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Draft Policy Guidance for Implementing the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities in the period 2017-2021

Note by the secretariat

I. Introduction

The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) was adopted in Washington D.C, USA in 1995 by 108 governments and the European Commission. It is a flexible, non-binding instrument that contributes to the sustainable development of coastlines, oceans and islands in an adaptive manner in the case of changing realities. The source categories that this programme addresses are: sewage, physical alterations and destruction of habitats, nutrients, sediment mobilization, persistent organic pollutants, oils, litter, heavy metals and radioactive substances. Paragraph 36 of the GPA provides that "*effective international co-operation is important for the successful and cost-effective implementation of the Programme of Action…"* and that *"[F]furthermore, international co-operation is required to ensure regular review of the implementation of the Programme and its further development and adjustment*".

Progress in implementing the GPA was first reviewed in Montreal, Canada in 2001, then in Beijing, China in 2006, and most recently in Manila, Philippines in 2012. Governments also agreed in Manila to the Manila Declaration and that they would focus on developing or strengthening three global partnerships on marine litter, wastewater and nutrient management.

In the years since the Manila Declaration was agreed upon, the international community has embarked on several initiatives, and discussed and developed policies concerning the marine and coastal environment, which are relevant to the implementation of the GPA. Paragraph 75 of the GPA calls upon the United Nations Environment Programme (UNEP) to perform its role as secretariat of the GPA in an efficient and cost-effective manner, under the premise that responsibility for implementation of the GPA, be it at the regional, national or local level, remains within the countries. The GPA urges UNEP to "be flexible and responsive to the evolving needs of the Programme and the availability of resources".

This document has been prepared by the UNEP GPA Coordination Office to present a **preliminary** policy and strategy for the implementation of the GPA during the period 2017-2021 with a view to addressing international discussions on sustainable development as they relate to the marine and coastal environment, and more specifically the **2030 Sustainable Development Agenda**. Regional Seas Conventions & Action Plans (RSCAP) are requested to review the approach proposed and discuss it at the 17th Global Meeting of the RSCAP, with the aim of providing direction that would inform further development of the strategy, in time for the next Intergovernmental Review (IGR) of the GPA, possibly in late 2016 or early 2017.

II. Basis for furthering the GPA implementation in the period 2017 -2021

The purpose of this paper is to prompt thinking on policy issues in relation to the further implementation of the GPA for the period 2017 to 2021. These issues will be discussed with a view to submission at the next IGR meeting of the GPA. The objective of this paper is also to elaborate the opportunities and benefits arising from improved management of land-based sources of pollution (LBS), so that these can be incorporated into the future work of the GPA.

The future role of the GPA will be based on regional and global deliberations, such as:

- Rio+20 Outcome document, *The Future We Want*
- The SAMOA Pathway
- UNEP's Programme of Work and Medium Term Strategy
- The 2030 Sustainable Development Agenda (SDGs)

- Decisions of Conferences of Parties to the Regional Seas Programmes
- Intergovernmental Review Meetings of the GPA
- United Nations Environment Assemblies (UNEA)
- Global Land-Ocean Connections Conferences (GLOC), and
- Other High-level meetings of relevance (e.g. Conference of Parties to UNFCCC, CBD etc.)

The GPA, through UNEP's role in various organs, is also able to respond through mechanisms such as UN-Oceans, UN-Water, and the 18 Regional Seas Programmes worldwide.

Main policy messages

The main policy message being proposed for the next IGR is that "**land-based sources of marine pollution (particularly wastewater, nutrients and marine litter), or LBS, need to be seen as resources rather than as burdens**". This is consistent with ongoing discussions related to the circular economy and, for specifically wastewater, was the subject agreed upon by experts preparing the 2017 World Water Development Report (WWDR), which will coincidentally and conveniently focus on wastewater.

Under the continued situation where the level of resources for implementing the GPA has been limited, Governments have placed a clear priority for action among the source categories of the GPA. The three priorities are nutrients and wastewater (sewage), given their importance to coastal eutrophication, and marine litter for its impact on the marine ecosystems and economies of coastal communities. These diffuse sources continue to be challenges at the local, national and regional levels and the impacts of these sources on the coastal and marine environment are extending.

In the face of these challenges, governments and their stakeholders are seeking to boost resource-efficient growth and innovation in order to decouple the links between economic growth and environmental degradation, notably through increased resource-efficiency and reduction of pollution over product life cycles and along supply chains. Public policies and private sector initiatives that promote increased investment in efficient and environmentally friendly products and services are emerging. Economic development models based on the relation between resource use and pollution need further development to ensure there is efficient use of resources. Such models provide opportunities for Governments and other stakeholders to see pollution load reduction as opportunities for investments and where pollutants can be seen as resources.

Work to address these three diffuse source categories, highlighted above, provides opportunities to demonstrate potential benefits of ecosystem-based management and approaches and to consider these pollutants as resources. In focusing the GPA implementation in the coming five years, it is proposed that reuse and recycling of pollutants as resources will be fully taken into consideration. By taking such approaches to these source categories, management efforts and investments can lead to not only improving the environmental quality in coastal areas, but also socio-economic development in the same areas.

Thematic focus

Broad thematic focus should consider:

- **Circular economy**
- **Waste-to-value**

- **Impacts on livelihoods**

The ***circular economy*** is a generic term for an industrial economy that is, by design or intention, restorative and in which material flows are of two types, biological nutrients, designed to reenter the biosphere safely, and technical nutrients, which are designed to circulate at high quality without entering the biosphere. The founding principles of the circular economy include that Waste is food and Waste does not exist. The biological and technical components (nutrients) of a product are designed by intention to fit within a materials cycle, designed for disassembly and re-purposing. The biological nutrients are non-toxic and can be simply composted. Technical nutrients – polymers (including plastics), alloys and other man-made materials are designed to be used again with minimal energy.

The European Commission will present an ambitious circular economy strategy in late 2015, to transform Europe into a more competitive resource-efficient economy, addressing a range of economic sectors, including waste. They note that since the industrial revolution, waste has constantly grown, because economies have used a "take-make-consume and dispose" pattern of growth - a linear model which assumes that resources are abundant, available and cheap to dispose of. What is needed is a more circular economy, which means re-using, repairing, refurbishing and recycling existing materials and products. What used to be regarded as 'waste' can be turned into a resource. The aim should therefore be to look beyond waste and to close the loop of the circular economy. All resources need to be managed more efficiently throughout their life cycle.

Using resources more efficiently will also bring new growth and job opportunities. Better eco-design, waste prevention and reuse can bring net savings for businesses and benefit consumers, while also reducing total annual greenhouse gas emissions. Moving towards a circular economy is at the heart of the resource efficiency agenda established under the Europe 2020 Strategy for smart, sustainable and inclusive growth. The main ideas on how to do more with less are being taken further in the EU's Environment Action Programme to 2020.

Waste-to-value is an emerging term which describes many sustainability-oriented business models. It is a concept worth mainstreaming, because it cuts right to the core of what is really needed in society today – practical means of taking the waste generated and repurposing it, profitably if possible, into things needed by consumers.

Examining waste-to-value through the lens of the GPA, business models might be built around turning waste (e.g. food) into compost, turning methane generated in sewage treatment plants and as a byproduct of decomposition at landfills into compressed natural gas for vehicles, and many more. Whereas composting, landfill gas capture and bio-digesters are not new, re-framing the discussion around the waste-to-value terminology and concept may help communicate the value proposition in a way that is new and more intuitive.

While the economic potential of so many of these models is still to be determined, the potential of the sustainable impact is great. For example, composted (food) waste creates a nutrient-rich soil supplement, and it keeps food from turning to harmful methane in the landfill. It also saves on hydrocarbon usage – both in preventing the need for many traditional fertilizers (which are largely made from petrochemicals) to grow new crops, but also to make sure that the embedded energy that went into producing the food in the first place is not completely lost.

Wastewater (WW) & Nutrients

Improving WW management, including its collection, treatment, discharge, and the beneficial use of liquid and solid byproducts, is critical to the social, environmental and economic dimensions of sustainable development and an integral step in avoiding local (and global) water crises.

Nearly all human activity that uses water results in the production of WW (from domestic, industry, commerce, agriculture and urban activities). WW is used water that is contaminated to a level where it presents a risk or hazard for use. With population growth and economic development, the quantity of WW is increasing while the consequences are (most often) not taken fully into account by governments and the various sectors.

WW is a major global issue (especially in developing counties) since it has been estimated that, globally, about 80% of WW from human settlements and industrial sources is discharged to the environment without treatment (UNEP & UN-Habitat 2010). Worldwide, around 750 million people still do not have access to improved drinking water and some 2.6 billion, almost half the population of the developing world, do not have access to improved sanitation (WHO/UNICEF, 2015)P1F2P. Untreated WW pollutes not only the natural environment but also the immediate living environment, and as such has a huge impact in health related illness, particularly in the developing world where millions of people die each year from water related diseases. WW pollution has the potential to contaminate scarce water resources, thus enhancing risks of water.

Full treatment sewerage systems, following traditional models of primary to tertiary treatment are very expensive and often prohibitively so. Re-use of the nutrients in wastewater could help avoid excessive treatment costs whilst providing benefits in terms of organic fertilizer. The 'nutrient cleaning' capacity of natural systems for treatment of wastewater, such as lagoons, ponds, and wetlands could be better utilized. Systems exist, operated in both developing and developed countries, for the conversion of wastewater into useable resources. These integrated systems combine processes and practices to optimize resource use by recycling wastewater so that water and nutrients can be re-used. Clean bio-solids can be used in agriculture as fertilizer and to improve the soil structure, through the approaches advocated as ecological sanitation or productive sanitation.

In China there are very large farms that are almost self-sufficient in terms of energy and nutrients because of the effective recycling of their waste streams. In India, the Calcutta wetland system provides the world's largest example of wastewater fed aquaculture. The wetlands receive about 555,000 cubic metres of untreated wastewater per day which flows through about 3,000 hectares of constructed fish ponds. Annual fish production amounts to 13,000 tons. Many other examples also exist globally. These approaches have real benefits in reduction of carbon footprints; for example, in a number of countries the manufacture and use of synthetic nitrogen fertilizer can account for a significant proportion of the country's greenhouse gas emissions. More efficient nitrogen use can mean increased net incomes to farmers, a decrease in carbon footprint, less pollution, and no loss of crop production levels.

Marine litter

Much of the marine litter from land-based sources results from unsustainable production, consumption, and poor waste management. Every year, marine debris results in substantial economic costs and losses

to individuals and communities around the world. Marine litter is part of a broader problem of solid waste management, which affects all coastal and upland communities including inland waterways and is closely linked to the protection and conservation of the marine and coastal environment. The UNGA Resolution 65/37 in 2010 (paragraph 137) urged "*States to integrate the issue of marine debris into national strategies dealing with waste management in the coastal zone, ports and maritime industries, including recycling, reuse, reduction and disposal*", and encouraged "*the development of appropriate economic incentives to address this issue, including* ***the development of cost recovery systems***…..".

It is estimated that 10 to 20 million tonnes of plastic is finding its way into the world's oceans each year, costing approximately US$13 billion per year in environmental damage to marine ecosystems. This includes financial losses incurred by fisheries and tourism as well as time spent cleaning up beaches. The total natural capital cost of plastic used in the consumer goods industry is estimated to be more than US$75 billion per year. The cost comes from a range of environmental impacts including those on oceans and the loss of valuable resources when plastic waste is sent to landfill rather than being recycled. The most significant upstream impact is greenhouse gas emissions released from producing plastic feedstock, which is responsible for almost a third of the total natural capital costs.

Oceans are critical to sustaining life's natural support systems. They contribute to the livelihoods, culture and well-being of communities around the world. They also play a vital role in the global economy by providing food and a source of income for millions of people. Yet, with a fast-growing world population, the production of waste continues to increase faster than the efforts to curtail it and prevent it from degrading the environment. More waste means more marine litter; and one of the main types of marine litter is plastic debris.

About 280 million tonnes of plastic is produced globally each year and only a very small percentage is recycled. As society has developed new uses for plastic, the variety and quantity of plastic items found in the environment, and this includes the marine environment, has increased dramatically. Once in the ocean, plastic does not go away: it fragments, eventually breaking down into smaller pieces known as microplastics, and acts as a vector for chemicals such as persistent organic pollutants that may be transferred into the food chain upon ingestion by marine organisms. Transported by ocean currents, few places around the globe have not been infested by this material.

Proper management, use and disposal of plastic will help companies to optimize its use and reduce its end-of-life impacts by fully incorporating environmental management within their business frameworks. Forward-looking companies can improve their management of plastic by, for example, cutting costs through their more efficient use, developing "closed loop" business models that recover the resources locked up in plastic, and winning customers by creating sustainable products. Good management of plastic could save consumer goods companies up to US$4 billion per year.

A recent UNEP publication - *Valuing Plastic: The Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry* - on the valuation of plastic, has allowed, for the first time, to put a figure on the costs companies would incur if the damage caused by waste plastic was included in their accounting. The report highlighted the urgent need for businesses to manage their annual use and disposal of plastic, as many companies already do with carbon emissions. It also provided a series of recommendations that are designed to help ensure a sustainable future for plastic. The report additionally provides guidance on how to achieve the same economic output with fewer inputs and less

waste, leading to greater cost savings; all of which can further expand the global economy in years to come.

Through the Global Partnership on Marine Litter and other relevant initiatives, UNEP is committed to working with all stakeholders to reduce the influx of waste into the ocean and to prevent plastic from getting into the environment in general. Progress on plastic pollution will require companies to work in partnership with other stakeholders. This includes collaborating with governments to develop effective legislation and waste management infrastructure, especially in developing countries.

The GPA may wish to elaborate the concept of plastic 'waste' to a resource for recycling or reuse (e.g. plastics to fuel, which reduces waste and generates a useful byproduct).

Multi-stakeholder partnership approaches

The multi-source and inter-sectoral nature of wastewater, nutrients and marine litter, while potentially providing a range of opportunities and benefits from resource re-use and recycling and lower carbon footprint approaches, require governance and institutional mechanisms. Mechanisms need to be established that are able to bring governments, industrial sectors, scientists and other stakeholders together around the shared agenda of the win-win investments. UNEP and the international community have established multi-stakeholder partnerships, advocating clearly defined objectives and targets which can produce tangible results in reducing the impacts of these source categories, bringing specific economic benefits derived from the partnerships to involved stakeholders. Such partnership approaches can overcome challenges previously faced with global and regional partnerships, where Governments and other stakeholders can clearly show their commitments to achieve the defined objectives and targets, such as those defined under the Honolulu Commitment and the Honolulu Strategy, in the case of marine litter.

In order for the established global Partnerships to work effectively and impact on national policies related to these source categories, there needs to be a way of ensuring a role for Governments in overseeing and engaging in the Partnership work on a regular basis, rather than relying simply on a full scale GPA inter-governmental review after 5 years. It is therefore proposed that Governments be engaged in the oversight of the work of the Partnerships through the GPA inter-governmental processes, including inter-sessional activities as proposed below.

Two inter-linked functions are proposed to the GPA inter-governmental mechanism. First, a GPA Bureau would be established for the fourth IGR on a regionally representative basis. The Bureau will continue to