNEP seeks to assist countries and communities to take steps towards making marine and coastal ecosystem-based management operational - from strategic planning to on-site implementation.
84. **Foundations for Sustainable Nutrient Management:** a report published by the UNEP/GPA Coordination within the framework of the Global Partnership on Nutrient Management scopes out what is important, what works, and who needs to be persuaded in shaping effective nutrient management. It recommends four main cornerstones -‘*foundations*’ focused around the building of a shared interest and agenda among and within countries; stakeholder engagement and partnerships; and the communication and mainstreaming of best practice tools, and integrated approaches to guide cost effective decision making. It concludes by charting how strategic action by countries – the communication and mainstreaming of key messages and best practices, prompted and supported by partnerships, stakeholder engagement and integrated approaches - can lead to effective nutrient management and the benefits this brings.

Concluding remarks

85. The progress outlined in this report demonstrates that the Global Programme of Action remains a valuable and flexible tool to achieve the various goals and targets set by the international community as they relate to the coastal and marine environment and their associated watersheds. Indeed, to encourage the further implementation of the Global Programme of Action, there is a clear need for the Global Programme of Action to be mainstreamed and integrated into domestic and international aid budgets, development plans, strategies and actions.
86. The evidences presented in this report makes it abundantly clear that in the management of the coastal and marine resources and addressing land-based sources of pollution, the economic dimension that was missing and/or overlooked so far has now been recognized. The government and other stakeholders have increasingly recognized the contribution of the coastal and marine resources in their national economics and their enormous income generating potential, when they are sustainably managed with adequate safeguards.

87. The third session of the Intergovernmental Review Meeting on the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities is taking place in January 2012, just few month ahead of the United Nations Summit on Sustainable Development 2012 (commonly referred to as 'Rio+20) that will be held in Rio de Janeiro, Brazil. In the Rio+20 Summit the Global Leaders will meet to discuss the "Green Economy in the context of sustainable development and poverty eradication" and "the institutional framework for sustainable development".
88. In view of this, the IGR-3 session even become more crucial to strengthen and build strategic partnerships on coastal and marine protection, and to reach agreement on a series of five-year multilateral and multi-stakeholder action plans for the realization of the objectives of the Global Programme of Action that the global community defined and adopted in 1995 through the Washington Declaration.