SDG 14 on Ensuring Conservation and Sustainable Use of Oceans and Marine Resources:

Contributions of International Law, Policy and Governance

Issue Brief 2016

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SDG 14 ON ENSURING CONSERVATION AND SUSTINABLE USE OF OCEANS AND MARINE RESOURCES: CONTRIBUTIONS OF INTERNATIONAL LAW, POLICY AND GOVERNANCE

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I. INTRODUCTION

This Issue Brief focuses on the international legal framework and treaty obligations underlying Sustainable Development Goal (SDG) 14, which aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development. Three-quarters of the planet's surface consists of oceans, seas and marine areas. They are a vital provider of food for humans and wildlife, and crucial to regional, national and local economies, as well as an important regulator of our climate and an important source of cultural and spiritual inspiration for many peoples and communities. SDG 14 on oceans, seas and marine resources is particularly important for the environmental pillar of sustainable development which provides an essential foundation for economic prosperity and social well-being. As discussed in this Issue Brief, however, the international legal instruments, governance arrangements and policy collaborations on sustainable development in relation to conservation and sustainable use of marine resources are still evolving, and more specifically with regard to key aspects of SDG 14, important gaps can be found.

This Issue Brief discusses the potential contributions of international law, governance and policy toward the implementation of SDG 14 on oceans, beginning with a brief discussion of how international law is relevant to the conservation and sustainable use of the oceans, seas and marine resources for sustainable development.

Taking into account key provisions in the *United Nations Convention on the Law of the Seas* (UNCLOS), as the most comprehensive treaty on the matter, and discussing innovative examples such as the *United Nations Fish Stocks Agreement* (UNFSA), the Issue Brief provides initial ideas for ways that international law, policy and governance could support the implementation of SDG 14, and through an illustrative hypothetical example, suggests ways to strengthen implementation on the ground in countries through law, policy and inter-institutional collaboration. We also note that there are already international institutions that serve diverse stakeholders such as Maritime Stewardship Council, International Council for the Exploration of the Sea, United Nations Permanent Forum on Indigneous Peoples, and World Aquaculture Society.

II. CONTRIBUTION OF INTERNATIONAL LAW, POLICY AND GOVERNANCE TO SDG 14 ON MARINE RESOURCES

While a wide range of international instruments relate to SDG 14.1, key instruments include the 1982 UNCLOS, the *Straddling Fish Stocks Agreement*, the New York Convention, the Helsinki Convention and the Ramsar Convention.

UNCLOS is uniquely positioned to contribute to the implementation of SDG 14. In paragraph 158 of The Future We Want, UNCLOS is recognized as providing 'the legal framework for the conservation and sustainable use of oceans and their resources' and, as such, is of principal importance for an analysis of how international law and governance can help to implement SDG 14.[2]

Indeed, SDG 14.c aims to enhance "the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the [UNCLOS], which provides the legal framework for the conservation and sustainable use of oceans

Box 1: SDG 14 Marine Ecosystems - Ensure conservation and sustainable use of oceans and marine resources

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

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, to achieve healthy and productive oceans

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

14.4 By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, 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

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

14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation

14.7 By 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

14.a Increase scientific knowledge, develop research capacities 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 SIDS and LDCs

14.b Provide access of small-scale artisanal fishers to marine resources and markets

14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The Future We Want."

[1] See: 1946 International Convention on the Regulation of Whaling; 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas; 1971 The Convention on Wetlands Ramsar; 1973 Convention on International Trade in Endangered Species of Wild Flora and Fauna; 1974 International Convention for the Safety of Life at Sea; 1978 International Convention for the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978; 1979 Convention on the Conservation of Migratory Species of Wild Animals; 1982 Law of the Sea Convention; 1991 Convention on Environmental Impact Assessment in a Transboundary Context; 1992 Rio Declaration and Agenda 21; 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes; 1993 FAO Compliance Agreement; 1994 The Convention on Biological Diversity; 1995 UN Fish Stocks Agreement; 1995 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas; 1997 Convention on the Law of the Non-navigational Uses of International Watercourses; 2001 Reykjavík Declaration; 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage; 2002 WSSD POI; 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments; 2006 Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; 2012 FAO Port State Measures Agreement; 2012 Rio + 20.

[2] UN, United Nations Convention on the Law of the Sea, (10 December 1982), UNTC No. 31363, online: UN <http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf>. [UNCLOS]

and their resources…" Under the UNCLOS, States have agreed to a general obligation on States to protect and preserve marine life.[3] For instance, States must individually or jointly establish measures to prevent, reduce and control marine pollution, specifically: toxic or harmful land-based dumping, pollution from vessels, and pollution resulting from natural resources exploration on the seabed or subsoil and other marine installations.[4] As SDG 14.1 seeks, by 2025, to prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, these UNCLOS provisions are directly relevant. Scientific collaboration under the UNCLOS, for instance, could be used to trace and prevent or stop illegal marine pollution, and to monitor the effectiveness of collaborative efforts.

Further, under the UNCLOS, measures taken by States must not create unjustifiable interference to lawful activities of States, may not directly or indirectly transfer the damage from one location to another, and shall address the use of technology and the accidental introduction of species into the marine environment.[5] SDG 14.2 aims, by 2020, to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts. Supporting this goal, the UNCLOS establishes measures relating to global and regional cooperation.[6] States, in cases of imminent or actual damage, must provide notification to other affected States, and cooperate with other international organizations to develop joint contingency plans.[7] Monitoring and evaluation measures are facilitated, including publication of reports, with particular emphasis on activities which are planned and permitted.[8] Planned activities which have a reasonable potential to cause harm are to have the potential effects assessed, with the results integrated into reporting.[9]

In addition, SDG 14.4 aims, by 2020, to effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices. In SDG 14.4, countries also seek to implement science-based management plans, 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. Supporting this aspect of SDG 14, and implementing provisions of UNCLOS, the 1995 *Agreement on Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*[10] seeks to ensure the long-term conservation and sustainable use of straddling fish stocks.[11] In particular, the Agreement establishes as general principles measures which optimize utilization of fish stocks, adoption of an ecosystem approach and application of the precautionary approach.[12]

States are further required to apply the precautionary approach to conservation and management of straddling fish stocks, and exercise caution in cases of uncertain, unreliable or limited

[3] *Ibid,* UNCLOS, Article 192.
[4] *Ibid,* UNCLOS, Article 194.
[5] *Ibid,* UNCLOS, Article 195-196.
[6] *Ibid,* UNCLOS, Article 197.
[7] *Ibid,* UNCLOS, Article 198-199.
[8] *Ibid,* UNCLOS, Article 204-205.
[9] *Ibid,* UNCLOS, Article 206.
[10] *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (1995), UNTC No.37924. [UN Fish Stocks Agreement (UNFSA)]
[11] *Ibid,* UNFSA, Article 2.
[12] *Ibid,* UNFSA, Article 5; See general principles: (a) the adoption of measures to promote optimal utilization of straddling fish stocks, (b) employment of the best available scientific evidence to design and maintain stock levels, (c) application of the precautionary principle, (d) use of an ecosystem approach when assessing fishing impacts, (e) implementation of conservation and management measures, (f) minimization of pollution, waste, catch by lost or abandoned gear, and catch of non-target species, (g) protection of biodiversity, (h) development of measures to prevent or eliminate overfishing, (i) consideration of the interests of subsistence fishers, (j) collection and dissemination of data concerning fishing activity, vessel position, target and non-target species caught, (k) use of science-based decision making in development of technologies relating to fishery conservation, and (l) enforcement of conservation and management mechanisms to support monitoring

information.[13] In implementing the precautionary approach, States shall improve decision-making, apply common guidelines relating to stock condition, develop data collection and research programs, provide for enhanced monitoring for concerned species, and implement caution management measures including modest catch limits.[14] Organizations such as the Marine Stewardship Council (MSC) provide valuable consumer capacity-building with regard to the sustainable use of fish stocks. MSC sets standards with regards to supply chains to ensure that the goal of sustainability in terms of fish and seafood harvesting. Of course public participation is an important aspect of governance and via organizations such as MSC the public is given the opportunity to vote with their purchasing power. MSC and others like it however, need to work on their own transparency so that the public feels confident that the standards set do in fact make a difference.

Other treaty regimes, backed by key principles, governance arrangements, and scientific and policy collaborations, remain relevant to the delivery of SDG 14. In particular, by 2020, SDG 14.2 aims to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration; SDG 14.5 aims to conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information.

Supporting these aspects of SDG 14, the 1971 *Ramsar Convention on Wetlands of International Importance* (Ramsar) establishes international cooperative measures to facilitate the conservation and wise use of wetlands,[15] adopting an ecosystem approach to wetlands that includes lakes, rivers, underground aquifers, peatlands, mangroves and other coastal areas such as coral reefs.[16] It requires Parties to establish domestic monitoring of listed wetlands to monitor changes in ecological character with changes noted on the Montreux Record among other mechanisms,[17] providing a useful tool for implementation and monitoring of SDG 14.2.

Further, the 1992 *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (Helsinki Convention), which establishes cooperative measures to address, mitigate and prevent transboundary pollution of watercourses,[18] can assist to address the quality, quantity and integrated management of water basins, supporting SDG 14.2 and 14.5, by encouraging measures relating to, among others: (1) pollution prevention, (2) source licensing, (3) waste-water discharges, (4) water quality, (5) pre-discharge treatment, (6) environmental impact assessment, (7) sustainable water management, and (8) contingency planning to minimize effects of accidental pollution.[19]

In addition, the 1997 UN *Convention on the Law of the Non-navigational Uses of International Watercourses* (New York Convention), which aims to harmonize measures grounded in watercourse agreements facilitating cooperation and consultation on protective and governance measures relating to international watercourses, and amicable settlement of disputes,[20] recognizes principles such as (1) a duty of reasonable and equitable use of the watercourse, (2) an obligation to provide good faith cooperation, (3) application of an ecosystem approach, and

[13] *Ibid,* UNFSA, Article 6 (1-2).
[14] *Ibid,* UNFSA, Article 6(3-7).
[15] *Ramsar Convention on Wetlands of International Importance* (1971) 996 UNTS 245, Article 6. [Ramsar]
[16] *Ibid,* Ramsar, Article 2(1).
[17] *Ibid,* Ramsar, Article 3(2).
[18] *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (1992), 17 March 1992, 1936 UNTS 269. [Helsinki Convention]
[19] *Ibid,* Helsinki Convention, Article 3(1)(a)–(l), 3(3).
[20] *UN Convention on the Law of the Non-navigational Uses of International Watercourses*, 21 May 1997, annexed to GA Res 51/229 (1997), *preamble,* Article 6(2), 33. [New York Convention]

(4) facilitation of information sharing.[21] Under the New York Convention, in their efforts to establish environmental protection measures, including notification requirements and individual or joint mechanisms to prevent pollution or the introduction of alien species,[22] the Parties are delivering SDG 14.1 and 14.2.

With regard to other aspects of SDG 14, such as the aim to minimize ocean acidification as per SDG 14.3, and to support small-scale artisanal fishers as per SDG 14.b, there is less international collaboration. These remain areas for further international development and cooperation, particularly where institutional governance or capacity building, through horizontal and vertical collaboration, can remove obstacles to achieving these aspects of SDG 14. To this end, States are helped by organizations like the International Council for the Exploration of the Sea (ICES), whose motto is "science for sustainable seas." ICES as an intergovernmental organization has as a mandate to "increase the scientific knowledge of the marine environment and its living resources and to use this knowledge to provide unbiased, non-political advice to competent authorities."[23] ICES could further aid States with the science of sustainability by integrating indigenous and local community knowledge into their reports and assessments. We see some indication of this with their work in the Arctic.

III. LEGAL OBSTACLES FACING THE IMPLEMENTATION OF SDG 14 ON MARINE RESOURCES

Main legal and governance obstacles highlighted in global debates on SDG 14 include fishing fleet overcapacity, perverse subsidies, poor governance arrangements, challenges in coordination of scientific data on stock assessments and other matters, and lack of compliance with rules on by-catch and discards.[24] Increased cooperation is particularly necessary to address data-collection and sharing and collaboration on enforcement of catch quotas. Perverse subsidies which artificially maintain the fishing sector in main jurisdictions fundamentally undermine conservation measures in neighboring States. Lack of integrated governance at the regional and national levels leads large segments of impacted local communities to remain marginalized. Data shortages regarding fish stocks and broader ecosystem metrics remain prevalent, significantly impacting development of mitigation measures. Incidental capture of threaded or non-targeted species, often through inappropriate methods or technologies, continues to impact fish stocks.

While a majority of coastal countries do undertake coastal zone management planning and have developed competent authorities to address coastal issues, watershed pressures including hydropower development, degradation of potable water sources, and large-scale irrigation for agriculture, coupled with poorly managed land uses, continue to exacerbate problems of sustainable use of marine resources. Capacity concerns, increases in marine habitat degradation and lack of implementation of sustainable marine planning principles continue to plague conservation efforts. Lack of stakeholder engagement or integration into decision-making procedures – particularly at the local level – continues to significantly restrict collaboration, knowledge transfer and the effectiveness of compliance or monitoring efforts.

[21] *Ibid,* New York Convention, Article 5, 7-9, 20.
[22] *Ibid,* New York Convention, Article 21-27.
[23] International Council for the Exploration of the Sea, "About," online: ICES <http://www.ices.dk/explore-us/what-we-do/Pages/default.aspx>.
[24] MRAG, Towards sustainable fisheries management: international examples of innovation, (London: MRAG, 2010).

IV. INTERNATIONAL POLICY, INSTITUTIONAL AND GOVERNANCE ARRANGEMENTS TO COORDINATE DELIVERY OF SDG 14 ON MARINE RESOURCES

While many challenges exist, through decades of cooperation, many policies, institutional and governance arrangements have been established at the international levels, to coordinate the delivery of key targets for the SDG 14 on Marine Ecosystems. Several important policy and governance arrangements could be strengthened, enhanced or leveraged more effectively to achieve coherence in policy development and implementation efforts.

Institutional mechanisms which support ocean governance include a range of competent international organizations to facilitate agreement on complementary legal elements and promote implementation through global initiatives. Maritime transport and operations are governed by the International Maritime Organization (IMO) which requires flag states to meet the minimum standards established in UNCLOS and the collection of specialized shipping conventions.[25] The IMO consists of a Secretariat, an Assembly of the 171 members, a Council which acts as an executive organ and committees relating to maritime safety, marine environmental protection, legal compliance, facilitation, and technical cooperation.

Major institutional processes relating to risk assessment and environmental protection are found in the collaborative arrangements of State efforts to comply with their obligations under the 1972 *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (London Convention),[26] and the 1973 *International Convention on the Prevention of Pollution by Ships* (MARPOL 73) which includes V Annexes,[27] and a specialized *Protocol on Prevention of Pollution from Ships*.[28] Additionally, the Joint Group of Experts on the Scientific Aspects of Marne Environmental Protection (GESAMP) supports decision-making through development of chemical profiles and risk scenarios and the Intergovernmental Forum on Chemical Safety (IFCS) providing guidance on environmental-sound chemical management practices.

Further, for ongoing dialogue and policy exchange, as well as sharing of best practices, the UNCLOS COP/MOPs, scientific and technical committees and working groups established under relevant Conventions each plays a distinct role in addressing key aspects of SDG 14. Directly relevant instituitional forums include both the New York and Helsinki Conventions for transboundary water systems, the 1992 *Convention on Biological Diversity*, including its SBSTTA and other cooperative arrangements for biodiversity interfaces, the Ramsar Scientific and Technical Review Panel for wetlands, the 1973 Convention on International Trade in Endangered Species (CITES) mechanisms for the protection of threatened marine species, and the *Convention on Migratory Species* (CMS) for the protection of migratory species. The UNCLOS and the *Fish Stocks Agreement* are supplemented by two instruments established under the auspices of the FAO, the 1993 *Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas*,[29] and the 1995 Code of Conduct for Responsible Fisheries.[30] Indeed, given this plethora of international

[25] Key IMO Conventions include the (1969) Convention on Civil Liability for Oil Pollution Damage, (1972) London Convention, (1973), MARPOL, (1974) Convention for the Safety of Life at Sea, (2004) Ballast Water and Sediments Convention of upwards of 60 total international instruments; IMO, "Table of Conventions" online: IMO <http://www.imo.org/en/About/Conventions/ListOfConventions/Documents/Convention%20titles%202016.pdf>.
[26] Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended (LC 1972).
[27] Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL 73/78); Annex III to MARPOL 73/78; Annex IV to MARPOL 73/78; Annex V to MARPOL 73/78.
[28] Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended (MARPOL PROT 1997).
[29] FAO, Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (1993), UNTS 2221, No. 39486.
[30] FAO, Code of Conduct for Responsible Fisheries (Rome 1995), online: FAO <http://www.fao.org/3/a-v9878e.pdf>.

governance instruments, further efforts may be needed to map and clarify the interrelation of each of the respective treaty regimes and their institutions, with the goal of identifying appropriate coordination bodies, and relevant implementation arms.

Implementation of SDG 14 does benefit from dispute settlement as provided through the International Tribunal for the Law of the Sea (ITLOS) or the Seabed Dispute Chamber established under UNCLOS.[31] Existing maritime and coastal data will also be an important component of monitoring changes in ecological character, with the Ocean Health Index providing one repository to assist in this task.[32]

V. SDG 14 GUIDING DOMESTIC ACTION ON MARINE RESOURCES

Marine ecosystems are a key consideration in a number of the SDGs beyond SDG 14 either directly or synergistically. Interlinkages across other areas of focus necessarily implicate policy convergences relating to sustainable agriculture, food security, water, human health, climate, ecosystems, economic growth and biodiversity among others. SDG 14.1 on prevention of marine pollution chiefly from land-based sources has direct relevance to SDG 2 on food security, particularly SDG 2.3 on increasing agricultural productivity and SDG 2.4 on doubling food production,[33] and inherent connections to SDG 8.4 on resource efficiency in consumption and production,[34] and SDG 12.4 on environmentally sound management of chemicals and waste.[35] As the drive for food security and agricultural production increases, as does risks to water-based ecosystems from agricultural water demands, soil erosion and agricultural runoff, as well as consumption and production chemicals, outputs and waste.[36] SDG 6 on water, mainly SDG 6.3 on pollution reduction,[37] is also of particular significance.

SDG 14.4 on overfishing and SDG 14.6 on perverse subsidies have similar alignment to SDG 2 and SDG 8.4, as well as 12.2 on sustainable management of natural resources.[38] Continued lack of transparency relating to fisheries subsidies and lack of accountability maintains a market distortion which directly encourages overfishing.[39] SDG 6.6 on protecting water-related ecosystems and SDG 6.a on expanding international cooperation on water-related programs have strong synergies with SDG 14 broadly and specifically SDG 14.2 on protection of marine ecosystems, SDG 14.3 on halting ocean acidification, SDG 14.5 on preservation of coastal areas, and tangentially SDG 14.7 on payment for ecosystem services, and will require implementation in a mutually supportive manner.[40] Enhanced cooperation at the international as well as the basin level through greater emphasis on governance synergies provided by global water instruments is needed to address risks of degradation.[41] Additional emphasis is needed to build local marine

[31] UNCLOS, *supra* note 2, Article 186-187, 153, Annex VI (Section 4).
[32] Ocean Health Index, (2015), online: OHI <http://www.oceanhealthindex.org>.
[33] SDG 2.3, SDG 2.4.
[34] SDG 8.4.
[35] SDG 12.4.
[36] D Tilman, K. G. Cassman, P. A. Matson, R Naylor, S Polasky, "Agricultural sustainability and intensive production practices" Nature 418, 671-677 (8 August 2002); PS Ashofteh, O Bozorg-Haddad, MA Marino, "Risk Analysis of Water Demand for Agricultural Crops under Climate Change" Journal Of Hydrologic Engineering 20:4 (2015).
[37] SDG 6, SDG 6.3.
[38] SDG 14.4, SDG 14.6; SDG 2, SDG 8.4, SDG 12.2.
[39] Sarah Robin, Rob Wolcott, and Carlos E. Quintela, "Perverse Subsidies and the Implications for Biodiversity: A review of recent findings and the status of policy reforms" 5th World Parks Congress, Durban, South Africa, (2003) online: CI <https://library.conservation.org/Published%20Documents/2009/perverse%20subsidies.pdf>; ICTSD, "Taking stock: Perverse subsidies in the fisheries sector" BIORES 6:3, (20 August 2012); D Chakraborty & S Mukherjee "Fiscal Subsidies and Environmental Sustainability: What does the Cross-country Empirical Estimates Suggest?" (2013) Foreign Trade Review 48(3) 383–397.
[40] SDG 6.6, SDG 6.a; SDG 14.2-14.3, SDG 14.5, SDG 14.7.
[41] A.Y. Hoekstra, "The Global Dimension of Water Governance: Why the River Basin Approach Is No Longer Sufficient and Why Cooperative Action at Global Level Is Needed" (2011) Water 3, 21-46.

governance capacity, as well as supporting the legitimacy of local councils in fisheries, to allow a basin governance approach to succeed.[42] Furthermore, cooperation is also critical to the ever-growing aquaculture or fishfarming industry. Organizations such as World Aquaculture Society (WAS) attempts to fill in the gap between legal instruments based on traditional fishing and fish farming. Recently WAS has also expanded its research and areas of interest to aquatic agriculture, which is the growing of crops on water.

SDG 15 on terrestrial biodiversity is also of direct relevance, specifically SDG 15.1 on ensuring conservation and sustainable use of terrestrial and inland freshwater ecosystems,[43] SDG 15.5 on halting biodiversity loss and extension of threatened species,[44] SDG 15.6 on promotion of fair and equitable benefit-sharing, as it relates to marine genetic resources,[45] SDG 15.7 on action to halt trafficking in endangered species,[46] SDG 15.8 relating to prevention of introduction of alien invasive species,[47] SDG 15.9 on integration of ecosystem values into national strategic planning and decision making,[48] and indirectly SDG 15.3 on combating desertification and land-degradation.[49] Further integration of water-related ecosystem governance and creation of channels for payment for ecosystem services (PES) in National Biodiversity Strategies and Action Plans (NBSAPs) are mutually supportive approaches to achieving SDG 14 and 15.[50] Additionally, SDG 15.a on mobilization of financial resources to support conservation efforts and SDG 15.c on enhancing global collaboration to combat trafficking in protected species are also highly relevant to the achievement of SDG 14.[51] Financial resource mobilization and collaborative compliance mechanisms can benefit from further integration of strategic planning and reporting tools across water and biodiversity related Conventions. CITES in particular provides an evolving instrument to combat overfishing.[52] International efforts are also underway to develop a binding instrument to address areas beyond national jurisdiction.

SDG 11 on human settlements is also a consideration, particularly SDG 11.3 on enhancement of participatory and sustainable human settlement planning,[53] SDG 11.4 on protection of global cultural heritage,[54] SDG 11.5 on reduction of mortality due to water-related disasters,[55] and SDG 11.6 on reduction of the adverse effects of cities to surrounding ecosystems.[56] Complementarity can be further identified via synergies of SDG 14 with SDG 11.a on fostering positive economic, social and environmental interlinkages in city-planning across all levels, SDG 11.b on enhancing adoption of climate change resilience, and disaster risk reduction policy planning, and SDG 11.c on improving financial and technical assistance to developing countries.[57] Due to the prevalence of human settlement adjacent or close to watercourses, and the prevalence of plastic pollution in marine environments, integration of SDG 14 into urban, sub-urban and rural city planning is of

[42] Environmental Justice Foundation, "The Governance of Artisanal Fisheries in the Sherbro River Area of Sierra Leone" Environmental Justice Foundation Governance Study (2012), online: EJF <http://ejfoundation.org/sites/default/files/public/Governance%20of%20Artisanal%20Fisheries%20in%20Sherbro.pdf>
[43] SDG 15.1.
[44] SDG 15.5.
[45] SDG 15.6.
[46] SDG 15.7.
[47] SDG 15.8.
[48] SDG 15.9.
[49] SDG 15.3.
[50] UNEP-WCMC/IEEP, "Incorporating Biodiversity and Ecosystem Services Values into NBSAPs: Guidance for NBSAP Practitioners" (2016) online: IEEP <http://www.ieep.eu/assets/1200/Guidance_doc_A4_FINAL.pdf>.
[51] SDG 15.a, SDG 15.c.
[52] Solène Guggisberg, *The Use of CITES for Commercially-exploited Fish Species A Solution to Overexploitation and Illegal, Unreported and Unregulated Fishing?* (The Hague: Springer, 2016).
[53] SDG 11, SDG 11.3.
[54] SDG 11.4.
[55] SDG 11.5.
[56] SDG 11.6.
[57] SDG 11.a-c.

keen relevance. Urban centers can benefit from programs such as the Ramsar Wetland City Accreditation recognizing wetland-friendly cities.

SDG 13 on climate change has intersections with SDG 14 broadly and SDG 14.3 on ocean acidification. Actions to address SDG 13.1 on strengthening resilience to climate-related hazards, SDG 13.2 on integration of climate change measures in national planning and SDG 13.3 on mainstreaming and capacity building must all take into consideration complementarity aspects related to marine ecosystem integrity and resilience.[58]

In addition, SDG 7.2 on renewable energy, SDG 7.a and SDG 7.b on international cooperation and development of infrastructure relate to ocean-based renewable energy. The measures necessary to achieve the SDGs may, particularly given the plethora of interlinkages with other aspects of national sustainable development planning, need to be incorporated into each country's growth and development strategy. Leadership at the national level is crucial to create a clear roadmap for implementing, monitoring and coordinating action. While discussion of national-level measures is beyond the scope of this initial Issue Brief, as it requires investigation of case studies and success stories in different contexts, an illustrative example can be provided as a starting point for consideration (see Box 2).

BOX 2: NATIONAL IMPLEMENTATION

Achievement of SDG 14 at the national level requires critical evaluation and clarification of the complementary role of the wide range of institutional and policy frameworks which are engaged in the management of marine ecosystem. Sound incorporation into national decision making and policy frameworks requires greater coordination across domestic stakeholder groups, ministries, indigenous communities and civil society, and enhanced channels for knowledge sharing and participation. Direction of national reform measures needs to be nationally coordinated, often in conjunction with provincial implementation bodies.

Development of a dedicated marine resource roadmap, or inclusion into the national biodiversity strategy and action plan (NBSAP) allows for identification of relevant domestic instruments, local priorities and key stakeholder groups. SDG 14 has significant interfaces with SDG 15 on terrestrial biodiversity, SDG 6 on water, SDG 3 on human health, SDG 11 on sustainable cities, SDG 13 on climate change and SDG 7 relating to renewable energy and requires particular attention to ensure continuity of the policy response and to minimize tradeoffs.

National implementation could leverage preexisting national coordination bodies, or through creation of an inter-ministerial decision-making body allowing for centralization of the broad stakeholder groups impacted by marine ecosystems. Engagement of local communities and fishermen and women to coordinate localized implementation responses is important. Localized implementation, governance and monitoring of compliance supported through centralized decision-making and knowledge-sharing allows for a coordinated policy platform which is responsive to local needs. Attention must also be placed on development of a regime for effective governance of areas beyond national jurisdiction. Specific attention will need to be placed on modalities for collection, harmonization and sharing of ecosystem data to support decision-making.

[58] SDG 13.1-3.

VI. CONCLUSION

While the UNCLOS remains the most comprehensive international legal instrument pertaining to oceans and the marine environment, there has been progress in post-UNCLOS agreements and decisions of the international tribunal to address issues of sustainability. Under UNFSA there is integration of the precautionary principle and acknowledgement of the importance of an ecosystem approach to questions of development. Many significant steps have been taken and measures are being taken collaboratively, though important gaps remain. However, enforced with greater care, the existing international legal, policy and governance framework can be strengthened to have a positive influence in sustainable use of marine resources.

Alongside UNCLOS and its tribunal, a wide spectrum of other international instruments including the Ramsar Convention, the New York Convention, and the Helsinki Convention provide for cooperation and collaboration relating to protection of wetlands, international watercourses or transboundary watercourses. Leveraging synergies across Conventions to drive mutually supportive implementation, and engage key stakeholders in relevant forums, will support complementarity and diffuse organizational costs of implementation. Increased emphasis remains on capacity building and transfer of marine technologies which support sustainable development.

As a final note, there is a need to encourage taking into consideration the spiritual and cultural dimensions of oceans, seas, lakes, rivers and other waterways under SDG 14 on Oceans and Marine Resources. Organisations such as the United Nations Permanent Forum on Indigenous Issues have worked hard to highlight the importance of ecosystems and respect for nature to the preservation and further development of indigenous culture and that of local communities. Water is a spiritual symbol for many societies. Its contribution to the physical, psychological, spiritual and cultural well-being of individuals and communities could be granted a more central role in decision-making to secure the implementation of SDG 14.

Authors and Acknowledgements

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Thanks and acknowledgements are due to the experts of the CISDL Legal Working Group on the Sustainable Development Goals from over 33 countries for their insights and review, and to senior officials in treaty secretariats, among other inter-governmental agencies, for their views. As General Editors of the series, the guidance of Dr Marie-Claire Cordonier Segger, Senior Director of the CISDL, Affiliated Fellow of the Lauterpacht Centre for International Law at the University of Cambridge, and Dr Elizabeth Mrema, Director of the Environmental Law and Conventions Division of UNEP, has been deeply appreciated. They specially thank Mamadou Kane, Head of DELC International Governance Unit at UNEP, and Freedom-Kai Phillips, Legal Research Fellow, CISDL, for their management and editorial leadership, as well as Sylvia Bankobeza, Legal Officer at DELC National Environmental Law Unit for her review of the issue briefs. Great appreciation is also due for the insights of HE Justice James Crawford of the International Court of Justice, Dr Nikhil Seth Executive Director of UNITAR, and other experts in international seminars on the contributions of international law, policy and governance to the SDGs at the University of Cambridge in the United Kingdom, at McGill University in Canada, at the University of Zambia in Zambia, and at the University of Chile in Chile. Further, the authors wish to thank Ms. Sibylle Vermont, Delegation of Switzerland, Ms Marcela Bonells, Scientific and Technical Officer of the Ramsar Convention Secretariat, and the leading decision-makers, specialists and experts who participated as speakers and discussants in the SDGs Law, Policy and Governance Side Event at the COP12 of the Ramsar Convention (Punta del Este, Uruguay, June 2015), for their insights which guided aspects of this research.

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