HIGH-LEVEL POLITICAL FORUM
ON SUSTAINABLE DEVELOPMENT

2017 HLPF Thematic review of SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development[1]

SDG 14 is dedicated to humanity's interactions with the oceans. It covers a range of issues in the area of conservation and sustainable use, with seven targets and three means of implementation to respond to the urgent need for transformative change toward more sustainable practices. Oceans cover around 71% of the Earth's surface and perform a vital regulatory function in the global weather and climate systems. Even the livelihoods and lifestyles of people living far inland often depend directly on rainfall and temperature patterns moderated by distant oceans. SDG 14 recognises the environmental, economic and social benefits that healthy oceans provide, and that resources and services[2] are being eroded by a range of anthropogenic pressures that are potentially manageable and within the SDG14's scope to improve. As individual activities that damage oceans are often felt far beyond national borders, responsibility for the oceans' health rests with all of us.

This thematic review focuses on key SDG 14 targets and their indicators. It examines what we know about each target and reports on approaches to implementation and current actions. The review also offers suggestions to the HLPF on the main existing gaps and opportunities to mitigate risks to the sustainable use of oceans, seas and marine resources.

The marine realm is the largest component of the Earth's system that stabilizes climate and supports life on Earth and human well-being. However, The First World Ocean Assessment notes the cycle of decline in the ocean health, with changes and losses in the structure, function and benefits obtained from marine systems. Productive habitats from coastlines (mangroves), coastal shallows (corals and seagrass), open ocean and deep seas (ocean benthos) are being lost, eroded, or reaching full capacity as a result of extractive and non-extractive activities at local and global scales. In addition, the impact of multiple stressors on the ocean is projected to increase, with potential reductions in per capita services as the human population grows towards the expected 9 billion by 2050. Action needs to be taken.

Implementation of SDG 14 targets can benefit from opportunities to bring critical mass to solving problems through countries acceding to conventions, treaties and arrangements and, where needed, by facilitating strong delivery to the commitments made in those agreements. Much of the knowledge we need is available for the first steps to be taken in removing, adapting to or mitigating recognised impacts. In most cases, more work is needed to monitor changes in the status and pressures of each issue, across developed and developing countries. To increase international collaboration and data sharing, 'ocean data and information networks' are developing useful data portals comprising available and quality-controlled integrated global data products and inventories, with easy access to metadata and attractive visualizations. The review outlines progress in many of these processes and highlights the needs of developing countries for assistance in implementing actions. This is especially true for SIDS and LDCs, where large populations are dependent on the marine environment and are vulnerable to hazards

[1] This background note has been developed by members of ECESA Plus as a coordinated contribution by the UN system to the 2017 HLPF in depth review of SDG 14. Co-leads: FAO and UNESCO/IOC with contributions from OHRLLS, ITU, World Bank Group, ILO, UN Habitat, UN Women, UNEP, UNDP, UNIDO, WHO and UN-DESA.

[2] Poverty eradication, food security, energy generation, livelihood and tourism opportunities, protection from natural disasters, oxygen provision, 'sink' for greenhouse gases.

associated with the marine environment (e.g. tropical cyclones, tsunamis) or dependent on rainfall patterns driven by the oceans (e.g. the monsoon in the Indian sub-continent, or rainy season in Western and Central Africa).

Recommendations differ for each of the targets, but a common theme is the need for real commitment to cooperate across geographical, institutional and sectoral boundaries, particularly for on-the-ground implementation. These recommendations highlight opportunities to, for example, support mechanisms that contribute to understanding and minimizing impacts of ocean acidification and pollution, reduce harmful fishing effort (through actions on Illegal, Unregulated and Unreported (IUU) fishing and removing, where possible, harmful fishery subsidies), enhance effective area management for the conservation of biodiversity, and strengthen implementation of global agreements on climate. They present a new positive view on rebuilding depleted fisheries and present a particular focus on smaller artisanal fisheries that are the engine for food security, nutrition and livelihoods for large numbers of the rural poor. They also highlight a focus on big issues; using the June 2017 UN Ocean Conference as a vehicle to spur consensus building for agreements on trade issues and strengthening governance of the deep seas (areas beyond national jurisdiction). Lastly, the review highlights current opportunities for nations to benefit from technological and scientific advances to support implementation, from fundamental data collection to the sharing of information, infrastructure, skills and learning through capacity development.

Pollution (SDG 14.1)

Status: Most excess outflow of nutrients and plastics is land-sourced. Estimates of the extent and growth of the problem are emerging, with significant negative impact to the health of marine and potentially human food chains. 90% of nitrogen influx tend to be agriculture-related. Limited or lack of wastewater treatment plants and a growing inflow of plastics in coastal systems bordering large urban areas, particularly in developing countries, remains a significant threat.

Implementation: Information, organisational framework and intervention technology are largely available. Implementation is largely hampered by the difficulty in negotiating change across the full pathway of the problem and a lack of resources and capacity for delivery in developing countries. Some bold interventions are underway such as the UN's Clean Seas campaign, Indonesia's pledge for a 70% reduction in marine waste within eight years, and global initiatives to mark fishing gears through international standards.

Recommendations: Opportunities to control ocean sources of this pollution largely exist. Novel approaches are still required for some forms of plastics (micro-plastics), and cross-sectorial interventions need further impetus to deal with the transboundary pathways to decrease arrival and clean-up of these forms of pollution in the oceans.

Ocean acidification and climate Change (SDG 14.3)

Status: Failure to act on climate change and related changes in the atmosphere will have serious implications for the ocean. Gradual and extreme warming events, rising sea levels, higher acidity, reduced mixing of ocean water and resulting de-oxygenation have been detected. Globally, ocean pH (measure of alkalinity) has already decreased by 30% since pre-industrial times, while over 90% of excess anthropogenic heat has been accumulated in the ocean. Acidification has already resulted in some localised negative impacts on marine ecosystems and aquaculture. Superimposed on anomalous ocean warming events, its effects significantly impact vulnerable marine resources and habitats. These impacts will be long-lasting even if the current CO_2 emission trends are reversed. The capacity of oceans to absorb increasing atmospheric carbon and heat has limits. Ocean observations, both satellite imagery and in-

situ, modelling and access to big data can play a vital role in monitoring, analysing and predicting ice cover, sea level, ocean currents, oxygen levels, algal blooms, and informing climate services.

Implementation: In most cases the direction of climate-related changes is well known and consistent with observations. However, the timing and rate of change, as well as its magnitude, extent and full impact on many ocean and climate variables, ecosystems and resources is characterized by significant uncertainty, especially at local scales. More research on the functioning of marine ecosystems is needed. The capacity to inform climate – related decisions at management-relevant scales is still limited, although efforts to enhance observations, data and information production and sharing are underway.

Recommendations: Scenarios for climate change indicate that if CO_2 emissions continue at the present rate mean surface water temperature will increase by up to 2°C by 2100, global mean sea level will rise by up to 0.82m or even higher (with very significant regional differences and high upper bound for extreme events) and mean surface acidity will decrease by a further 100-250% reaching a level not experienced in the ocean for at least 25 million years. There will be other changes, e.g. in plankton and oxygen, affecting ocean health in complex ways. Promotion of activities that encourage and allow countries to meet and exceed commitments made under the UNFCCC Paris Agreement and mainstreaming monitoring and research on the effects of climate change on ocean ecosystems, including predictions at all scales, is needed to better inform policy-makers and to guide meaningful adaptation and mitigation options, as part of National Determined Contributions (NDCs).

Marine and Coastal Environment including Spatial Management (SDGs 14.2 and 14.5)

Status: Marine ecosystems in general and coastal ecosystems in particular have lost 19-35% of foundational habitats like seagrass meadows, coral reefs and mangroves, due to extractive and non-extractive pressures. A clearer ongoing understanding of status is still needed; however, there are attempts to harmonise assessment approaches and actions to establish marine protected areas (MPAs) within integrated spatial management frameworks. MPAs coverage to date is at 4.12%, against a 10% target. Beyond MPAs, the establishment of ecosystem based management programmes have flourished at national or regional scales, though the tracking of these is a challenge.

Implementation: Management effectiveness across these habitats and MPAs is a recognised implementation challenge; determining the objectives of initiatives and measuring effectiveness still needs greater investment and focus. While MPA coverage has grown significantly over the past decade, geographical distribution is still imbalanced, and coverage still lags behind terrestrial equivalents. However recent MPA networks (including 'large MPAs'), Locally Managed Marine Areas (LMMAs) and zone-based management measures, including use of 'other effective area management' measures, offer a range of opportunities for the preservation of biodiversity and reaching the target.

Recommendations: Supporting implementation of integrated management frameworks, using the full range of management tools (including MPAs in the context of broader management objectives) and mainstreaming ecosystem approaches into management through cross-sectoral cooperation (e.g. Regional Seas Conventions and action plans, Regional Fisheries Bodies and Large Marine Ecosystem projects) is an ongoing need. Support for ongoing efforts to develop an implementing agreement for Biodiversity Protection Beyond National Jurisdiction and development of conservation and management frameworks for high seas is needed.

Fisheries Management and Value (SDG 14.4)

Status: Wild caught or farmed seafood provides more than 3.1 billion people with almost 20 percent of their average per capita intake of animal protein (plus omega-3 fatty acids, vitamins, calcium, zinc,

and iron). Globally, the market value of these resources is estimated at $3 trillion per year, or about 5% of global GDP. Global capture production of fish has been relatively stable in the last 20 years (min– max 87 to 95 million tonnes, 1996-2015); however 31% of exploited marine fish stocks are overfished, an increase from less than 10% in the 1970's. Production from aquaculture continues to grow (currently 77 million tonnes). Across the target, our knowledge of the problems and pathways to improvement are well understood.

Implementation: Global normative instruments, from the UN Convention on the Law of the Sea (UNCLOS), the United Nations Fish Stocks Agreement, the FAO Code of Conduct for Responsible Fisheries (CCRF) and national and regional fishery management arrangements are supporting the implementation of national and regional science-based management plans. Fish stock assessments and precautionary frameworks that decrease fishing pressure, action on IUU fishing, and environmental safeguards are increasingly mainstreamed, but progress needs to accelerate. The introduction of 'Blue Growth' initiatives, reductions in post-harvest losses and improvements in associated post production industries and market processes provide new pathways of sustainability requiring further support. Major initiatives to boost supply chain traceability programmes, inspection and surveillance schemes and Port State controls (e.g. FAO's Port State Measures Agreement or PSMA) offer significant advances.

Recommendations: Fundamental reporting of annual national catch statistics needs additional support to increase their quality and resolution, including enhancing of on-the-ground capacity. Decreasing the impacts of IUU fishing alone has been estimated to reduce losses worth US$23.5 billion, or 20% of all wild marine catches. Further country accession to FAO's PSMA would benefit compliance as would encouragement to progress internationally recognised Catch Documentation Schemes (CDS), and individual fishing vessel identification schemes ('Global Record'). A series of efforts are required to assist management of Small Scale Fisheries (SSF) including greater understanding of the small-scale fisheries sector, additional documentation around catches, basic management infrastructure and capacity support.

Access for Small-Scale Fishers and Their Opportunities for Trade (SDG 14.7, 14b)

Status: Small-scale artisanal fisheries (SSF) are at a disadvantage when it comes to recognition and secure access to resources and trade. However, SSF accounts for a large percentage of full-time or part-time work in developing countries (50% of them women) and work across capture fisheries value chains. In addition, over 90% of the catch produced by the SSF are destined for local human consumption.

Implementation: Globally, this issue is receiving greater recognition through the endorsement of the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. There is more work needed and greater opportunity to improve the understanding of the value of sustainable fisheries among countries, to offer a more comparable picture of returns to SSF from accessing UNFSA stocks as well as coastal fisheries. Spatial comparisons of these returns offers an assessment of the suitability of adopted policy and management frameworks.

Recommendations: Market access is key to ensuring synergies between the SAMOA Pathway and the 2030 Agenda, and focusing on strengthening the resilience of SIDS in order to ensure they can achieve their development goals. Advancement by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries is however a work in progress and needs support. Work to offer preferential trade facilitation schemes, especially for small island developing states (SIDS) and least developed countries (LDCs), and promotion of economically beneficial activities such as novel approaches to extractive and

non-extractive industries, including ocean-driven tourism and marine-derived energy and minerals, would strengthen capacity of communities reliant on coastal and ocean opportunities.

Fisheries Subsidies (SDG 14.6)

Status: Fisheries subsidies are as high as $35 billion worldwide, of which $20 billion are categorized as contributing to overcapacity and overfishing. These come in many forms (grants, low cost loans, guarantees, tax breaks, price supports, and the direct provision of goods and services) which are introduced for a variety of reasons (economic growth, fisheries development, crew safety, enabling value addition, financing less harmful fishing methods etc.).

Implementation: International consensus to discipline subsidies is hampered by their technical complexity, political sensitivities in relation to cross-sectoral analysis and the limited transparency of the nature of support measures. The OECD is currently revising and expanding its country database on 'support measures' to fisheries with the explicit objective of implementing international objectives like SDG 14.6.

Recommendations: The UNGA inter alia "express[ed] its support for accelerating work to complete the ongoing negotiations in the WTO to strengthen disciplines on subsidies in the fisheries sector". The UN Ocean Conference in June 2017, and the WTO Ministerial Conference in December 2017, will represent important political opportunities to consolidate ground and seek concrete solutions, at least a minimum common denominator that could be agreed and included in trade agreements, including at the regional level. With any proposed change, appropriate and effective differential treatment for developing countries, including SIDS and LDCs, will need to be considered.

Implementing International Law (SDG 14c)

Status: The provisions of UNCLOS set out the legal framework for activities in the oceans and seas describing many of the fundamental rights and obligations of member states.

Implementation: Encouraging progress has been made towards implementing the international legal regime with significant development in global and regional instruments that expand on elements of UNCLOS, accompanied in some cases by technical guidelines to direct implementation.

Recommendations: International cooperation and coordination will benefit from further countries ratifying the UNCLOS agreement, as well as investment in ongoing related capacity development to strengthen implementation. In addition, work on the formalisation of maritime boundaries, and support for countries, regional fisheries management organizations and other governance arrangements to continue to implement the 2008 International Guidelines for the Management of Deep-sea Fisheries in the High Seas, and to work together to create an international legally binding agreement under UNCLOS for the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ process) is needed. This would enhance the ability of States to exercise their rights in realizing benefits, while fulfilling their international obligations.

Scientific knowledge and research capacity (SDG 14a)

Scientific understanding of the ocean's responses to pressures and management action is fundamental for sustainable management. Ocean observations and research are also essential to predict the consequences of change, design mitigation and guide adaptation to cope with the many ways the ocean affects human lives and infrastructure at different spatial and temporal scales. Nations around the world are increasing investment in ocean observations and research, as reflected in the data coverage, number of marine scientists, research and education institutions and significant infrastructure investments. Most of developed and some developing countries are rapidly expanding and networking data streams on

oceans, climate and human activity, to deliver near real-time and delay-mode data and information on ocean status, enabling weather and climate services, disaster risk reduction, and science-based ecosystem management. Advances in observation technology, trans-ocean and regional communication systems are notable and can make data visible and accessible to allow decision-makers to optimize extractive and non-extractive activities and minimise risks. However, gaps in human and institutional capacities and lack of resources still hamper many, especially less-developed countries, from taking advantage of what is on offer for enhancing action. In many regions, national ocean research policies as well as scientific advisory mechanisms that could define a pathway to support such development are still missing, while acquisition of sufficient credible scientific data and information still requires major investment. Enhanced international and interdisciplinary scientific collaboration paired with technology transfer and an international framework to fill these technological and knowledge gaps are required.

Interlinkages across SDGs

SDG 14 frames conservation and sustainable use of the ocean and its resources. However, SDG 14 operates within the wider context of sustainable development across another 15+1 SDGs. SDG 14 has a cross-cutting role in the 2030 Agenda. The importance of conservation and sustainable use of the ocean is largely indivisible, reinforcing and enabling in relation to the other SDG goals, which shows the positive interaction of SDG 14 with other SDGs (Figure 1). These positive cross cutting relationships are more notably expressed in the case of SIDS and LDCs, where the ocean plays a more fundamental role in financial, social and environmental wellbeing. SDG 14 also contributes to the delivery of other SDG goals. Reduction in pollution and building healthy and productive fish stocks enhances coastal and marine ecosystem resilience, and contributes to freshwater quality (SDG 6), food security (SDG 2) and improved human health and well-being (SDG 3). It also contributes to decent work and economic growth (SDG 8) because employment in sectors such as fisheries and tourism are directly dependent on clean seas. 90% of international trade is transported by sea. Future economic growth will also be strongly supported by the expansion of ocean (“blue”) economy, which is expected to develop faster than its terrestrial counterpart. It is essential, however, that this growth is achieved through sustainable use of the ocean, without further damaging its health. Because individual stressors interact, managing each activity that impacts marine ecosystems in isolation will be insufficient to achieve ocean health and resilience. Multiple pressures call for integrated management in the context of an ecosystem approach. Reducing the occurrence and impact of human pressures on marine ecosystems is not solely dependent on actions related to achieving SDG 14, but also on achieving other SDGs, in particular SDG 15 on the terrestrial ecosystem and SDG 13 on climate action. With regards to action on climate, removing other stressors may increase the resilience of marine ecosystems, such as coral reefs, to the impacts of climate change and other stressors.

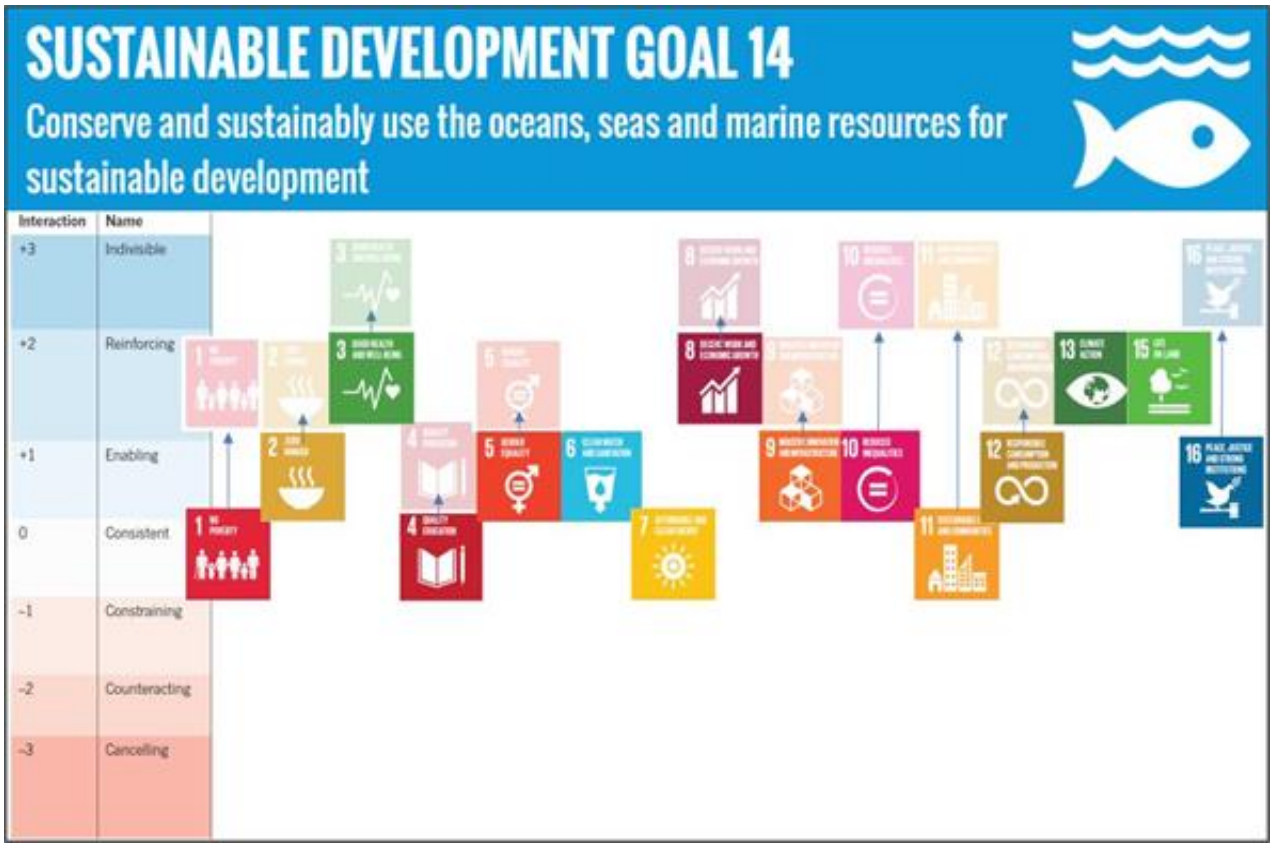

Figure 1. Using the SDG framework to map SDG14's interactions (Nilsson *et al.* 2016), reveals the positive cross-cutting relationship of SDG 14 against other SDGs for countries (coloured icons), and their elevated positive interaction for SIDS and LDCs (translucent icons).

Reference

Nilsson, Måns, Dave Griggs, and Martin Visbeck. 2016. "Map the interactions between Sustainable Development Goals". *Nature* 534: 320-322.