

**United Nations Environment contribution to:
The Secretary-General's background note for the preparatory meeting of the United Nations
Conference to Support the implementation of Sustainable Development Goal 14**

18 November 2016

Introduction

Healthy oceans are integral to our life-support system at many levels. They provide wide-ranging social and economic benefits, and are crucial in targeting poverty-reduction for millions of people. Thriving oceans can ensure food and energy security, and are closely interlinked with maritime security, peace and prosperity. Healthy and resilient oceans regulate climate and provide adaptation pathways to climate change.

Nevertheless, oceans face unprecedented decline due to increasing human uses and impacts. Marine litter and micro-plastic from consumer products combined with untreated wastewater and nutrients continue to pollute our oceans. Ocean acidification, warming and changing currents disrupt ecological processes and functions. Furthermore, enhanced technologies and capabilities, combined with lack of global governance, oversight and accountability, have brought human exploitation of living and non-living ocean resources to an unprecedented level.

The good news is that we have the potential to change the course of action by addressing the challenges ocean health face. By turning them into possibilities for sustainable blue growth it can support coastal communities, as well as land-locked countries, profiting from marine resources in generations to come. Well-managed oceans can support large and growing economies.

The UN is the only mechanism with a global mandate that can catalyze coordinated actions to bolster ocean sustainability and security for future generations. UN Environment plays a central role in fostering innovating partnerships, convening key actors, supporting governance and implement environmental policies through regional coordination. Global partnerships for healthy oceans will contribute to the restoration of international peace and security, promoting human rights by addressing illegal fisheries, secure economic growth and decent jobs.

UN Environment proposes two themes for the partnership dialogue. Firstly, the fundamental theme of “regional ocean partnership”. Secondly, UN Environment further suggests “the Partnership for Land Based Pollution”.

Ecosystem based approach of marine environment The international community recognizes the ecosystem approach as the basis for sustainable management of marine environment and resources. The approach signifies that the assessment, management and governance would be based on the defined ecosystems. Goods and services emanating from functioning of these ecosystems will be sustainably used for human economic and social benefits, thus contributing

to sustainable blue economy or growth. Some of the ecosystems in the world are considered to be rich in biodiversity and high in their values for their services. These ecosystems include mangroves, coral reefs, seagrass beds, coastal tidal marshes, sea mounts, thermal vents, cold water corals, etc.

The Partnership for Regional Ocean Governance It is strongly believed that regional ocean partnership frameworks should be effectively used for the implementation and review of the Sustainable Development Goals (SDGs). The Regional Seas Programme is a results-oriented ocean governance mechanism. It is recommended that the regional level implementation and follow-up should be given attention for harmonized and ecosystem-based implementation of national action for SDG14, through the existing regional inter-governmental mechanisms, such as Regional Seas programmes and regional fisheries bodies. Furthermore, the Regional Seas Programmes should be seen as a platform for wider engagement with relevant initiatives, e.g. Large Marine Ecosystems, science-policy interface, enhanced ownership from contracting Parties, and private sector engagement. Regional Bodies should be used as an implementing tool for ocean related partnerships for e.g. marine spatial planning and development of blue economy, including measuring and reporting progress towards ocean related sustainable development goals. All policy making should apply an ecosystem based approach.

The Partnership for Land Based Pollution The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) was adopted in 1995. The Programme provides an inter-governmental framework to assist countries in implementing their obligation under international law. The purpose is to preserve and protect the marine environment from land based pollutions, such as sewage, physical alterations and the destruction of habitat, nutrients, sediment mobilisation, persistent organic pollutants, oils, litter, heavy metals and radioactive substances.

The Programme offers technical and policy guidance, through multi-sectoral partnerships. It focuses on marine pollution in relation to three source categories; nutrient, litter and waste water. All three partnerships, the Global Partnership on Nutrient Management (GPNM), the Global Partnership on Marine Litter (GPML) and the Global Wastewater Initiative (GW²I) have advisory capacity and engage in science-policy interface. .

The partnerships function as catalysators and platform to enhance network and further engage with relevant stakeholders, from private sector, NGOs, academia and media. Areas that need further research and policy development are in field of emerging pollutants such as micro-plastics, endocrine-disrupting compounds, and harmful algal blooms. Many of those areas require multi-disciplinary approaches, where multi-sector partnership is crucial. The future

direction for the GPA will be discussed at the 4th Intergovernmental Review Meeting in Indonesia in the second half of 2017.

APPENDIX

For each of the 10 targets under SDG:

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

In the area of aquaculture development UNEP under the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) is engaged in active research collaboration with IOC-UNESCO and other partners on nutrient loading from aquaculture under the GEF-Global Nutrient Cycling Project. The Regional Seas Conventions and Action Plans (RSCAPs) have adopted two indicators of environmental status particularly relevant to pollution from aquaculture as part of the Regional Seas Core Indicators Set. In the area of pollution from shipping some of the Regional Seas Programmes e.g. the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) and Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) have developed action plans that includes monitoring and management of marine debris and other forms of pollution from shipping and fisheries activities. UNEP is actively engaged at the global level with engagement of partners on combating marine litter. The primary delivery mechanism is through the Global Partnership on Marine Litter under the GPA that has been augmented by United Nations Environment Assembly (UNEA) resolutions on addressing marine litter. Key areas for action have included assessment on the scope and magnitude of the problem (focus on micro-plastics), development and implementation of regional action plans, assessment of effectiveness of relevant international, regional and sub-regional governance strategies the roll-out of a global campaign on marine litter and a marine litter innovation challenge and capacity building through massive open online courses. The Regional Seas Programmes have adopted an indicator to assist quantification beached marine debris and some programmes e.g. OSPAR regulates dredging and dumping in the convention area in conjunction with the London Convention and London Protocol. UNEP is closely collaborating with the FAO in addressing abandoned, lost or otherwise discarded fishing gear (ALDFG) in coastal areas and on the high seas.

Also through the GPA UNEP and the Regional Seas Programmes through their Land-based Sources and Activities (LBSA Protocols) other pollution sources are addressed. Under the GPA two other pollution source categories, namely nutrient and wastewater loadings are also addressed. Under the GPA framework some 98 countries have prepared National Plans of Action and/or relevant national plans/strategies to address land-based pollution. UNEP has widened technical cooperation and advocacy on marine pollution through the Global Partnership on Nutrient Management (GPNM) and the Global Wastewater Initiative (GW2I). Under these partnership platforms that include governments, international agencies, private sector and academia, work has been advanced in demonstration of best practices on wastewater management in Egypt, Morocco, Tanzania, Georgia and the Caribbean,

improved nutrient management and pollution control in target areas in India and the Philippines, collaborative research, best practice and policy support and capacity development through application of tools. The GPA is engaging with countries for the convening of the 4th Inter-Governmental Review in 2017 that will set the strategic directions for the programme over the next five years. The Regional Seas Programmes have adopted indicators relevant to land-based sources of pollutions put in place comprehensive assessment and monitoring programmes in place. UNEP through the GESAMP has supported knowledge contributions on mercury in the marine environment for the Minamata Convention.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

In the area of marine debris pollution there is a general absence of adequate scientific research, assessment, and monitoring with few reliable or accurate estimates of the nature and quantities of material involved which poses difficulties in designing and implementing cost-effective measures to reduce inputs to large marine ecosystems (LMEs). While some work has been initiated, there are gaps in scientific research to better understand the sources, amounts, fates, and impacts (specie, ecosystem and human health) of marine debris especially plastic. Data collection protocols on assessment of marine debris tend to be very different, preventing comparisons and harmonization of data across regions or timescales. There are gaps in availability of appropriate technologies and methods to detect and remove accumulations of marine debris in critical ecosystems. There are information gaps about the scale and nature of dumping of waste and other matter at sea which is further compounded by the absence of information and/or substantial under-reporting about dumping under the control of States which are subject to any formal reporting system under the London Convention and the Protocol. There are challenges in the assessment of the SDG indicator on floating marine litter and requires further development and refinement of the methodology along with building of requisite capacity. Wastewater and nutrient load pollution is still a major threat to the ocean. New wastewater treatment technologies and processes developed may have the ability to minimize problems, but there can be gaps in the capacity to apply these newer processes, often because of the costs involved. This is particularly true in developing countries. Information is lacking on the fate of heavy metals and other hazardous substances that are sometimes mixed in with wastewater discharges. There are gaps in the educating farmers, and industry and other stakeholders on more sustainable practices that reduce the waste discharges and nutrients to the environment. In many parts of the world there is absence of any form of regular, systematic assessment of the impact of land-based inputs. Where assessments do occur they tend to be 'one-off', and not in forms which enable them to be assembled into a wider, continuous assessments. Many of the Regional Seas programmes have adopted protocols for land-based sources of pollution and related action plans however the level of implementation of these protocols is not well-known in many regions.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

The issue of pollution has direct linkages to several of the SDGs. In consideration of the connectedness of the terrestrial to marine ecosystems in terms of pollution, the nexus between land-based activities and developmental agendas are highly relevant. SDG2 that incorporates elements of sustainable production of food has connections to sustainable nutrient management, use efficiency and reduction of nutrient pollution. SDG6 incorporates minimization of pollution of freshwaters which convey pollutants to marine environment. SDG12 on sustainable consumption and production is highly relevant to incorporation of circular economy principles and practices that touch on higher resource use efficiency, recycling and minimization of harmful discharges to the environment. Climate change influences in the scope of SDG13 are important as pollution entering the marine environment may introduce compounding challenges to marine ecosystems associated with changes in ocean chemistry in terms of rising acidity and temperatures. The emphasis will be on building more resilient eco-systems based adaptation measures but also incorporation of mitigation measures. SDG17 on building partnerships continues to be of paramount importance. In this area, UNEP emphasizes south-south cooperation with transfer of relevant technology solutions to areas of need through the myriad of partnerships the agency is engaged with.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

The main partnership mechanisms for addressing marine pollution will be through the GPA in close association with the Regional Seas Programmes. The GPA Global Partnership on Marine Litter (GPML) will be a front-line avenue for bridging the science-policy interface and assist catalyze innovation in addressing marine litter. The GPA-GPML will continue to assist in the formation of national and regional action plans for marine litter embedded within the Regional Seas Programmes that will augment land-based sources of pollution protocols where they exist. Cooperation between UNEP and FAO in respect to addressing ALDFG worldwide will continue. Wider partners and partnerships and will include IMO and Global Ghost Gear Initiative (GGGI) among others. Cooperation will continue with IOC-UNESCO in the development of methodologies of associated with the SDG target 14.1 indicator on floating marine debris particularly at the LME scale in transboundary waters to augment existing national measures such as indices of washed-up marine debris. The GPA Global Partnership on Nutrient Management (GPNM) will continue support work to look at the fate of reactive nitrogen and phosphorus in the marine environment through its consortium of stakeholders and technical support agencies such as the IOC-UNESCO, IMO and contribution to the development of the SDG14.1 target indicator on eutrophication potential at the LME scale. The Global Wastewater Initiative (GW2I) will continue to collaborations and partnerships primarily through the UN Water consortium around assisting countries meet the SDG6.3 target supported by the Global Enhanced Monitoring Mechanism (GEMI). In all aspects of mitigation of marine pollution, opportunities will be linked to wider partnerships around UNEP's 10-year framework of programmes on SCP patterns (10YFP).

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

The United Nations Environment Programme has published the “Taking Steps towards Marine and Coastal Ecosystem-based Management – A Introductory Guide” and started applying this guide to local and national-level management. At the local and national levels, specific coastal habitats are given priority: mangroves, coral reefs, seagrass beds and national and local action programmes have been developed and on-the-ground management efforts are strengthened. At the regional level, the regional seas conventions and action plans started incorporating “the ecosystem approach to regional seas”, such as the Mediterranean effort on ecosystem approach.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

In order to maximize and optimize benefits of the ecosystem services for human benefits and welfare, involved marine sectors need to work together. Essentially the ecosystem approach requires to address all human activities that impact the functioning of ecosystems and which benefits goods and services of coastal and marine ecosystems. However, there is a clear gap in setting up cross-sectoral cooperation and management through the area-based management measures, such as integrated coastal zone management, integrated ocean management, ecosystem approach to management. One typical good example is the cooperation between regional seas programmes and regional fisheries bodies, based on the ecosystem approach, which proves to be useful in advancing the ecosystem approach, such as OSPAR-NEAFC collective arrangement and MAP-GFCM Memorandum of Understanding.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

The opportunities exist for setting up a proper inter-sectoral marine governance and management frameworks at local, national and regional levels. Further application of area-based management measures, such as integrated coastal zone management, marine protected areas, fishery closure will enhance such cross sectoral cooperation and create synergies in achieving other SDG14 targets (for example, 14.3 and 14.5) and relevant SDGs (such as SDG2 on food security).

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

Under the United Nations Environment Programme framework, the following partnerships are noted: (1) Regional Seas Programme, covering 18 regional seas programmes targeting regional scale ecosystems; (2) Blue solutions with GIZ of Germany, GRID Arendal and IUCN focusing on solution based good practices in ecosystem-based management; (3) Global Programme of Action for the Protection of the Marine Environment from Land-based Activities with the UN member States; (4) Blue Carbon and Forests with Conservation International, Global Environment Facility, Blue Venture, US Government, Indonesian Government, GRID Arendal and others); (5) Global Coral Reef Partnership with regional seas

programmes closely linked with International Coral Reef Initiative and Global Coral Reef Monitoring Network; and (6) Partnership for Regional Ocean Governance with Institute of Advanced Sustainability Studies and institute du développement durable et des relations internationales.

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

UN Environment collaborates with a range of partners including Regional Seas Conventions and Action Plans, on sustainable use of the oceans, seas and marine resources, including capacity building activities. Most Regional Seas have established state of the marine environment reporting, and some have fully developed systems for ocean observation and monitoring, but few of these consistently measure Ocean Acidification related parameters. Ongoing work at the global-level towards defining ecosystem-based indicators for use by Regional Seas, with pilot implementation in individual regions, provides opportunities to strengthen Regional Seas- based Ocean Acidification monitoring and reporting.

The Global Coral Reef Partnership of UN Environment and Regional Seas supports indicator development and strengthened coral reef status reporting, through the Global Coral Reef Monitoring Network (GCRMN). This includes support towards regional assessments aimed at creating comprehensive inventories of reef data and improving access to data; as well as efforts to strengthen GCRMN as a global data network. Indicator development supports CC and OA monitoring based on coral reef variables, and tracking of progress towards globally adopted targets using coral reefs as an indicator system.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

Key challenges in relation to Ocean Acidification include the following:

- System-level impacts of OA are not sufficiently well understood, and system-level analysis needs to consider e.g. cascading effects of ocean acidification on trophic chains. This may require better local-level projections of OA conditions.
- OA affects systems under pressure from warming, oxygen depletion, pollution, over fishing etc. but interactions between OA and such stressors and cumulative ecosystem impacts are not well understood. There may also be climate system feedbacks of OA, including through changed CO₂ uptake in the surface ocean as well as impact on carbon sequestration and carbon reservoirs in marine ecosystems.
- Social and economic impacts of OA, in particular improved damage estimates of OA, are needed to support climate policy decisions, including mitigation and adaptation planning.

- Indicator SDG14.3.1 is weak. The top level SDG 14.3 indicator (“Average marine acidity (pH) measured at agreed suite of representative sampling stations”) cannot quantify minimized impacts of OA. Moreover, the acidity of seawater will, local and natural fluctuations notwithstanding, continue to increase at relatively predictable rates in the coming century. (However, implementation of the indicator would entail enhanced scientific cooperation). Aragonite saturation state is arguably more meaningful than marine acidity. The shoaling of the Carbonate (CCD) and Aragonite Compensation Depth (ACD) and the geographical (three dimensional) overlap of regions affected by the shoaling and regions where sensitive species dwell will be the determining factor when gauging potential impact. This implies that three-dimensional mapping of sensitive species distribution may be as crucial as the measurement of acidity itself, and this is not considered at all by the indicator.
- Technological and ecosystem-based approaches to buffer OA (e.g. soda ash in vulnerable areas; biological tools such as kelp beds), their relative efficacy and possible risks.
- Particular focus is warranted e.g. in
 - 1) polar seas (especially in downwelling areas with shoaling of ACD); cold water coral ecosystems; tropical coral reefs including mesophotic reefs; and carbonate plankton based trophic chains
 - 2) many Small Island Developing States; Africa; Indian Ocean, Red Sea, Gulf of Aden; large parts of the Pacific and Antarctica;
 - 3) aquaculture dependent communities/economies.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

An analysis of OA implications for implementation of the 2030 agenda is warranted, to identify under which goals and targets OA is likely complicate or undermine efforts; and to identify how implementation of the agenda can address OA (by reducing CO₂ emissions; enhancing ecosystem resilience to OA; locally mitigating its impacts or otherwise reducing economic and social vulnerability). Development of communication packages that address the needs of different stakeholders, including policy-makers, environmental planners and managers and the private sector, can support and enable action across sectors.

Redefining the top level SDG indicator 14.2.1 and/or developing a proper indicator framework for target 14.2 will improve tracking of progress as well as implementation of actions. This could, as possible, encompass water quality parameters (e.g. aragonite saturation, pH); physiological parameters (e.g. calcification, skeletal density, growth); and ecosystem parameters (benthic composition and production/erosion rates) and considering cumulative impacts. The “agreed suite of sampling stations” should include vertical profiles and possibly even prioritize vertical resolution to spatial resolution. For benthic species, habitat mapping and forecasted acidity of bottom waters may allow to model the impact on the change of distribution of sensitive species. Establishment of a global OA target alongside global temperature target in global climate agreement and incorporation of an OA indicator may be explored to would accelerate action.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

- Strengthening regional OA monitoring networks, where possible anchored in existing regional institutions/mechanisms.
- Further strengthen OA research, monitoring and forecasting, including by building on and expanding GOA-ON geographically as well as institutionally, and, where possible utilizing other existing networks and initiatives to address cumulative impacts; improve ecosystem services valuation and earth observation for ecosystem accounting
- Support monitoring networks focused on relevant indicator ecosystems or species. E.g. coral reefs are a valuable indicator system for tracking progress towards SDG14 as well as achievement of the 2030 agenda overall (they are exceptionally biodiverse, occur in more than 100 countries, are uniquely vulnerable to climate change as well as ocean acidification, and human dependence on their ecosystem services is high). In this regard, the Global Coral Reef Monitoring Network (GCRMN) provides an existing mechanism to be further developed and strengthened.
- Scientific and industry partnerships in relation to OA impacts and , reducing vulnerability and effective communication and outreach on this.

14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

UNEP and FAO concluded a Memorandum of Understanding (MOU) under which four work areas have been identified in the Strategic Partnership Plan (SPP) in order to implement the MOU: (1) sustainable Food systems; (2) ecosystem services and biodiversity in agriculture, forestry and fisheries; (3) data and Statistics and (4) international legal instruments, legislation and regulatory matters. Based on this agreement, activities have been implemented to catalyze dialogues between Regional Seas programmes and Regional Fisheries Bodies in order to strengthen coordination and to avoid overlapping efforts at the regional level. Several regions have started initiating dialogues between the two types of organization and identifying areas of further cooperation. The first global dialogue between the two types of regional organisations was held in September 2016 and the participants recommended continuing such global dialogues. The Regional Seas Indicator Working Group is developing ecological indicators that could be used as a tool box to assess the status of the marine environment, and to evaluate progress towards the regional objectives. The Working Group members adopted 22 indicators as the core set of Regional Seas indicators , including seven fisheries- or aquaculture-related ones to be develop in cooperation with FAO.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

In some regions, knowledge gap still exists regarding the impact of fishing activities on the ecosystems. Another issue hindering sustainable fish stock management is the fact that environmental information does not seem to inform the decision making processes on the fisheries activities. It is recommended that the fishery sector further consider environmental information as part of their decision making support tools in order to sustainably manage the fish stocks, supported by healthy environment. The status of the marine environment reports produced by many Regional Seas programmes could be used as one of such environmental information.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

It is clear that the ecosystem approach implemented across sectors is the key for food security. In this understanding, the Regional Seas programmes are starting to work more closely with the Regional Fisheries Bodies. This is an opportunity for the two sectors to come together to better manage fish stock for food security.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

The Secretariat of the Convention on Biological Diversity, the United Nations Environment Programme and Food and Agricultural Organisation of the United Nations initiated the global dialogue between the Regional Seas programmes and Regional Fisheries Bodies. This partnership has an opportunity to involve other regional organisations such as economic commission to jointly work towards sustainable fish food production. In several regions, regional dialogues already resulted in specific partnerships between the regional seas conventions and regional fisheries bodies, such as Mediterranean, Northeast Atlantic, Black Sea, Gulf region, Western Indian Ocean, West and Central Africa, Caribbean and South Asian Sea.

14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

The United Nations Environment Programme collaborates with a range of partners including Regional Seas Conventions and Action Plans and Member States in building capacity to develop new MPAs and/or strengthen existing ones. UNEP is particularly addressing Marine Protected Areas (MPA) governance issues in order to strengthen MPA effectiveness and the equitable sharing of MPA costs and benefits among relevant stakeholders. Another main focus is regional capacity building and experience sharing through Regional Sea's networks of MPA planners, decision-makers and practitioners, for example the Caribbean MPA Managers (CaMPAM) network and the Mediterranean MPA Network (MedPAN). Similar networks are being developed and supported in other regions. Globally, UNEP supports sharing of practical MPA solutions and lessons through the Blue Solutions portal of the PANORAMA online knowledge-platform (www.panorama.solution). UNEP is also a leading partner of the "10x20 Initiative"

established and supported by group of countries and partners to help achieve SDG 14.5 through capacity building for effective and holistic MPA development and implementation.

UNEP and the European Commission are currently developing guidance on area-based management for regional ocean governance to support implementation of ocean-related SDG's. UNEP is also piloting the application of area-based management measures in ABNJ through the ongoing GEF/FAO/UNEP project, "Sustainable fisheries management and biodiversity conservation of deep-sea living marine resources and ecosystems in ABNJ". UNEP also follows the ongoing negotiations on measures such as area-based management tools, including marine protected areas, in the context of the Preparatory Committee established by resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

The world has seen some progress towards protecting the Earth's oceans. There are now 14,688 marine protected areas covering almost 15 million square kilometres, or 4.12% of the oceans overall up from 3.4% per cent in 2014. The level of management effectiveness however is not known for some MPAs. Only 1% is strongly protected in no-take marine reserves. Further details are available in Protected Planet Report, 2016.

While MPA coverage has grown significantly over the last decade, the geographical distribution of MPAs is very biased with a small number of countries making up the majority of the area of MPAs. There is a trend towards larger MPAs in light of scientific studies demonstrating the conservation benefits of scale in MPA establishment. There are questions over the effectiveness of these sites where they are not appropriately established or managed. Many regions of the world have minimal MPA coverage in national waters. Coastal MPAs are thereby underrepresented with implications for ecological representativity.

Taking-stock of recent and current practices and experiences in using MPAs for sustainable marine management, a set of gaps and actions are recommended to strengthen the utility, effectiveness and long-term impact of MPAs. These are organized in six main messages:

1: Ensure MPA effectiveness through informed MPA planning and enforceable and measurable management

- MPA designations may not reflect the actual management or impact of an MPA, or how it contributes to environmental, social and economic sustainability, including on short- and long term food security and livelihoods.
- Many areas that are protected or are planned to be protected through area-based management tools are located in areas remote from where commercial activities occur or are expected to fail to protect those species, communities and habitats most threatened.

- Large MPAs are being created to ensure percentage coverage is achieved, but without actually placing the protection in areas where they are most strategic from a food and livelihoods point of view.

2: Embed MPAs in larger management frameworks and use MPAs along with other tools for conservation and sustainable use of natural resources.

- There is a gap in national ocean policies and plans that incorporate MPAs as key delivery mechanism.
- Insufficient coordination of MPAs across sectors and between government agencies responsible for biodiversity/environment and fisheries, respectively.
- MPAs are not integrated into broader governance and management frameworks (e.g., fisheries management, ICZM, MSP).
- Impacts of land-based activities, including water quality and river basin components, are not effectively considered in MPA management.

3: Strengthen MPA governance through inclusive and transparent stakeholder engagement

- Stakeholders, including local communities, are often not involved in MPA development, designation and management in a transparent, just and equitable manner.
- Ecological and socio-economic knowledge is spread in different sector agencies/organisations
- Need more equitable sharing of social and economic benefits derived from MPAs.
- General gap in understanding of benefits of MPAs for food security, livelihoods and regional stability.

4: Ensure MPA connectivity and ecological representativity

- Limited connectivity among MPAs is halting ecosystems processes, functions and productivity
- Insufficient representativity and ecological coherence of MPA systems in areas with larger gaps

5: Develop sustainable MPA financing

- There is a lack of sustainable financing tools for MPAs at local, national, regional and international levels
- Lack of MPA business plans at local and national level.

6: Utilize the best available science, technology and traditional knowledge in MPA development and management

- Gaps at both national and local levels in capacities for the scientific identification of marine protected areas, for the development of management plans for them, and in enforcing the regulations that may be required.
- Little scientific understanding of the efficacy of MPA actions implemented to date and few studies to assess this exist.
- Design of protected areas based on geographic definitions must account for the fluxes through the system as well as the movement of the inhabitants.
- Need better tools for evaluation of MPA management effectiveness.

- Data related to habitat and species are spread in different databases at national and regional levels.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

- Overall, SDG14.5 has links to SDGs 1; 2; 5; 7; 8; 9; 11; 12; 13; 16 and 17, because the achievement of some of those SDG's may either positively or negatively impact the achievement of SDG14.5.
- MPAs need integration within larger EEZ-scale ocean management, zonation and multiple-use plans to ensure 100% of EEZ is under "good" management and where at least 10% of the EEZ receives stronger protection from extractive uses.
- MPA integration into national strategies related to sustainable development is currently weak. Need to integrate policies, build institutional bridges and clarify governance frameworks between sector-specific policies and policies relevant to MPAs at national level. Promote synergies and agreements between conservation, the fishing industry, but also in the field of tourism, surveillance, tax and finance, and legal framework and policies for territorial development reinforcement.
- MPAs represent an effective tool to mitigate and adapt to climate change impacts and to increase the resilience of social and ecological ecosystems. For example, MPAs that protect coastal habitats such as barrier islands, coral reefs, mangroves and wetlands reduce human vulnerability in the face of climate change and provide the natural infrastructure (e.g. storm protection) on which people rely.
- Consider the challenges of climate change both in MPA management plans and their monitoring activities, for example (a) explore possibility to have mobile boundaries of MPAs adopted at national level, and (b) utilise MPAs and other area based management measures in the face of a changing environment in particular climate change, e.g. use MPAs as sentinels to monitor climate change impacts.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

Opportunities for collaboration, new partnerships:

- Support cross-sectoral partnerships that include communities and civil society will be important for effective MPAs. Support institutional agreements between fisheries and MPA institutions at national and regional levels promoting synergies and/or clarifying shared responsibilities.
- Regional MPA networks (e.g. MedPAN, CAMPAM, RAMPAN) can promote MPAs as tools for addressing climate change mitigation and adaptation, as well as support monitoring of the state and effectiveness of MPAs through more harmonized monitoring systems including comparable sets of natural, socioeconomic and management effectiveness indicators at national and regional levels.

- Develop new regional cooperation at scientific knowledge and management levels to reinforce the role of MPAs towards climate change adaptation and mitigation.
- Develop international sustainable financing mechanisms for long-term MPA networking (to support permanent platforms of MPA managers at regional level (such as MedPAN, CaMPAM, RAMPAN, others) as well as sub-regional networks of MPA managers (such as Adriapan in the Mediterranean).
- Build a win-win relationship with decision-makers and funding bodies on marine spatial planning, integrated coastal management, blue growth strategies, and sustainable fisheries policies, to deal with pressures beyond the MPA borders, while considering MPAs as management instruments to reach sustainability targets.
- Improved enforcement by reaching national and local agreements with related institutions and stakeholders, complementing roles and sharing expertise and capacities. Establish institutional arrangements that enhance and ensure surveillance, effective control and enforcement of legal measures.
- Collaborations between scientists / decision-makers / MPA managers at regional level to be developed on socio-economic benefits of MPAs.
- Develop institutional agreements for the protection of biodiversity and/or the management of MPAs in ABNJs in transnational pilot sites:
 - by integrating advances in governance and international agreements
 - by developing innovative and well-grounded governance
 - by offering innovative institutional frameworks reinforcing the integration of fisheries and conservation governance in these types of territories.
- Develop coordination of the different Regional MPA networks in the world to enhance capacity-building mechanisms and tools, to capitalize, develop and replicate such tools.
- Use PANORAMA knowledge-sharing partnership and Blue Solutions (implemented jointly by GIZ, GRID-Arendal, IUCN, UNEP, funded by the German Government (BMUB)). Blue Solutions case studies are promoted on a dedicated portal of the Panorama platform (www.panorama.solutions), as well as through forums, workshops, including lessons-learned in the context of MPA management.
- Engage with and further evolve the “10X20 Initiative”, established and supported by group of countries and partners to help achieve SDG 14.5 through capacity building for effective and holistic MPA development and implementation.
- Evolve a global partnership to develop practical tools, solutions and guidance on area-based management for international ocean governance to support implementation of ocean-related SDG’s.

14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

Countries have committed to deepen the role of UNEP in the advancement of the goals articulated within the SAMOA Pathway through the adoption of a resolution within the Second Session of the United Nations Environment Assembly (UNEA) that affirms the role, functions and modalities for UNEP's support to countries in implementation of the SAMOA Pathway as a means of facilitating achievement of the Sustainable Development Goals and realizing transition to 'blue growth' economic modalities around sustainable management of seas and oceans. Also adopted at UNEA-2 were relevant resolutions on marine litter, oceans and seas and coral reefs. These commitments and frameworks are being advanced through wider governance programmes notably the Regional Seas Conventions and Action Plans (RSCAPs) of which six are administered by UNEP; those regional seas of relevance to SIDS and LDCs are (i) The Wider Caribbean, (ii) West Africa, (iii) East Africa, (iv) South Asia and (v) the Pacific, and the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA).

The Blue Solutions initiative of GIZ, UNEP, GRID-Arendal and IUCN is developing and bringing together innovative marine and coastal management approaches and policy advice. Focus on holistic solutions for a sustainable use of marine and coastal resources. UNEP is engaged in coastal ecosystem-based adaptation in SIDS with the development of decision-tools and guidance of coastal EBA that includes two pilot demonstration projects in Grenada and the Seychelles along with regional EBA training in Caribbean and Western Indian Ocean and global policy dissemination through the Global Adaptation Network. There is ongoing work with SPREP on using cost-benefit analysis for Ecosystem-Based Adaptation in a Pacific island context. The Blue Solutions Regional Forum on Oceans, Coasts and Human Well-being in Africa has been organised by UNEP, GIZ, IUCN in collaboration with Abidjan and Nairobi Convention, WIOMSA and CBD-SOI. An initiative on economic instruments for biodiversity will see a pilot project in Barbados (with another under consideration) that will establish sustainable financing of coral reef and coastal management based on a public-private partnership agreement and a payment for ecosystem services scheme. The work will be carried out through the UNEP-RS Global Coral Reef Partnership, in collaboration with the Regional Activity Centre for the Protocol on Specially Protected Areas and Wildlife for the wider Caribbean (SPAW-RAC) of the Caribbean Environmental Programme (CEP), Bluefinance Economics for Coral Reef Ecosystems (ECRE), GRID-Arendal and other partners. Lead: Coral Reef Unit. The project "Transforming tourism value chains in developing countries and Small Island Developing States (SIDS) to accelerate more resource efficient, low carbon development" aims at reducing GHG emissions and improving resource efficiency in key tourism sector value chains with high resource use i.e. accommodation, food & beverage, and meetings, incentives, conferences and events.

With the financial support of the GEF, UNEP is implementing and/or co-implementing major initiatives in integrated terrestrial and marine ecosystems management in SIDS regions. The Integrating Water, Land and Ecosystems Project (GEF-IWEco) will replicate solutions for reducing marine pollution and strengthen supportive policy across 11 Caribbean island states. The GEF-funded Caribbean Regional Fund for Wastewater Management (GEF CReW) Project is assisting with innovation in wastewater solutions supported by policy reform. UNEP is co-implementing along with UNDP and UNOPS the Atlantic and Indian Ocean SIDS - Integrated Water Resources and Wastewater Management Project. The project implemented targeted IRWM solutions and UNEP is supporting the strengthening the policy and institutional environments.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

SIDS and LDCs are challenged by generally weak regulatory and institutional mechanisms, inadequate financial resource capacities, and open economies vulnerable to trade-related shocks on account of relatively undiversified production industries. The threat of climate change will exert further stress to these vulnerable economies with potentially severe social and economic consequences if adaptation measures are not put in place. These factors compound some key challenges faced by SIDS and LDCs in management of sectors that are reliant on key marine ecosystem services. Many countries have either weak or the lack the appropriate mechanisms to address unsustainable management of fisheries resources within EEZs. There tends to be limited capacities in many of these countries to implement ecosystems-based approaches to manage terrestrial and marine which results in degradation of terrestrial and marine ecosystems. This is manifested in pollution from agricultural, industrial and urban development in watershed and adjacent coastal areas, overexploitation of resources, loss of critical habitats and user conflicts. Limited capacities to effectively manage municipal waste with consequent marine debris accumulation in coastal environments is problematic in many of the countries. Overall there is limited capacity to effect transition to 'green' or 'blue' economies where principles of sustainable consumption and production as advanced in UNEP's 10-year framework of programmes on SCP patterns (10YFP) and sustainable use and management of natural resources are mainstreamed into national development.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

UNEP's work in support to SIDS and LDCs is cross-cutting over some key SDGs. Key linkages are to SDG6 in the area of water and sanitation particularly in the case of SIDS where integrated resource management is anchored in 'ridge-to-reef' approaches in the context of the hydrological cycle as it impacts the coastal environment primarily related to pollution control. In relation to land-based pollution there are linkages to SDG11 in respect of safer urban environments related to sanitation, SDG12 with close linkages to the 10YFP on SCP, SDG13 on climate change and building more resilient eco-systems based adaptation and SDG17 on building partnerships. In this area, UNEP emphasizes south-south cooperation with transfer of relevant technology solutions to areas of need through the myriad of partnerships the agency is engaged with.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

The UNEP Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) operates as an intergovernmental mechanism to address pollution of the marine environment, and provides active support to countries in pollution mitigation. The GPA has been widening engagement with countries, international agencies, research and private sector through partnerships to focus on pollution control; the Global Partnership on Nutrient Management (GPNM) is a response to the challenge of reducing the amount of excess nutrients (nitrogen and phosphorus) in the global environment consistent with global development; the Global Partnership on Marine Litter (GPML) enhances international cooperation and coordination for implementation of the Honolulu Strategy for prevention and management of marine debris. The Global Wastewater Initiative (GW2I) helps build the foundations for partnerships to initiate comprehensive, effective and sustained programmes addressing wastewater management. Regional nodes for these partnerships and development action plan frameworks are being strengthened in the Caribbean and the Pacific with reliance of partners in these regions in close coordination with the Regional Seas Programmes. There are wider partnerships through the Global Partnership on Global Partnership on Waste Management (GPWM) that has engagement of international agencies, governments, businesses, academia and local authorities. Partnership opportunities include the Coral Reef Alliance (CORAL) with linkage to the UNEA resolution on coral reefs, the International Partnership for Blue Carbon among others. UNEP is increasingly seeking avenues for cooperation with the private sector through demonstration and advancement of sustainable consumption practices, green chemistry and advocating for adoption of circular economy principles.

14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries

Current activities towards the conservation and sustainable use of the oceans, seas and marine resources, including capacity building activities

The UN Environment is providing practical area-based management tools, policy guidance and capacity building to support implementation of ecosystem-based management and governance to reduce human impacts and enable sustainable resource use of the marine environment. It hosts the UNEP-Live, a data depository portal and also coordinates the implementation of SDG14. Currently UN Environment administers seven Regional Seas Conventions and Action Plans, namely Abidjan Convention, Barcelona Convention, Cartagena Convention, East Asian Seas Action Plan, Nairobi Convention, Northeast Pacific Action Plan and Teheran Convention, all generating knowledge and governance mechanism, such as Marine Protected Areas (MPAs) for the sustainable management of the marine environment. While each Regional Seas Convention and Action Plan tackles regionally specific issues, they have formulated

common Regional Seas Strategic Directions (2017-2020) to connect the regional activities to global processes. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) has long been working to prevent, reduce and mitigate impacts by pollution from land-based activities through knowledge generation, pollution reduction policies and measures, assisting countries to develop their National Plan of Actions (NPAs), global partnerships.

Challenges to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (e.g., areas where gaps exist, where more action is needed)

The first global integrated marine assessment, released in 2015,

(http://www.un.org/ga/search/view_doc)

pointed out that the information which is needed to understand the ocean can be divided into four main categories: (a) the physical structure of the ocean; (b) the composition and movement of the ocean's waters; (c) the biotas of the ocean; and (d) the ways in which humans interact with the ocean. The knowledge gaps identified in the summary of the same report, in its page 52, all point to gaps in the capacities needed to fill them and to apply the resulting knowledge.

These main capacity needs were cross-cutting issues among the regions: (i) data accessibility and data sharing; (ii) the provisions for mentoring and training opportunities for less experienced scientists and practitioners; (iii) data collection and marine habitat mapping to inform management of ecosystems, biodiversity and fisheries; (iv) need to improve professional capacities to assess socioeconomic issues; and (v) Capacity to conduct integrated and ecosystem-services assessments. There is a need to undertake marine scientific research and develop the associated technological capacity of small- Island developing States, including through the establishment of dedicated regional oceanographic centres and the provision of technical assistance.

Opportunities (e.g. interlinkages of SDG14 with other relevant SDGs)

SDG14 has interlinkages with SDG6 (threat from pollution), SDG13 (impact from climate change), SDG12 (impact of Consumption and production patterns), SDG7 (energy). Oceans face the threats of marine pollution (litter, nutrient, wastewater, heavy metals...), resource depletion and climate change, all of which are caused primarily by human actions who depend on oceans, whether it be for employment, resources, or leisure. Hence the importance of the WOA, as such assessments will be key to point out the missed links and highlight the needed synergies.

Development of partnerships (Stocktaking of existing partnerships and opportunities for synergies and collaboration, new partnerships to address gaps, in particularly capacity gaps)

Partners include IOC, IAEA, UN Environment (Regional Seas Programs, The Global Programme of Action for the Protection of Marine Environment from land-based activities- GPA), FAO and DESA. Several multi-stockholders partnerships have been set up and are contributing to the sustainable management of the marine environment. UN Environment has currently four marine related partnerships, the (1) Global Partnership for Coral Reef and the three GPA partnerships: (2) Global Partnership on Nutrient

Management; (3) Global Partnership on Marine Litter; and (4) Global Wastewater Initiative. The Regional Seas Conventions and Action Plans spearhead the implementation of GPA at the regional level. Building strategic partnership with Universities and research institute will bring an added value in filling the capacity gaps particularly through the Global University Partnership for Environmental Sustainability, which UNEP coordinates.

3) Possible themes for the partnership dialogues

UNEP would like to propose the 'regional ocean partnership' to be a theme for the partnership dialogue.

It further suggests another theme, which is partnership on land-based Pollution.