



Implementing the Manila Declaration to the GPA

Presented by:

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Coordinator, GPA



The **GPA**, adopted in 1995, is a voluntary, action-oriented, intergovernmental programme led by UNEP, to prevent the degradation of the marine environment from land-based activities.

It celebrates its **20th Anniversary on November 3, 2015**

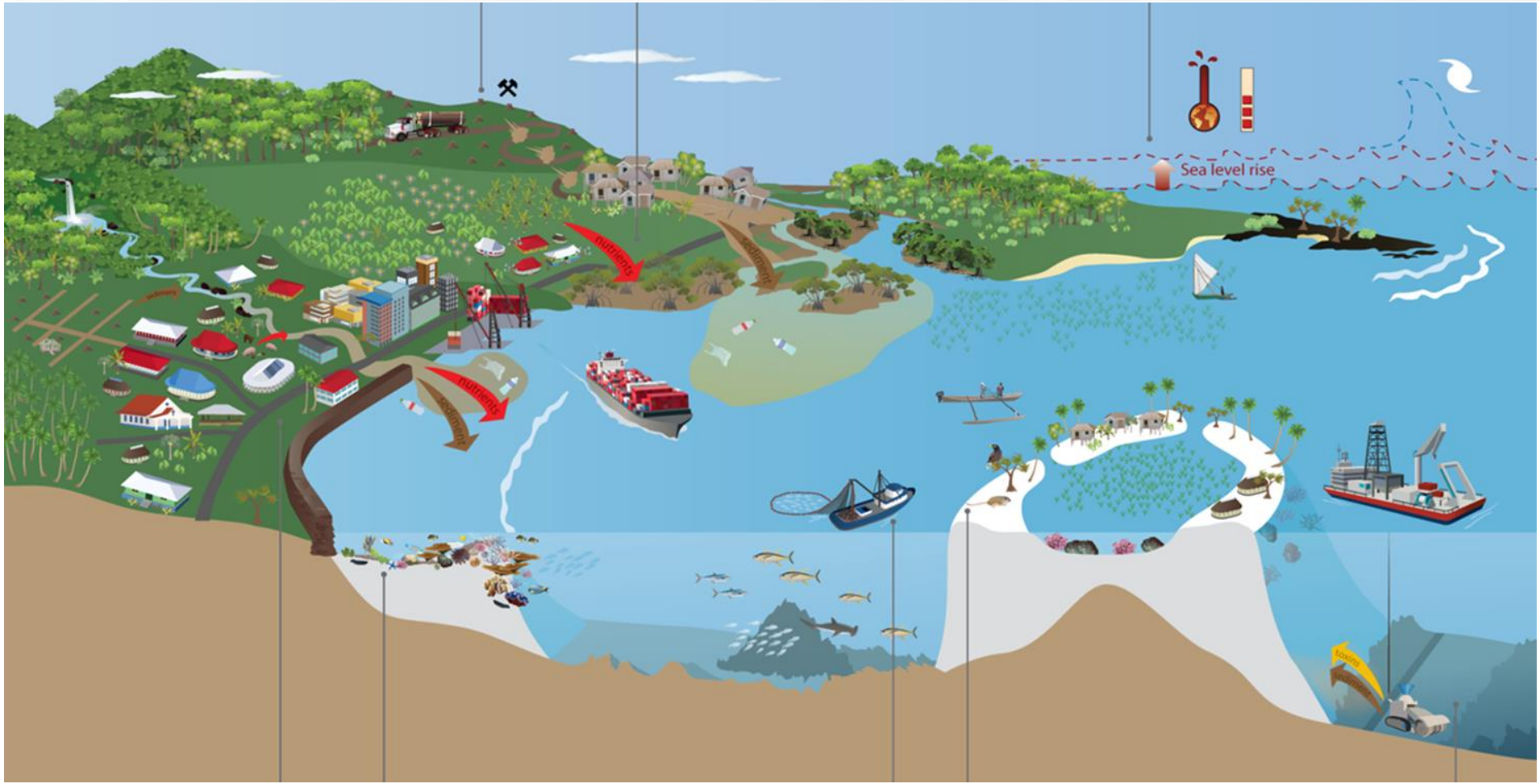
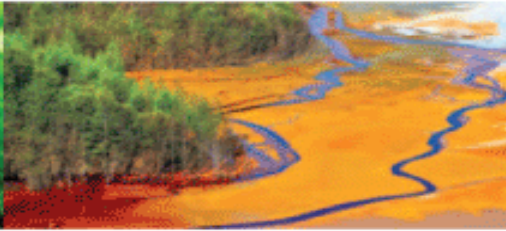
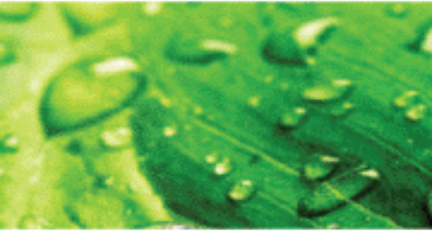


Source categories of the GPA:

- ***Sewage/wastewater***
- ***Physical alterations and destruction of habitats***
- ***Nutrients***
- ***Sediment mobilisation***
- ***Persistent organic pollutants (POPs)***
- ***Oils***
- ***Litter***
- ***Heavy metals***
- ***Radioactive substances***



GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES





Governments and stakeholders implement the GPA in a variety of ways:

- IWRM
- ICZM
- Conventions (Stockholm; RSP)
- NPAs (policy measures & pilots)





Three Intergovernmental Reviews were held in Montreal (2001), Beijing (2006) & Manila (2012)

The Manila Declaration in 2012, gave GPA the mandate to establish three global multi-stakeholder partnerships for the priority areas **marine litter, nutrients, and wastewater**



The Global Partnership on Marine Litter (GPML)

- The GPML seeks to protect human health and the environment by the reduction and management of marine litter
- Guided by the Honolulu Strategy, the GPML has several focal areas:
 - Reduced levels and impact of Land-based sources of ML – led by UNEP/GPA
 - Reduced levels and impact of Sea-based sources of ML - led by IMO and FAO (ALDFG)
 - Reduced levels and impact of ML on shorelines, habitats and biodiversity – global effort (s.a. International Coastal Cleanup)
- UNEP's Role (Secretariat):
 - Facilitate “matchmaking” and use its **convening power** to bring together the various stakeholders
 - **Coordinate with relevant initiatives**



UNEA-1 Resolution

UNEA – Resolution 1/6 on Marine Plastic Debris and Microplastics:

- **Encourages** Governments, intergovernmental organizations, industry and others **to cooperate with the GPML**
- Emphasizes that further **urgent action is needed** and encourages Governments and the private sector to promote more **resource-efficient use and sound management of plastics and microplastics**
- Requests UNEP to provide support to the **development of marine litter action plans** upon request by countries
- Requests UNEP Executive Director to present **a study on microplastics** to UNEA-2



Status: UNEA-1 Resolution

- **Advisory Group for study established** (26 Government nominated experts)
- **Core study being prepared** (led by GESAMP); meeting in Ecuador next month
- **Socio-economic study prepared** (by IEEP), which fed into G7 Summit in June; being elaborated for UNEA-2
- **Modelling work ongoing** (by CSIRO)
- **Study ongoing on impact of microplastics on fisheries and aquaculture** (led by FAO)
- **Compilation of Best Available Techniques and Best Environmental Practices** being done

Implementation: General

- ML Action Plans:
 - Regional: Mediterranean, Caribbean,
 - National: Nigeria,
 - Municipal: Panama, Peru, Ecuador, Chile, Colombia, Brazil
- Abandoned, Lost or Discarded Fishing Gear (FAO)
- ML Observation system with MEPAs (IMO)





Implementation: Waste minimization, Samoa





The *Global Partnership on Nutrient Management (GPNM)* promotes effective nutrient management, and strategic advocacy and co-operation at the global and regional levels

Its role:

- to provide information and enhance capacities to design and implement effective management policies to address the growing problem of nutrient over-enrichment
- to support science-policy interaction and translate science for policy makers
- to position nutrient issues as part of the international sustainable development agenda



GPNM highlights

- Regional Platforms established in Asia and the Caribbean
- Task Teams established:
 - Policies
 - Toolbox
 - NUE
 - Partnerships
 - Communications
 - Phosphorous






The GPNM is currently engaged in the following major activities:

- **Implementation of GEF project on Global Nutrient Cycle (GNC) – USD1.7M from GEF**
- **Development of new GEF project on International Nitrogen Management System (INMS) – USD6M from GEF**
- **Exploration of possibility of hosting International Phosphorus Initiative (IPI)**
- **Improving Nutrient Use Efficiency and proposing targets**
- **Facilitating exchange of expertise on improved nutrient management**

GNC Project: Case Studies – 23 to date; provide BMP examples that are being implemented around the world by key partners



Toolbox

Global Partnership on Nutrient Management

Home Learn Resources **Toolbox** Gallery News & Events About GPNM

Resources

Case Studies

The case studies listed in this section provide BMP examples that are being implemented around the world by key partners including:

- International Plant Nutrition Institute (<http://www.ipni.net/>)
- American Society of Agronomy (<https://www.agronomy.org/>)
- Conservation Technology Information Center (<http://www.ctic.purdue.edu/>)
- Millennium Challenge Corporation (<http://www.mcc.gov/>)
- Winrock International (<http://www.winrock.org/>)

The documents identify the region, cropping systems and approach for implementation and list specific BMPs in the toolbox.

Please click on the PDF to download your case studies of interest.

For more information on any of the cases please contact Chuck Chaitovitz with GETF at chuckc@winrock.org

Payment for Ecosystems Service

- Name: Payment for Ecosystems Service: Finding Long-term Market-based Solutions for Electric Challenges

GLOBAL PARTNERSHIP ON NUTRIENT MANAGEMENT

BMP Case Study

Overview

Name: Payment for Ecosystems Service: Finding Long-term Market-based Solutions for Electric Challenges

Location/Terrain: Upper and Middle Shire Basin, Malawi

Crop(s): Variety of unsustainable land use practices to produce predominant pigeon pea and vegetable crops.

Nutrient(s): Sediment buildup from soil erosion and runoff

Rationale: Sediment buildup increases nutrients loads that speed the operational risks of Malawi's vital Nkula hydroelectric plant.

Issue(s) of Concern/Challenges:

The Nkula plant is one of three hydroelectric plants along the Upper Shire River. Collectively provide Malawi with 98 percent of its electrical power and unsustainable land use practices, such as deforestation and vulnerability to soil erosion. Runoff sediment travels downstream, silts up sediment islands and limits the plant's water intake and damage economic development and protect the hydroelectric land management.

Practice Description:

Millennium Challenge Corporation is working with the Government of Malawi to launch an innovative payment for ecosystem services (PES) long-term approach to managing Malawi's water-energy-food nexus. The approach involves government organizations (NGOs) and community-based organizations to work directly with the local community to promote better land management practices.


Practice Objectives:

Establish an Environmental Trust supported by funding from donors through a PES mechanism to provide sustained funding through the watershed. MCC would like support the Trust through administrative and operational sustainability.

Through these grants to NGOs and CBOS, MCC will implement measures to reduce erosion and soil degradation to increase agricultural productivity in the Upper Shire River. Additionally, MCC aims to establish a long-term mechanism to address sediment buildup and nutrient overloads that impair Malawi's hydroelectric power generation.

Data/Graphs:

Deforestation of the Upper Shire from 1973 until 2010 (LANDSAT and Malawi Environment and Natural Resource Management Action Plan for the Upper Shire Basin, 2011).



For further information, please contact Ben Campbell at MCC: CampbellB@MCC.gov

GNC Project: BMP database – 100 BMPs available

Toolbox

BMP Database

Submitted by admin on Wed, 10/22/2014 - 11:09pm

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BMP Database Intro
This database provides an inventory of best management practices (BMPs) related to nutrient management. The BMPs in this database are categorized into two main sectors, agriculture and urban. Each sector has a series of associated BMP categories (listed below). Users can also search BMPs by specific climactic zones (arid, semiarid, tropical, temperate). Agricultural sector BMPs are further categorized by landuse/agriculture type and their scalability to small/limited resource farms. BMPs are categorized as follows:

Agriculture BMP Categories:

Ammonia Control	Conservation Buffers	Conservation Covers
Drainage Control	Erosion Control	Grazing Management
Irrigation Management	Manure Management	Nutrient Management
Rotation Management	Land Use Conversion	Nutrient Cycling
Shoreline Erosion Control	Wetland Creation/Restoration	

Urban BMP Categories:

Detention	Filtration	Infiltration
Septic Management	Shoreline Erosion Control	Urban Erosion Control
Urban Stream Restoration	Urban Wetland Creation/Restoration	

[---MORE---](#)

Searchable categories

Sector Type

BMP Category

Climatic Zone

Text Search

Search Reset

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← Previous 1 2 ... 12 13 14 15 16

BMPs Search Template

Sector Type

BMP Category

Climatic Zone

Text Search

Search Reset

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Agricultural Waste Composting

Category: Nutrient Recycling
Practice Type: Management
Landuse/Agriculture Type: Row Crop, Fodder, Rice
Climatic Zones: Temperate, Tropical, Semiarid
Regions: North America, South Asia, Europe
Pollutants Treated: Nitrogen, Phosphorus, Sediment

Description: Agricultural waste products (unused portions of crops or waste products from processing) including have the potential to contribute nutrients and should be managed in a manner that prevents nutrient contamination to surface and ground waters. Consideration should be given to the amount of raw waste generated, the nutrient content of the waste product, and recognition that nutrient loading depends on the way in which the waste is handled after harvest. Most vegetable waste, such as sweet corn fodder, cull ears and husks can be used as a green manure by applying it to production fields. ¹

Scalable to small farms? Yes

¹ Selman, Mindy, and Suzie Greenhalgh. "Eutrophication: Policies, Actions, And Strategies to Address Nutrient Pollution." WRI Policy Note, Water Quality: Eutrophication And Hypoxia. Sept. 2009. Web. Feb. 2014.
http://pdf.wri.org/eutrophication_policies_actions_and_strategies.pdf.



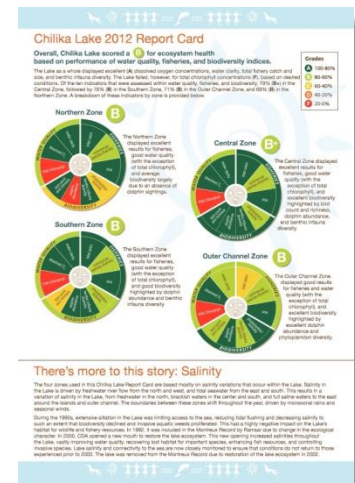
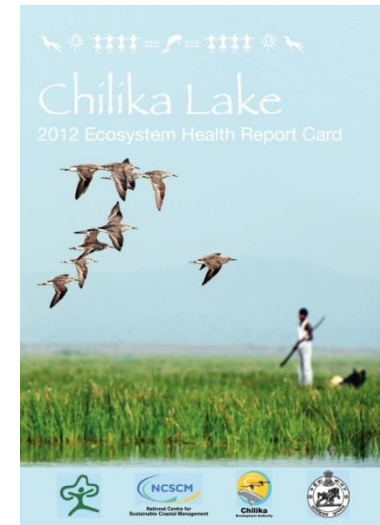
A compost heap handles vegetable and other plant waste on an organic farm (Baudier, Miss.). Photographer: Stephen Kirkpatrick. Photo Courtesy of USDA NRCS.

Alternative Tile Intakes: Perforated Risers



On-site demonstration

- Best management practices in nutrient management – policy & capacity building
- Application of ecosystem health report card
 - Lake Chilika, Odisha State, India
 - Manila Bay & Laguna de Bay, Philippines



What is the Global Wastewater Initiative (GW²I) ?

A Global & voluntary platform

→ To bring a paradigm shift in world water politics, prevent further pollution and emphasize that **wastewater is a valuable resource** for future water security

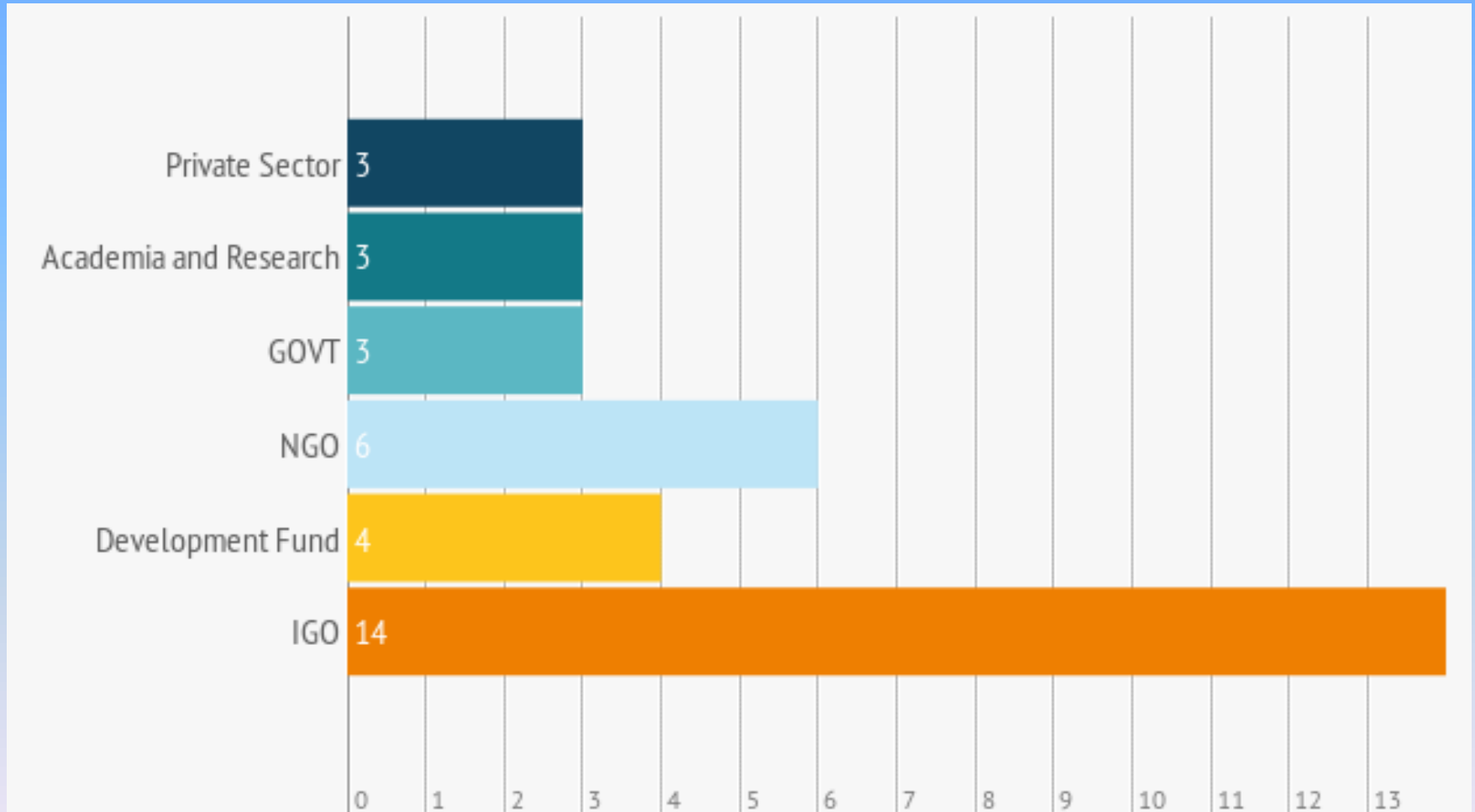
Co-Chaired by UN-Habitat

An International Steering Committee of 15 members & a Partnership forum



What is the GW²I?

A multi-stakeholder partnership





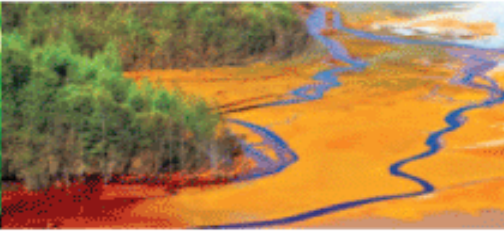
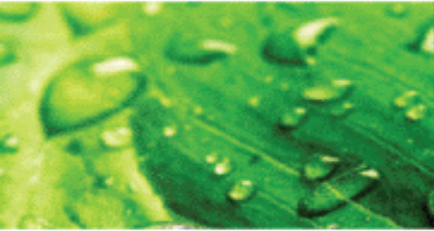
Global Wastewater Initiative

→ “Founding” Members: UN-Habitat; ADB; USEPA; WSA; IAEA; FAO; UEMOA; UNDP; UNIDO; CBD; Ramsar; CReW etc.

GW²I focus:

- Promoting low-cost technology
- Knowledge generation
- Guidance & tools for decision-makers
- Contribute to global debates
- Promote WW as a resource





GPA activities & plans in wastewater (& through GW²I):

→ Demonstration projects (e.g. Red Sea & Gulf of Aden; towns in Georgia; Caribbean)





GPA activities & plans in wastewater (& through GW²I):

- WW technology transfer (e.g. between China and Africa/Latin America)
- Publications/Outreach
- Monitoring mechanism for WW in SDGs





GPA activities through RSP: Abidjan Convention

- Domestication of LBS/A Protocol
- Addressing phosphate pollution (Benin & Togo)
- Addressing Sargassum seaweed impacts



GPA activities through RSP: Barcelona Convention

- Update National Action Plans (to achieve Good Environmental Status)
- Guidelines on Environmentally Sound Management (PCB; lead; oil etc)
- Pollution assessment criteria developed (nutrients; ML)
- Monitoring of marine pollution
- **Adoption of Marine Litter Regional Plan**



GPA activities through RSP: Cartagena Convention

→ Caribbean Platform on Nutrient Management

→ Caribbean node for GPML

→ Pilot projects under GEF-CReW (incl. use of domestic WW as a resource)



GPA activities through RSP: HELCOM

- Regional Action Plan for ML adopted (June 2015)
- Survey of pollutants in WW (microplastics; pharmaceuticals)
- Overview report on sewage from cruise ships
- Nutrient accounting (at farm level)
- Development of core indicators (re. hazardous substances)
- Pollution Load compilation (water & airborne inputs)



GPA activities through RSP: Nairobi Convention

- Efforts towards ratification, including development of guidance paper
- Domestication workshops for LBSA Protocol (e.g. Tanzania and Mozambique)
- Developing ICZM Protocol



GPA activities through RSP: NOWPAP

- Eutrophication Assessment (to reduce nutrient inputs)
- Developing Ecological Quality Objectives (nutrient input as possible indicator)
- Regional Action Plan on ML being implemented
- Hosting NW Pacific node for GPML



GPA activities through RSP: Oslo & Paris Convention

- Maintains assessment and monitoring programme (to address new risks)
- Ecological Quality Objectives programme (e.g. fishing for litter; monitoring of beaches & plastics in seabirds)
- **Regional Action Plan on ML (adopted in 2014)**



GPA activities through RSP: PERSGA

- Efforts towards ratification of (LBS) Protocol
- “Hot spot” assessment
- NPAs developed for a number of countries
- Demonstration projects to support monitoring re NPAs
- Marine litter surveys and assessments
- Framework for development of ML Action Plan
- Capacity building for WW management
- Demonstration projects on best practices for WW reuse



GPA activities through RSP: ROPME

- Adopted Strategic Directions for Reorientation of ROPME
(in line with Regional Seas Strategic Directions)
- Five-year Programme developed
- Survey of Municipal WW in the region

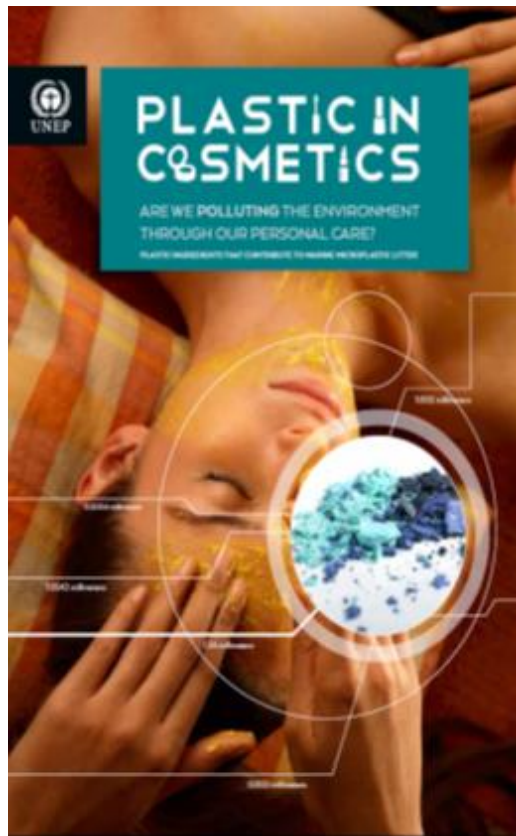


GPA activities through RSP: SACEP

- Regional Oil and Chemical Pollution Spill Contingency Plan developed
- An inventory of point/non- point sources of nutrients that end up in the coastal waters
- Estimating the impact of nutrient enrichment on coastal waters
- Developing and undertaking actions to reduce nutrient inputs to agriculture

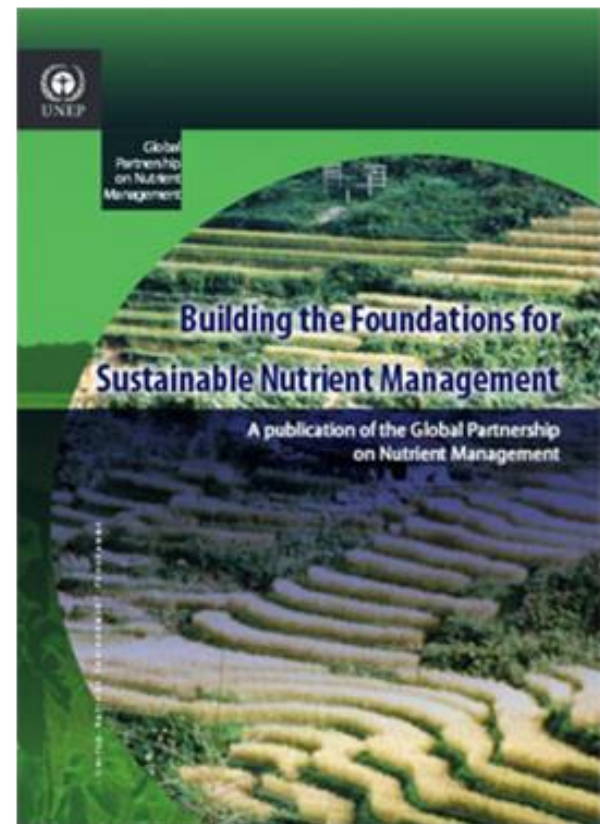
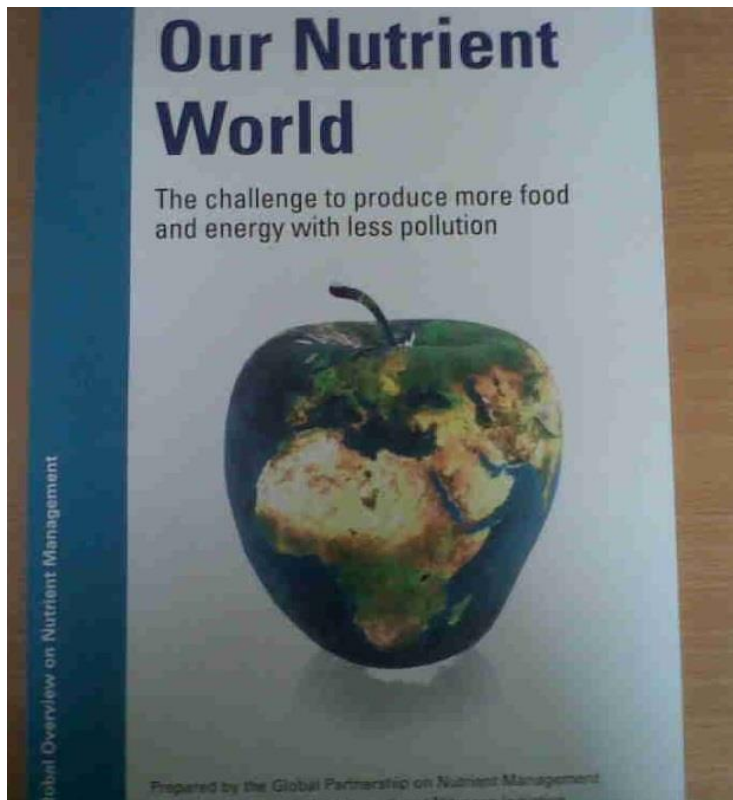


OUTREACH - PUBLICATIONS





OUTREACH - PUBLICATIONS

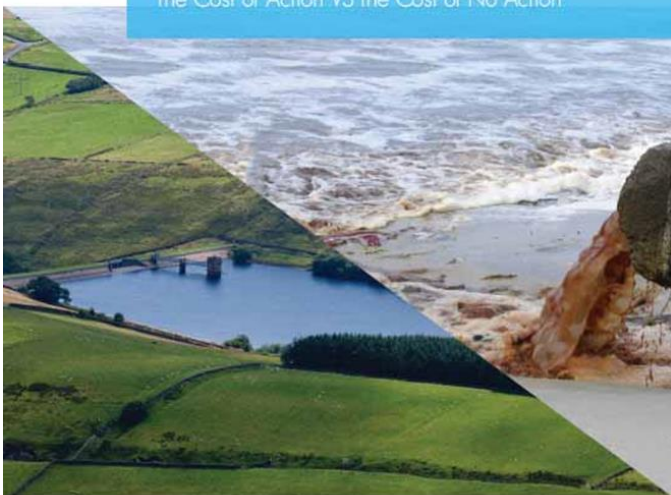




OUTREACH - PUBLICATIONS

ECONOMIC VALUATION OF WASTEWATER

The Cost of Action VS the Cost of No Action



GOOD PRACTICES FOR REGULATING WASTEWATER TREATMENT

Legislation, Policies and Standards

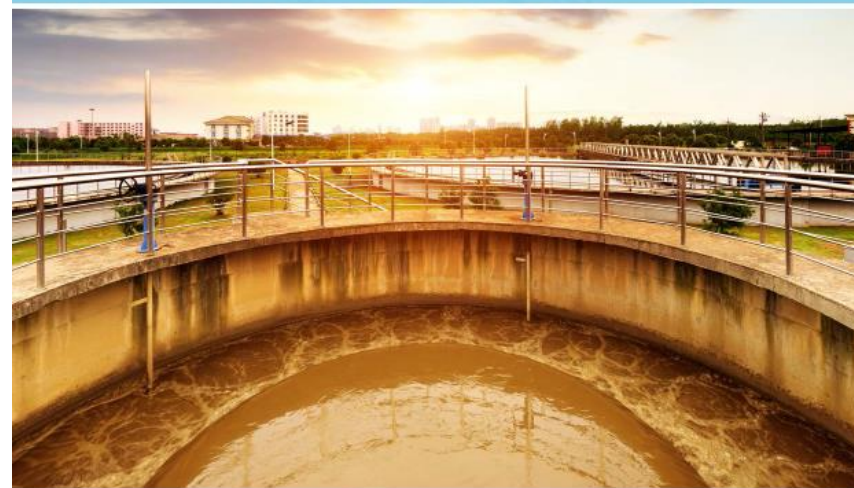




OUTREACH - PUBLICATIONS

Sanitation Wastewater Management and Sustainability

From Waste Disposal to Resource Recovery



Wastewater Management

A UN-Water Analytical Brief



OUTREACH – PUBLICATIONS

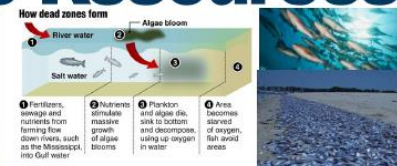
- *Gender, Plastic and Chemicals (2015)*
- *Overview of marine litter legislation (2015)*
- *Ghost Fishing (UNEP/FAO) (2015)*
- *Abandoned, Lost & Discarded Fishing Gear (UNEP/FAO)(2015)*
- *Biodegradable/bio plastics – friend or foe? (2015)*
- *Microplastics and food safety (2015)*
- *Vital graphics series, Marine Litter (May 2016)*
- *UNEA-2 Study on Marine Plastic Debris and Microplastics (2016)*
- *Plastics management strategy for SIDS (2016)*

Addressing the Nutrient Challenge

Toward food security and environmental sustainability

Eutrophication and its impacts on Our Marine Resources

Eutrophication is a process whereby a body of water becomes nourished by 'nutrients', usually nitrogen and phosphorous-based compounds which then leads to excessive growth of aquatic flora, notably algae, which robs the water of dissolved oxygen. In extreme cases 'dead zones' or hypoxic conditions result where lack of dissolved oxygen renders the aquatic ecosystem devoid of life. These nutrients originate from land-based sources such as fertilizer run-off, industrial discharges and sewage.



Do YOU Know?

- ▶ In Northern Gulf of Mexico of the Mississippi River delta, it is low in oxygen during summer and winter which is caused by increase of nitrogen and phosphorus deposits (Nancy M.R., 2015).
- ▶ In Lake Erie, there is a dead zone caused by decomposed algae and microbial which deplete oxygen leading to death of most dependent organisms (Arend et al., 2011).
- ▶ In Baltic Sea, there has been an increase of blue algae which is as a result of eutrophication. It reduces the clarity of coastal areas across the Baltic Sea area (Swedish Environmental Protection Agency Report Series, 2000).

The Problem

- ▶ Reduction in fish populations and in extreme cases massive fish kills
- ▶ Occurrence of nuisance and harmful algae blooms that may affect aquatic biodiversity and humans alike
- ▶ Adverse impacts on ecosystems such as coral reefs due to excessive algal buildup in the water column that reduces light and may grow over corals
- ▶ Potentially serious economic impacts to coastal communities dependent on fisheries and tourism





COMING SOON

Massive Open Online
Course on Marine Litter



Open University Italy
www.ou.it



THANK YOU!

www.unep.org/gpa

