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***FUTURE POLICY DIRECTION FOR IMPLEMENTING THE  
GPA FROM 2012-2016***

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**THIRD INTER-GOVERNMENTAL REVIEW OF THE GLOBAL PROGRAMME OF ACTION (GPA),  
MANILA, 25-27 JANUARY: FUTURE POLICY DIRECTION FOR IMPLEMENTING THE GPA  
FROM 2012-2016:**

**Introduction**

The forthcoming Inter-Governmental Review of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) in Manila, The Philippines in January 2012 provides a key opportunity and forum for governments to chart a strategic path ahead for the more effective management of marine and coastal ecosystems over the coming years, and the contribution they can make to sustainable development at national, regional and global levels.

The value and contribution of marine and coastal ecosystems to sustainable development is not being realized as they continue to be undermined by the pressures of key land based sectors, such as discharges from agriculture and wastewater, and coastal urbanization. More than half of the world's population is estimated to live within 100km of the coast, a figure which could rise towards three quarters by the end of this decade. In the case of the seas of East Asia, where the GPA review will be held, some nine of the 15 countries in the region are thought to already have around 90% of their populations living along the coasts.

The upcoming Rio +20 Summit and the new challenges that governments face in managing their environmental resources, including possible moves towards a greener economy in the context of sustainable development, underline the importance of making the most of the opportunity provided by the Manila meeting of bringing governments together. The role of the GPA in linking watersheds and coastal areas is cardinal, since it is land based activities often emanating from watersheds which have the most important effect in undermining coastal ecosystems.

The specific focus of the approach proposed here is three-fold, building on the outcomes from the last GPA IGR Review in Beijing in 2006 and an analysis as to progress so far in implementing the GPA. The proposed focus would be:-

- (i) on nutrients, wastewater and marine litter – three key GPA source categories which are persistent environmental issues requiring enhanced global attention in order to accelerate necessary action. Three global, government- led global stakeholder partnerships are proposed. They would build political impetus and stakeholder co-operation around a focus on higher resource efficiency and lower carbon inputs – reducing discharges, re-use and recycling of resources – making full use of marine and coastal ecosystems
- (ii) on governments' incorporating the value of ecosystem services – and the necessary approaches and tools to do so – into their planning and management of and investment in coastal areas and associated river basins
- (iii) on governments' incorporating the higher resource efficiency, lower carbon footprints, and ecosystem services approaches into relevant enabling frameworks,

namely GPA national programmes of action (NPAs), or broader integrated coastal management (ICM) frameworks

In these ways, the GPA IGR, subject to the agreement of governments, including working through leading regional organizations, such as the regional seas programmes, has the potential to: accelerate implementation of the GPA in an effective partnership and resource efficient manner; contribute effectively to improved water quality and the implementation of [NPAs] and ICM frameworks; and facilitate the contribution of coastal management towards any moves by the international community towards a greener economy in the context of sustainable development.

This paper and proposed approach has been prepared by the UNEP/GPA Co-ordinating Office. Governments are asked to consider the approach proposed and discuss it at the GPA Inter-Governmental Review in Manila with a view to agreeing a framework direction for them to implement the GPA in the forthcoming five years. The draft work programme – Document ...incorporating that direction was developed based on this policy document.

### **The Global Programme of Action – analysis and progress**

The approach taken for the implementation of the GPA, agreed in Washington D.C, USA in 1995 reflected the complexity of management of coastal resources and the need for flexible, integrated approaches, which sought to link watersheds and the coastal environment. The GPA's source category approach also reflected the reality that the more pressing threats on the coastal environment were from certain land based sources of marine pollution. The GPA's linkage with regional seas programmes and arrangements reflected in part the trans-boundary nature of those pollution categories, including from shared watersheds, and the need in some cases for regional co-operation if they were to be addressed effectively. The regional seas conventions and action plans, both those which are part of UNEP's programme and those which are separate entities, such as HELCOM and OSPAR, have played a central role in taking forward the implementation of the GPA.

In practice, the GPA has operated as a mechanism for leveraging activities. Success has been mixed, the wide-ranging and non binding nature of the GPA making it difficult to assess in a systematic manner. This said the GPA mechanism has helped facilitate a number of important objectives and achievements. In particular, it has helped raise international and national awareness of the importance of integrated coastal and watershed management to national and international development, and the associated importance of making investments in conserving marine and coastal resources. In this context, it has helped lead countries to address key land based sources of marine pollution. A main mechanism for this was the focus on countries putting in place formal 'GPA' National Plans of Action (NPAs).

The GPA has also promoted underpinning marine assessments and monitoring – the regular process for a global marine assessment was largely instigated through the GPA - as well as regional co-operation, notably through working with UNEP's regional seas programme. Further partnership approaches have been developed with UN agencies, and the Global Environment Facility, where a number of projects have received funding in the context of country led action under the GPA, including through NPAs.

Since the GPA's inception in 1995, more than 60 countries have developed NPAs, some 29 of which were completed over the last 5 years. The NPA have been developed either through

specifically designed programmes or through national development policies, programmes, initiatives and frameworks. Many countries initiated integrated coastal management programmes or integrated coastal zone management programmes as a vehicle to implement their national programme of action, whereas in several countries, national programme of action development processes triggered the reformulation of coastal policy and coastal development strategies. Indeed, the GPA recognizes the benefits of linking its implementation with integrated coastal management (ICM) initiatives, and alignment of GPA activities, including NPAs within an enabling ICM framework, has been strongly recommended and well accepted. NPAs for example blend well with the cyclical and staged development of ICM programmes.<sup>1</sup>

At the regional level GPA implementation was facilitated through the development of protocols to regional seas conventions which specifically address the protection of the marine environment from land-based sources and activities. Geographically the six protocols applied to the Black Sea, the Mediterranean Sea, the Regional Organization for the Protection of the Marine Environment (ROPME) Sea Area, the Southeast Pacific, the Wider Caribbean, and the Red Sea and Gulf of Aden.

A number of the land based pollution source categories the GPA was established to address such as persistent organic pollutants (POPs) are now effectively addressed in other discrete fora, reflecting the role of the GPA in helping to raise their international profile. POPs, for example, are now dealt with under the Stockholm and Basel Conventions, and a number of the regional seas conventions have taken important measures in relation to heavy metals, which have reduced their contaminant load. Mercury is now subject to an inter-national negotiation committee for a convention and international action is now being looked at on cadmium and lead, all of which were initially identified under the GPA. Progress in these areas, fostered the decision of the last GPA IGR in 2006 in Beijing that governments should increasingly focus their source category efforts in relation to GPA implementation on the more diffuse source problems, such as nutrients and wastewater.

In other areas, the GPA has not developed as envisaged. It has struggled to be an effective mechanism to link freshwater and coastal communities and management, a problem being in engaging key sectoral drivers such as agriculture and wastewater around a shared agenda where the sectors and associated major groups see investment returns from investing in pollution and discharge control. The aim of using the GPA platform as a Clearing House for marine and coastal pollution management has not proved possible, largely because of a lack of resources. And nor has it proved possible – again largely for resource reasons - to establish effective monitoring of and reporting on GPA implementation, including the status of NPAs, reflecting in part how countries tend to see GPA pollution control work under a number of agencies and approaches, including through ICM initiatives.

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<sup>1</sup> *Integrated Coastal Management (ICM)* can be seen as the governance through integrated planning of human activities that affect the sustainable use of goods and services generated by marine and coastal ecosystems. It aims to promote the sustainable economic development of coastal resources while at the same time balancing the competing use of those resources to ensure their functional integrity is maintained. It is an internationally advocated approach adopted in an increasing number of countries, often through regionally co-operative processes. Various terms have been used to describe ICM initiatives such as ICAM (integrated coastal area management), and ICARM (integrated coastal area and river basin management). While they may differ in emphasis and focus, most of these approaches tend to share the same underlying principles and objectives, including the importance of ecosystem based management.

In relation to the focus requested at Beijing on certain source categories, effective action in developing countries in particular on addressing nutrients and wastewater has proven elusive. The problems of eutrophication and associated hypoxia (oxygen depleted areas) in coastal areas have spread, with some 417 eutrophic and hypoxic systems identified in 2007 worldwide. Some two thirds of the 120m tonnes of nitrogen produced by human activities now makes its way into the air, inland waterways and coastal zones, while nearly half the world's mined phosphorous (20m tonnes a year) ends up in the world's oceans each year, eight times the natural rate of input. In developing countries an estimated 90% of wastewater is discharged as untreated into waterways and coastal areas, while marine litter has emerged as a major problem and continues to grow. In response, UNEP/GPA, in the light of the focus set at Beijing has developed embryonic partnership initiatives on nutrients, wastewater, and marine litter. But these are at an early stage of development.

On ecosystem services valuation, another area which governments agreed to focus on at Beijing in 2006 in taking forward the implementation of the GPA, some progress has been made. UNEP has developed relevant conceptual tools, which have been piloted in the South China Seas, and the Caspian Sea. However, wider and systematic scaling up and incorporation by governments of ecosystem services valuation is lacking and trade-offs between economic development and conservation of marine and coastal areas remains relatively unappreciated in policy making at the regional and national level.

Overall, an important problem since the Beijing IGR has been analysing the quality and level of implementation of GPA related activities, notably the development and implementation of NPAs. In proposing that governments incorporate the higher resource efficiency and other approaches proposed into their NPAs, the Manila review could usefully review the status of NPAs – their level of implementation, how governments use and apply them and how they relate to broader frameworks such as integrated coastal management.

### **New challenges and approaches to GPA implementation**

Governments are increasingly organizing their environmental management policies around issues such as water, food and energy security. They are confronted with apparent divides between societal needs for food, energy, and urban development, and a web of adverse environmental impacts which in turn undermine ecosystems and the livelihoods and services they in turn support and provide. These impacts are set to increase in coastal waters in severity and scope in the light of increased food and energy production, and coastal urbanization.

In the light of these needs and impacts, governments along with UNEP and other agencies, are also considering ways of moving towards a greener economy, one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. The higher resource efficiency approach - lower discharges, re-use and recycling, and lower carbon footprints – proposed here is consistent with any such move towards greener economy approaches, and could indeed help realize the potential of coastal economies to such moves.

Of particular relevance to the GPA because of its aim to link watersheds and coastal areas, new insights are also emerging on Water-Land Interactions. Scientific research has provided a new view on how water and land interact locally to globally. Scientists now better

understand the magnitude by which changes in land use profoundly affect downwind rainfall patterns, and have computed the huge volumes of water appropriated by society to produce rain fed crops (“blue” versus “green” water flows. This new knowledge has important implications on how we manage water and land; it provides a new impetus for boosting efficiency of water use, and for bringing water and land management closer together. By the same token, some developing countries stand on the brink of large-scale degradation of their waters, through water quality degradation, channel modifications, and overfishing.<sup>2</sup>

Given the persistent and growing nature of the problems caused by nutrients, wastewater, and marine litter, the cost of dealing with them, and the nature of the challenges governments now face, including a lack of investment and management capacity in developing countries, there is a strong case, for different management approaches. Such approaches could usefully reflect the need:-

- (a) to see issues such as nutrient over-enrichment and untreated wastewater as higher resource efficiency and lower carbon footprint management opportunities, rather than simply straightforward pollution issues . This opens the way for win to win investments, for example, through recycling for agriculture and developing efficiencies of use, making a major contribution to strategic goals such as water availability and more resource efficient societies,
- (b) for a partnership governance approach that involves the participation of all stakeholders , taking advantage of forward-looking water technology and management techniques that were not available to countries in Europe and North America at the time they began contaminating their own waterways and coastal areas
- (c) and to realize the value and contribution of marine and coastal ecosystem services to sustainable development.

*(a)Higher resource efficiency etc and win to win investments:* full treatment sewage 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 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.

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. These approaches also 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.

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<sup>2</sup> UNEP Foresight Process

Likewise much of the marine litter from land-based sources results from unsustainable production, consumption, and poor waste management. 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.

In short, there are real resource and livelihood advantages to governments and their citizens from a more co-ordinated, integrated, resource efficient approach to management of the wastewater, nutrients, marine litter GPA source categories. Well-managed wastewater can be a positive addition to the environment which in turn will lead to improved food security, health and economic benefits, while trials have shown that substantial cuts in nitrogen use can result in increased net incomes to farmers, a decrease in carbon footprint, less pollution, and no loss of crop production levels.

*(b)Partnership governance approaches:* initial, in some cases embryonic stakeholder partnership approaches on nutrients, wastewater and marine litter have been established by UNEP through the UNEP/GPA co-ordination office. The Global Partnership on Nutrient Management is the most advanced and has held a number of meetings under the leadership of the Governments of the Netherlands and United States. On marine litter, the outcome from the March 2011 Honolulu Conference has provided a template for a global marine litter partnership, while the launch of the 'Sick Water' wastewater initiative and report by UNEP and UN Habitat has likewise provided a basis for a multi-stakeholder approach on ecosystem approaches to wastewater management. These are detailed more fully in Document ... Progress on Implementing the GPA 2006-2011.

In the light of the forthcoming GPA IGR, and the benefits of moving towards the more resource efficient approaches outlined above, the stage is set to establish and develop these partnerships formally at the IGR with clear government ownership and impetus. The Partnerships would have their overall objectives and aims agreed at the IGR by governments, including the need to set targets on reducing discharges, re-use and re-cycling, in order to give substance to the drive towards higher resource efficiency and lower carbon footprints. The Partnerships would be responsible for developing information management systems, and networks of experts from institutions, governments, and private sectors, helping to establish and share best practices and available and acceptable technologies. The Partnerships would also set in hand demonstration projects to pilot test innovative approaches and technologies, embodying the resource efficient approaches and ecosystem valuation approaches (see below). They would enable governments and sectors to join around a shared agenda and interest in the investment and consumer benefits of higher resource efficiencies, lower carbon footprints, and effective utilization of marine and coastal ecosystems to help drive those efficiencies and lower inputs.

While the intention would be for all governments at the GPA IGR in Manila to commit to the objectives and aims of the Partnerships, and oversee their work, it is recognized that in practice the Partnerships would be led by a few interested governments, who would 'champion' the Partnership processes. A role for all governments in monitoring and engaging in the Partnership work would be ensured by the oversight provided by an ongoing GPA Bureau to be established at the Manila IGR on a regionally representative basis, through regular Partnership meetings at key international fora, such as the UN Commission on Sustainable Development, and through UNEP/GPA as secretariat reporting progress and

seeking views from all governments on an annual basis. While the next GPA IGR would review progress, UNEP/GPA would also report formally on progress to the UNEP Governing Council after two years from the Manila IGR. The draft work programme sets out the proposed objectives and aims of the Partnerships and other modalities.

*(c) Value of ecosystem services:* the Beijing IGR agreed there should be a focus on this area of work in implementing the GPA. However, as discussed earlier progress has been patchy, and there needs to be a more systematic approach to incorporating the value and benefits of the services provided by marine and coastal ecosystems into the planning and management of and investment in coastal areas and associated river basins. This would mean developing and incorporating methods and approaches to the valuation of coastal ecosystem services, including clearer trade off analyses of the roles of ecosystems in terms of, for example, carbon valuation (sequestration and storage); coastal protection; water cycling; water purification; and regulatory services. There also needs to be a focus on building capacities of policy makers to understand the socio-economic value of marine and coastal ecosystems as a basis for policy and management decision-making, through the support of national and regional organizations in conducting valuations of marine and coastal ecosystems. This approach could become a valuable tool for policy makers to reconcile conservation strategies and human use of marine and coastal ecosystem services.

This work on ecosystem services would complement the Partnership governance and higher resource efficiency approaches, helping them to be incorporated into NPAs and other enabling frameworks. It would also enable governments to meet the challenge of meeting commitments under the GPA in relation to the physical destruction of habitats, one of the GPA focal areas of action.

### **Conclusion and next steps: An outline GPA work programme for 2012-2016**

The preceding analysis provides the basis for an outline work programme for implementing the GPA over the next 5 years. The essential approach of the GPA set out in Beijing would appear to remain valid. On the one hand, there remains a pressing need to address the key sources of nutrients, wastewater, and marine litter given their connections with coastal water quality, health, livelihoods, agriculture and other relevant sectors. On the other hand, the GPA should also seek to catalyze broader integrated management approaches, notably NPAs but linking them more effectively with ICM frameworks, where appropriate.

Within this overall approach, the key elements of a work programme could be :-

- *A partnership platform for improving coastal water quality with a focus on nutrients, wastewater, and marine debris, through the higher resource efficiency and lower carbon footprints approaches.* Using the Global Stakeholder Partnerships, Governments would commit to work with relevant sectors on integrated resource use and efficiencies in respect of each of the focal areas, such as agreed efforts to limit and treat discharges of wastewater, nutrients and marine debris, promote efficiencies and incentives in their production, and make full use of re-cycling opportunities
- *A platform to promote a systematic approach to marine and coastal ecosystem services:* the aim would be for governments to incorporate the value and benefits of the services provided by marine and coastal ecosystems into the planning and management of and investment in coastal areas and associated river basins. This

would include the carbon valuation of coastal ecosystems, but also extend to a full range of services provided by relevant ecosystems, including water cycling and purification, so linking to the work on wastewater, nutrients and marine litter.

- *a policy forum for the further development of NPAS and integrated management approaches.* Governments would be asked to incorporate the higher resource efficiency and lower carbon footprints, and ecosystem services valuation into their GPA national programmes of action (NPAs), or into broader frameworks such as integrated coastal management (ICM) schemes.

In this context, it is worth underlining that there are now a number of initiatives around the world which are aligned or analogous to integrated coastal management (ICM) and that there is a close relationship between these and the GPA approach of using NPAs. The GPA offers an inter-governmental platform for reviewing work on NPAs and other aspects of GPA implementation, something which these other initiatives do not have. There may be merit in using the GPA platform to look at these other initiatives in the round, and to promote the scaling up and wider adoption of best practice initiatives aimed at realizing the full value of the services provided by marine and coastal ecosystems to sustainable development,.

A first step would be to review the use and effectiveness of NPAs and their relationship with other analogous initiatives so as to ensure that the GPA is being implemented in the most effective way and in accordance with preferred government frameworks. It is proposed that this is discussed at the Manila IGR.

Governments are invited to consider the approach set out in this paper and participate in a full policy discussion on the proposed approach at the Inter-Governmental Review in Manila in January 2012. Subject to the views of governments a work programme would be formally endorsed by governments at the IGR meeting. Document ...sets out a more detailed work programme based on this paper, and which would be the subject of any formal endorsement by Governments at Manila. The Manila Declaration would also reflect important aspects of the proposed work programme.

September 2011