



Addressing marine litter and microplastics

UN system-wide contributions

A Synthesis Report by the United Nations Environment Management Group

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"Addressing marine litter and microplastics: UN system-wide contributions - A Synthesis Report
by the United Nations Environment Management Group"

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Box 1: UN Task Team on Marine Litter and Microplastics Terms of Reference

Box 2: Existing distribution of efforts across the life cycle and drivers-pressures-responses

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The extraction and production⁵ of materials that end up as waste⁶ in the oceans is increasing dramatically. The United Nations (UN) System is therefore committed to sensitizing the world to the challenges presented by marine litter and microplastics, and to promoting and coordinating action. The UN Environment Assembly (UNEA) established an ad hoc open-ended expert group on marine litter and microplastics (AHEG),⁷ which concluded its work in November 2020. The AHEG presented potential response options for addressing the issue of marine litter and microplastics moving forward. Options relevant to the UN System include (i) regional and international cooperation on facilitating national actions; (ii) greater multi-stakeholder engagement; (iii) steps to strengthen existing instruments; (iv) preparation of a new global instrument; and (v) enhanced coordination among instruments. Moving forward, the 5th meeting of the UNEA in February 2022 provides a great opportunity to continue global efforts in addressing marine litter and microplastics, including the source of the problem and actions across the life cycle.

This report provides, inter alia, a mapping of all UN agencies, programmes, initiatives and other sources of expertise relating to marine litter, including plastic litter and microplastics. Over 40 UN entities are supporting Member States in reducing and addressing marine litter and microplastics. Some UN bodies have explicit mandates in this area and/or conduct major activities that directly benefit the marine environment. Others have more indirect remits for addressing marine litter that derive from their work on the green economy, climate change, international trade or humanitarian issues. Taken together, UN System activities seek to raise

² GESAMP (2015). Sources, fate and effects of microplastics in the marine environment: a global assessment. IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/JUNEP/UNDP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. Rep. Stud. GESAMP No. 90, 96 p.: <https://bit.ly/2SAxlJl>

⁴ Mcllgorm, A., Raubenheimer, K., Mcllgorm, D. E. (2020). Update of 2009 APEC report on Economic Costs of Marine Debris to APEC Economies: <https://bit.ly/31KZRaj>

⁶ Global material use has tripled over the past four decades, with annual global extraction of materials growing from 22 billion tonnes (1970) to 70 billion tonnes (2010): <https://www.resourcepanel.org/reports/global-material-flows-and-resource-productivity-database-link>. As of 2015, approximately 6300 Mt of plastic waste had been generated, around 9% of which had been recycled, 12% incinerated, and 79% accumulated in landfills or the natural environment: <https://advances.sciencemaq.org/content/3/7/e1700782>

⁷ The Chair's Summary for the Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics attached to the meeting report and the report by the Executive Director of UNEP to the Fifth UN Environment Assembly (UNEA-5) 13 November 2020.

international awareness of the issue of marine litter and to provide recommendations and technical assistance to Member States.

These activities are effective because the UN System possesses considerable expertise across a range of relevant disciplines. UN experts focus on how to address the key drivers of pollution, including product design, industrial production and consumption patterns; how to identify impacts on marine areas, rivers and land; and how to avoid littering through improved waste management and recycling.

The UN's portfolio of activities also features several joint projects and initiatives. These include the Global Partnership on Marine Litter, the GloLitter Partnerships, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), the Basel Convention's Plastic Waste Partnership, and UN-Habitat's Waste Wise Cities programme on municipal solid waste. Given the growing recognition of the role that circular economy plays in addressing the plastics problem, new collaborative initiatives have also been launched, such as the Global Alliance on Circular Economy and Resource Efficiency (GACERE).⁸

Nevertheless, because marine litter and microplastics are multisectoral and cross-cutting challenges, this report concludes that UN-system agencies should greatly enhance collaboration and coordination efforts internally and with external partners. The first step is to enhance information sharing and exchange to fully exploit complementarities and build synergies. In addition to supporting Member States and reducing the plastic footprint of operations and facilities, the UN System should also consider expanding existing alliances with businesses and industrial sectors, among other stakeholders, and building new ones.

This report also concludes that much more work is needed in a few key areas. More must be done to focus UN System support on ensuring that plastic is retained in the economy for as long as possible and at its highest economic value. More action is also needed to reduce the production of plastic wastes in the first place. Institutional links and collaboration between environmental media, such as freshwater, land, air and seawater, across the life cycle of plastic, need to be strengthened. A wider range of disciplines should be engaged, as should a wider variety of stakeholders, including industrial sectors. Data, indicators, monitoring and knowledge all need to be improved, in order to facilitate and track global progress.

This report recommends that further work on marine litter and microplastics should focus on four main 'action areas' in the short- to medium-term:

1) Enhance information sharing, the exchange of knowledge, best practices and experience regarding marine litter and microplastics.

An internal UN mechanism for regular information sharing is desirable. Newsletters, webinars and other means could help to advance strategic discussions and incentivize collaboration within and outside the UN System.

2) Enhance collaboration across the entire life cycle to address marine litter in a systematic way.

Collaboration on marine litter and microplastics across the UN System can be enhanced by involving all entities working across the entire life cycle of plastic and other products. A circular economy approach should be applied. Such collaboration should build on existing frameworks and mechanisms to promote bilateral, sectoral and cross-sectoral cooperation as well as on-the-ground collaboration and sharing of scientific knowledge.

⁸ https://ec.europa.eu/environment/international_issues/gacere.html

3) Enhance the visibility of the marine litter and microplastics issue in agencies' mandates and processes. Showing how this issue links to the broader sustainable development mandates of various UN entities could encourage their governing bodies to provide specific mandates for action. Making the case internally within UN entities and with Member States may encourage countries to place a higher priority on addressing this issue.

4) Enhance the integration and mainstreaming of provisions relating to the elimination of marine litter and microplastics in policy making, programming and management at the entity and system-wide levels by building on existing UN-wide sustainability strategies,⁹ by using a source-to-sea approach.

This report has helped to enhance the understanding of efforts on marine litter and microplastics across the UN System. It should help to pave the way for a more synchronized approach in moving forward and enable the UN System to better support Member States. It will facilitate communication between countries and improve coherence at the global level. This report is a first step towards expanding UN system-wide collaboration, coordination, and expertise through a more integrated and systematic inter-agency approach to marine litter and microplastics.

⁹ Such as the UN Sustainability Strategy 2020-2030





About this report

In 2019, through resolution UNEP/EA.4/Res.6 (Annex I), the United Nations Environment Assembly (UNEA) invited the United Nations (UN) Environment Management Group (EMG) to engage in and contribute to the work of the ad hoc open-ended expert group on marine litter and microplastics (AHEG) by providing, inter alia, a mapping of all relevant UN agencies, programmes, initiatives and other sources of expertise relating to marine litter, including plastic litter and microplastics (Box 1).

In the context of increasing initiatives and activities in this area of work, this report:

- provides a comprehensive overview of UN activities and expertise of direct/indirect relevance to the topic of marine litter and microplastics;
- analyzes the concentration of UN efforts in terms of addressing drivers of marine litter and microplastics (that is, product design, industrial production and pollution, and consumption), responses (that is, waste management and recycling), and pressures and impacts both in marine areas and along rivers (that is, from land-based sources to sea) and in terrestrial areas;
- identifies possible gaps in the UN System in tackling marine litter and microplastics;
- analyzes existing collaborative efforts in the UN System on the topic of marine litter and microplastics and identifies areas of synergies and related opportunities for further cooperation in the UN System; and
- provides guidance and suggestions on how the UN System could further strengthen its efforts to combat marine litter and microplastics.

The overall objectives of this report are to:

- provide a mapping of existing UN agencies, programmes, initiatives and other sources of expertise relating to marine litter, including plastic litter and microplastics;
- raise awareness about UN activities on marine litter and microplastics;
- add value to existing mechanisms and contribute to the work of the ad-hoc open-ended expert group on marine litter and microplastics (AHEG);
- identify synergies and opportunities for potential collaboration among UN entities; and
- strengthen the base for improved coordination and joint programmatic initiatives and planning on marine litter and microplastics in the UN System.

The report presents:

- key international agreements, commitments and processes of relevance to marine litter and microplastics, along with instruments at the regional level and other international efforts;
- an overview and analysis of UN System expertise that directly or indirectly relates to marine litter, including plastic pollution, covering activities across product life cycles and multidisciplinary realms;
- a [database](#) comprised of programmes and projects undertaken by the UN and related entities; and
- conclusions and recommendations on increasing collaboration and the coordination of efforts within the UN System to tackle marine litter and microplastics.

By contributing to a better understanding of activities across the UN and related entities, this report may serve as a basis for strengthened coordination in the UN System on marine litter and microplastics. The primary intended audience of this report is all UN System entities and Member States, including bodies that have not traditionally been involved in marine litter work.

Box 1: UN Task Team on Marine Litter and Microplastics Terms of Reference

United Nations Task Team on Marine Litter and Microplastics

Terms of Reference

In 2019, through resolution UNEP/EA.4/Res.6 (Annex I), the UN Environment Assembly invited the Secretariat of the United Nations Environment Management Group (EMG) to provide, inter alia, a mapping of all relevant UN agencies, programmes, initiatives and other sources of expertise relating to marine litter, including plastic litter and microplastics. In response to this invitation, the EMG Senior Officials established an interagency Task Team on Marine Litter and Microplastics.

Objective & Scope

The purpose of the Task Team is to expand UN system involvement and strengthen the coordination of UN-system support to Member States in addressing the global challenge posed by marine plastic debris and microplastics.

Key objectives include:

- To provide a comprehensive overview of UN system activities and initiatives that directly or indirectly address marine litter and microplastics, contributing to a broader stock-taking and “state of action” analysis undertaken by the ad hoc open-ended experts group on marine litter and microplastics;
- To serve as a platform for information exchange among UN system entities on activities and expertise related to marine litter and microplastics;
- To increase coordination, create synergies and avoid duplication of work by identifying further collaboration opportunities including at the country level, or prospects to expand existing initiatives within the UN system related marine litter and microplastics;
- To raise awareness within and outside of the UN system on sources and impacts of marine litter and microplastics, highlighting the linkages to the issue of different sectors and mandates, and identifying entry points to addressing the challenge.

The Task Team shall organize its work to undertake the following main activities:

- Undertake a mapping exercise of initiatives and expertise with relevance to marine litter including plastic litter and microplastics, identifying possible gaps, areas of synergy and opportunities for further cooperation.
- Based on the outcome of the mapping report, provide inputs, case studies and recommendations to the work of the ad hoc open-ended expert group on marine litter and microplastics.
- Enable information and knowledge exchange among EMG members on mandates, expertise and initiatives, for instance, in the form of a joint calendar of relevant events and webinars with the purpose to generate prerequisites for informed decision making, efficient use of funds and an avoided duplication of efforts.

A photograph of a beach cleanup. In the foreground, there is a large, reddish-brown, ribbed plastic bottle cap. To its right is a white, crumpled piece of plastic. Further back, there are various other pieces of trash, including a dark, circular object with two holes. In the background, a person is bent over, picking up trash on a sandy beach. The ocean and a blue sky with white clouds are visible in the distance.

1. Introduction and Background

1.1 Marine litter and microplastics: a global challenge

Definition of Marine Litter used in this report

Marine litter is 'any persistent, manufactured or processed solid material discarded, disposed of, or abandoned in the marine and coastal environment' [Source: Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, adopted in Washington DC, 1995]

Marine litter may include wood, metals, glass, rubber, clothing, paper, industrial chemicals, pharmaceuticals, persistent pollutants, plastic litter and microplastics.

Microplastics are small pieces or fragments of plastic smaller than 5 mm.

[Source: SAPEA: A Scientific Perspective on Microplastics in Nature and Society, 2019]

The high and rapidly increasing levels of marine litter, including plastic litter and microplastics, represent a serious environmental problem on a global scale, negatively affecting marine life and biodiversity, ecosystems, livelihoods, fisheries, maritime transport, recreation, tourism and economies.¹⁰ Current estimates indicate that on average more than ten million tons of plastic enter the global oceans each year.¹¹ The annual global production of plastics is approaching 350 million tons, and some estimates suggest this figure could reach as much as 33 billion tons by 2050 if the current consumption rate continues.¹² As a result, marine litter and microplastics are not only a current issue, but will become an expanding global problem. The related environmental

and socioeconomic threats are further amplified by the interconnection of marine litter and microplastics with biodiversity degradation and climate change.

The impacts of marine litter and microplastics on the environment have gained increasing attention from the global community over the last decade. Multilateral organizations, regions and governments, as well as non-governmental organizations (NGOs) and research institutes, have made sweeping efforts to tackle the problem. Around the world, numerous initiatives, community awareness campaigns and beach/ocean clean-up campaigns have been organized. The United Nations (UN) has been providing technical assistance to Member States, with the UN Environment Programme (UNEP) and its Regional Seas Programme at the fore. The Joint Group of Experts on the Scientific Aspects of Marine Environmental Pollution (GESAMP)¹³ has been working on the topic of marine litter since 2010. GESAMP provides advice to the UN on scientific aspects of marine environmental protection and has produced several reports on microplastics and the monitoring of marine litter in the marine environment. It is also completing a global assessment on sea-based sources of marine litter.¹⁴

In 2017, the UN adopted the resolution "Our Ocean, Our Future: Call for Action",¹⁵ where all Member States agreed to implement long-term and robust strategies to reduce the use of plastics and microplastics. Under the 2030 Agenda for Sustainable Development, the Sustainable

¹⁰ UNEP/EA.4/Res.6. Resolution adopted by the United Nations Environment Assembly on 15 March 2019.

¹¹ Jambeck et al. Law, Plastic waste inputs from land into the ocean. *Science* 347, 768–771 (2015). doi:10.1126/science.1260352 Medline Geyer et al. Law, Production, use, and fate of all plastics ever made. *Sci. Adv.* 3, e1700782 (2017). doi:10.1126/sciadv.1700782 Medline Lebreton, et al., River plastic emissions to the world's oceans. *Nat. Commun.* 8, 15611 (2017). doi:10.1038/ncomms15611 Medline Forrest, A., et al. Eliminating Plastic Pollution: How a Voluntary Contribution from Industry Will Drive the Circular Plastics Economy. *Frontiers in Marine Science* 6 (627) (2019).

¹² Rochman, et al. Classify plastic waste as hazardous. *Nature*, 494, 169–171. (2013) <https://doi.org/10.1038/494169a>

¹³ See details on GESAMP at <http://www.gesamp.org/work/groups>

¹⁴ Two interim reports have been so far produced, the most recent is publicly available as a report to the thirty-fourth session of the FAO Committee on Fisheries (COFI): SEA-BASED SOURCES OF MARINE LITTER – A REVIEW OF CURRENT KNOWLEDGE AND ASSESSMENT OF DATA GAPS (SECOND INTERIM REPORT OF GESAMP WORKING GROUP 43, 4 JUNE 2020): <http://www.gesamp.org/work/groups/wg-43-on-sea-based-sources-of-marine-litter> ; <http://www.fao.org/3/cb0724en/cb0724en.pdf>

¹⁵ <https://oceanconference.un.org/callforaction>

Development Goal (SDG) indicator 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') is directly linked to the reduction of marine litter.

The UN First Global Integrated Marine Assessment ("World Ocean Assessment I") revealed that the oceans' carrying capacity is near or at its limit and that plastic debris - that accounts for 60 to 80 per cent of all marine debris - continues to accumulate in the marine environment. The second World Ocean Assessment confirmed this trend of continued pressures associated with excessive inputs of hazardous substances including plastics, microplastics and nano plastics.

<https://www.un.org/regularprocess/>

At the third session of the UN Environment Assembly (UNEA) in 2017, under Resolution 7: Marine Litter and Microplastics, Member States agreed to establish an ad hoc open-ended expert group on marine litter and microplastics (AHEG)¹⁶ to further examine barriers to and options for combating marine litter and microplastics from all sources, especially land-based sources. The AHEG has considered barriers to combating marine litter and microplastics relating to resources, capacity development and technology transfer in terms of legal, financial, technological and information issues.¹⁷ For example, information barriers include access to data, research, transparency, and education and awareness; whereas technological barriers are related to the production, manufacturing and design of products, consumption systems and all aspects of waste collection, management and recovery. The AHEG finalized its work in November 2020, identifying a non-exhaustive list of eight

potential options for continued work for consideration by UNEA 5.2 in February 2022:¹⁸

- i. Global common vision;
- ii. National action plans and their implementation;
- iii. Regional and international cooperation to facilitate national actions;
- iv. Scientific basis;
- v. Multi-stakeholder engagement;
- vi. Strengthening existing instruments;
- vii. A new global instrument;
- viii. Enhanced coordination among instruments.

At the regional level, the Regional Seas Programmes develop and ratify marine litter strategies and action plans within which the monitoring of sea basins takes place. As a response to the problem, regulations and provisions for the protection of the marine environment are strengthened. The circular economy is becoming the overarching approach informing policy, strategy and plans addressing marine litter and microplastics issues.¹⁹ Some examples of plastics initiatives include the EU's Circular Economy Action Plan²⁰ and the Global Commitment to New Plastics Economy.²¹ With research ongoing and many scientific papers and reports published on trends, status and gaps, there is an increasing understanding of the causes, consequences, possible solutions and related actions that might be taken.²² Recent peer-reviewed publications reveal that estimates of microplastic concentrations at the sea surface may

¹⁶ UNEA resolution UNEP/EA.3/Res.7 from Dec. 2017 to establish an Ad Hoc Open-ended Expts Group on marine litter and microplastics.

¹⁷ Chair's summary AHEG 4 (2020) of the work of the ad hoc open-ended expert group on marine litter and microplastics for consideration by the United Nations Environment Assembly at its fifth session: <https://www.unep.org/environmentassembly/chairs-summary-aheg-4>

¹⁸ <https://wedocs.unep.org/bitstream/handle/20.500.11822/34635/K2100061.pdf?sequence=11&isAllowed=y>

¹⁹ <https://www.ellenmacarthurfoundation.org/circular-economy/concept>

²⁰ A new Circular Economy Action Plan for a Cleaner and More Competitive Europe <https://ec.europa.eu/environment/circular-economy/>

²¹ <https://www.newplasticseconomy.org/projects/global-commitment/signatories>

²² Breaking the Plastic Wave: A comprehensive assessment of pathways to stop plastic pollution (2020): <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/07/23/breaking-the-plastic-wave-top-findings>

emerging threat not only to marine ecosystems, but also to terrestrial ecosystems, with potential long-term negative effects throughout the world.²⁶

²⁶ Anderson Abel de Souza Machado, et al. Microplastics as an emerging threat to terrestrial ecosystems. *Global Change Biology*, (2018); DOI: 10.1111/gcb.14020



1.2 The complexity of the marine litter and microplastics problem

Addressing marine litter and microplastics is a complex challenge, stemming from its multisectoral and cross-cutting nature.²⁷ It is estimated that the bulk of marine litter comes from land-based sources, with a smaller proportion arising from sea-based sources.²⁸ Land-based sources include waste from municipal landfills, discharge of untreated municipal sewage and storm water, industrial facilities, agriculture, synthetic textiles, tyres, tourism,

and illegal dumping and discharges, among other sources. The life cycle of plastic and other materials encompasses the whole value chain including extraction, production, consumption and waste, where a number of industries and sectors are involved. Global material use has more than tripled over the past four decades, with annual global extraction of materials growing from 22 billion tonnes (1970) to 70 billion tonnes (2010).²⁹

²⁷ <https://www.unep.org/environmentassembly/expert-group-on-marine-litter>

²⁸ SECOND INTERIM REPORT OF GESAMP WG 43 (2020) <http://www.fao.org/3/cb0724en/cb0724en.pdf> (COFI/2021/SBD.8)

²⁹ <https://www.resourcepanel.org/reports/global-material-flows-and-resource-productivity-database-link>

Marine litter from land-based sources reaches marine environments through surface runoff including road runoff and stormwater, rivers, the atmosphere and soil.³⁰ Integrated water resources management, including industrial and municipal wastewater treatment, is recognized as an important element in preventing litter pollution in natural waters. 80 per cent of global wastewater is discharged untreated into the world's natural waterways.³¹ As of 2015, approximately 6300 megatons of plastic waste had been generated, around 9 per cent of which had been recycled, 12 per cent incinerated, and 79 per cent accumulated in landfills or the natural environment.³²

A smaller proportion of marine litter arises from sea-based sources, although this varies significantly between regions.³³ Sources include aquaculture; fishing and shipping, in particular abandoned, lost or otherwise discarded fishing gear (ALDFG); and offshore oil and gas platforms. A 2009 UNEP/FAO report estimated less than a 10 per cent loss rate across all fishing gears. A more recent estimate is that 5.7 per cent of all fishing nets, 8.6 per cent of all traps and 29 per cent of all lines are lost to the world's ocean annually³⁴ - this recent study is based on a review of scientific literature aiming to estimate the proportion of commercially-deployed fishing gear worldwide that becomes abandoned, lost and discarded in the ocean.³⁵

In the marine system, litter is broadly present as pelagic plastics, microplastics, chemical sludge and other debris. These are found in different domains, including coastlines, near the surface, and in garbage patches in subtropical gyres (for example, the Pacific trash vortex). Other hot spots include the Barents Sea, the Mediterranean and sediment samples from near-shore areas and the abyssal ocean.

This report addresses the topic of marine litter and microplastics from the perspective of sea-based sources and impacts in the marine environment (downstream), as well as the production and consumption systems, land-based sources and discharges of litter and impacts (upstream) (Figure 1). It also includes an examination of various parts of the product life cycle: production, consumption, waste management and the circular economy.

The impacts of litter - particularly plastic litter - on biota have been frequently reported.³⁶ Many species are affected by the ingestion of litter, especially plastics, and there is an increasing concern that along with plastics, animals could be ingesting persistent organic pollutants (POPs) and toxic compounds, leading to impacts on fish stocks through the food chain and ultimately risks for wildlife and humans.³⁷ Multiple effects of microplastics on fisheries and aquaculture, including on food safety, have been recorded.³⁸

³⁰ Science Advice for Policy by European Academies (SAPEA), 2019. A Scientific Perspective on Microplastics in Nature and Society. Berlin: SAPEA. <https://doi.org/10.26356/microplastics> (2019), Kooi, Besseling, Kroeze, van Wezel, & Koelmans (2017); GESAMP (2015);

³¹ WWAP: The United Nations World Water Development Report 2018. Nature-Based Solutions for Water. Paris: UNESCO. (2018).

³² <https://advances.sciencemag.org/content/3/7/e1700782>

³³ <http://www.fao.org/3/cb0724en/cb0724en.pdf>

³⁴ Richardson, K., Hardesty, B. D., & Wilcox, C. (2019). Estimates of fishing gear loss rates at a global scale: A literature review and meta-analysis. *Fish and Fisheries*, 20(6), 1218-1231. <https://doi.org/10.1111/faf.12407>

³⁵ However, it is important to note that extrapolating to a quantitative assessment of ALDFG entering the world's oceans annually was beyond the scope of the study. The author recognizes that publications were generally more biased to the United States and Europe, and toward certain gear types, thus highlighting existing knowledge gaps in terms of geographical distribution and gear types generating ALDFG.

³⁶ Secretariat of the Convention on Biological Diversity and the Scientific and Technical Advisory Panel—GEF (2012). *Impacts of Marine Debris on Biodiversity: Current Status and Potential Solutions*, Montreal, Technical Series No. 67, 61 pages. GESAMP (2015, 2018)

³⁷ Jambeck et al. (2020), SAPEA (2019), D'Souza et al. (2020), Rochman et al. (2013), De Sá et al. (2018), Hermesen et al. (2018), Lusher et al. (2017), GESAMP (2015), Desforges et al. (2015), Kühn et al. (2015), Lusher (2015), Foekema et al. (2013)

³⁸ Lusher, A.L.; Hollman, P.C.H.; Mendoza-Hill, J.J. 2017. Microplastics in fisheries and aquaculture: status of knowledge on their occurrence and implications for aquatic organisms and food safety. FAO Fisheries and Aquaculture Technical Paper. No. 615. Rome, Italy.

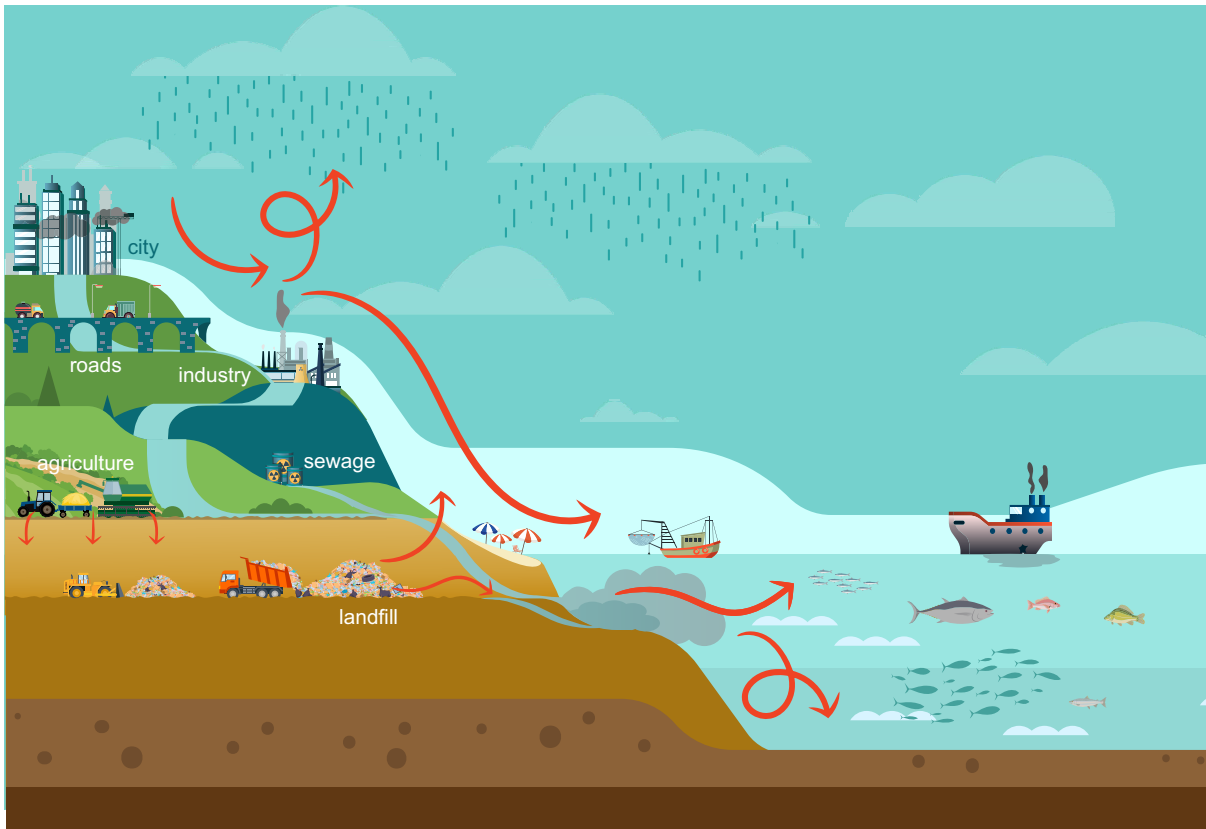


Figure 1: The primary sources of litter and microplastics from multiple sectors (extraction, production, consumption and waste generation), with pollution being transported to the environment through different pathways, including water systems, soils and air (adapted from GESAMP 2019 - Guidelines on the monitoring and assessment of plastic litter and microplastics in the ocean (Kershaw P.J., Turra A. and Galgani F. editors), (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP/ISA Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection). Rep. Stud. GESAMP No. 99, 130p.).³⁹

Marine litter can also cause damage to coral reefs and change the structure of the seabed, affecting the plants and animals that live there, among other negative effects. Some economic sectors can be highly affected by litter and discharges from rivers, in particular the tourism sector, given its relationship to coastal and marine resources and healthy ecosystems. Aside from economic consequences, such as the loss of income from tourism, there are also high costs related to removing litter from beaches and harbours and to damages to ships and fishing gear.

Scientific research focuses on various aspects of marine litter, and while marine litter has quickly become a major research topic, knowledge gaps related to microplastics exist in several different thematic areas. One major example is the impact that marine litter pollution will have on the ocean food supply as foreseen in short-, medium- and long-term projections. Annex 1 contains a list of scientific knowledge gaps relating to microplastics, organized by environmental themes. GESAMP's Working Group 43 reports address data and knowledge gaps relating to marine litter in detail; for example, one report entitled "Sea-based sources of marine litter – a review of current knowledge and assessment of data gaps."⁴⁰

³⁹ GESAMP (2019). Guidelines on the monitoring and assessment of plastic litter and microplastics in the ocean (Kershaw P.J., Turra A. and Galgani F. editors), (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP/ISA Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection). Rep. Stud. GESAMP No. 99, 130p.

⁴⁰ Second interim report of GESAMP Working Group 43 (2020): <http://www.fao.org/3/cb0724en/cb0724en.pdf>



1.3 Methodology for carrying out the mapping exercise and the analysis

In view of the global challenges presented by marine litter and microplastics and related multiple efforts to address the issue, the UNEA, through its resolution UNEP/EA.4/Res.6, emphasized the importance of strengthened coordination and multi-stakeholder cooperation for achieving the long-term elimination of plastic discharge into the oceans. In response to paragraph 8 of this resolution and the identified need for an overview of UN activities with relevance to marine litter, the Senior Officials of the EMG established an inter-agency Task Team to prepare the requested system-wide contribution.

The Task Team began its work to prepare a mapping of activities related to marine litter and microplastics in the UN System in early 2020. This mapping report presents marine litter, microplastics and plastic pollution-related activities in agencies' programmes; however, it does not cover the separate issue of reducing the plastic footprint of UN facilities and operations.⁴¹ This chapter describes the steps in the

mapping process, the methodology used for carrying out the mapping and the subsequent analysis.

1.3.1 Survey submissions and Interviews

In order to provide a comprehensive overview of UN System initiatives, programmes and activities that address marine litter and microplastics, a scoping study was done based on available resources, such as online reports, webpages and other sources. To further expand the data for the analysis, members of the Task Team were invited to participate in the survey used in a broader stock-taking exercise carried out by the Secretariat of the AHEG.

Ten UN Task Team members responded to the survey. Given the broader scope of the EMG assignment and its intention to identify possible gaps, areas of synergy and opportunities for further cooperation in the UN System, in-depth interviews were undertaken with all UN Task Team members (23), including the entities that responded to the survey.

⁴¹ <https://www.greeningtheblue.org/>

The objective of the consultations was to reach out to all member entities of the Task Team in order to discuss in depth the following topics:

- the direct/indirect mandates of the entity;
- examples of relevant initiatives and projects carried out by the entity;
- existing partnerships and collaborations; and
- ambitions and emerging actions of the entity.

In case the entity had responded to the survey, the interview was conducted as complementary to the information already provided. Efforts were made to obtain a comprehensive overview of the entity in the realm of marine litter and microplastics. This meant including other departments and experts in the consultation in addition to the entity's Task Team representative, resulting in 26 interviews in total.

Aside from mapping the activities of the Task Team entities, and in order to include information on UN system-wide expertise, interlinkages and interdependencies, as well as collaborative capacities, other UN entities that are active on the topic of marine litter and microplastics were identified. The mandates of these UN entities were analyzed, resulting in in-depth interviews with 24 additional UN entities, contributing to a comprehensive overview of initiatives and expertise in the UN System with relevance to marine litter and microplastics. A list of interviewed entities and questions used for the in-depth consultation are provided in Annexes 2a and 2b respectively.

Member Entities of the UN Task Team on Marine Litter and Microplastics:

BRS, CBD, UNESCAP, UNESCWA, FAO, IAEA, ILO, IMO, OHCHR, Ramsar, UNECE, UNEP, UNESCO, UNFCCC, UN-Habitat, UNIDO, UNDP, WFP, WHO, The World Bank, WTO, IUCN, OECD

1.3.2 Methodology for the Analysis

The survey and 50 in-depth interviews of 45 entities offered a valuable and sizeable basis for the analysis. Due to the multisectoral and cross-cutting nature of the issue of marine litter and microplastics, entities having various specializations were consulted. Particular attention was paid to the inclusion of entities having mandates for environmental protection and economic development, along with those collaborating with industry and business and field-based organizations. Those consulted include numerous departments and offices, regional commissions, programmes and funds, specialized agencies, and international treaties and global conventions. Figure 2 presents an overview of all entities consulted within this mapping exercise.

The involvement of the UN System in efforts to address marine litter, internally available expertise, related gaps and potential areas of synergy and opportunities for further cooperation, were analysed based on the above-mentioned criteria. The analysis took into account information obtained in all individual interviews, other material provided by interviewed entities, information from the ten survey submissions as primary sources, and material found online. The list of sources for the analysis is presented in Annex 3. In addition, a webinar was organized by the EMG Secretariat to discuss with Task Team members and other UN entities specific topics related to marine litter and microplastics. Inputs from the webinar served as complementary information for the analysis.

The mapping of UN entities' activities, expertise and initiatives directly or indirectly related to marine litter and microplastics is described in Chapter 3. As such, directly related activities include those addressing fishing, shipping, ALDFG, production, consumption, and waste management. Indirectly related activities include, for example, the green and blue economies and green transition initiatives, among others. Findings, including identified gaps and areas of synergies, and opportunities for further collaboration, are found in Chapter 4. Conclusions and recommendations are provided in Chapter 5.



Figure 2: The United Nations System: all entities interviewed in this mapping exercise⁴².

⁴² The positioning of entities in the UN System: https://www.un.org/en/pdfs/english_un_system_chart_11x8.5_4c_en_web.pdf

A photograph of a beach heavily littered with marine debris. The foreground and middle ground are filled with a dense layer of trash, including numerous plastic bottles (some green, some blue, some clear), bottle caps, and other unidentifiable plastic fragments. The debris is scattered across a dark, sandy surface. In the background, the ocean is visible, and the sky is a pale, overcast blue. The overall scene conveys a message of environmental pollution and the impact of human waste on natural spaces.

2. Marine Litter Governance Mandates - Key International Agreements, Commitments and Processes

While marine litter and microplastics have come to the fore-front in the international governance discussion over the last couple of years, protecting the environment and ecosystems has been on the international agenda for decades. Numerous actions, approaches, frameworks and plans have been developed and implemented. These include international treaties such as conventions and multilateral agreements, resolutions, and other policy commitments, as well as the ecosystem-based management approach with its origins in the 1992 UN Conference on Environment and Development (UNCED) and the UN Convention on Biological Diversity,⁴³ and the integrated management approaches that originated in Agenda 21. The UN first began to address marine litter in a more comprehensive and coordinated manner with the adoption of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (commonly known as the GPA) in 1995. More recently, the 2030 Agenda for Sustainable Development with its 17 global goals provides the blueprint to achieve a better and more sustainable future by addressing interconnected global

challenges. Marine litter and microplastics are directly addressed by SDG 14, but can also be cross-linked with other SDGs, particularly SDG 12 on responsible consumption and production. Given the multisectoral character of the marine litter and microplastics issue, various international instruments and processes are of relevance.

Marine litter and microplastics mandates are presented in Table 1. These include agreements and resolutions that directly address marine litter, as well as key international instruments, processes, commitments and treaties that are directly or indirectly linked to marine litter and microplastics. Table 1 builds on the analysis of available and provided information, materials and existing mappings, such as the UN-Oceans Inventory of mandates and activities⁴⁴ and the UN Global Compact's Mapping Ocean Governance and Regulations.⁴⁵ It provides a brief synopsis of the most relevant binding and non-binding instruments and processes on the topic of marine litter and microplastics.

⁴³ The UN Secretary-General report (2006), document A/61/63, Section X, paragraphs 106 -134, pp 31-36' <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/265/87/PDF/N0626587.pdf?OpenElement>

⁴⁴ <http://www.unoceans.org/inventory/en/>

⁴⁵ <https://www.unglobalcompact.org/library/5710>

Table 1: Key international instruments, processes, and UN entity mandates of relevance to the topic of marine litter and microplastics.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
Addressing Marine Litter in the context of the Global Sustainable Development Agenda	
2030 Agenda for Sustainable Development	A global agreement providing an overarching framework for pursuing a more sustainable society. While no SDG theme is devoted fully to litter, marine litter is included in SDG 14.1, with the indicator 14.1.1 that proposes to measure floating plastic debris density as a global indicator of marine pollution. A number of other SDGs directly or indirectly relate to marine litter and microplastics, even if no explicit references to these are made. Also, the crucial role of transboundary cooperation is recognized by the SDGs, specifically in relation to water management by SDG target 6.5: <i>'By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate'</i> .
Addressing Marine Litter in the context of Environmental Protection	
International Processes for Marine Litter: action plans, resolutions, strategies	
United Nations General Assembly's (UNGA) processes	The UNGA is the global institution with the competence to undertake an annual consideration and review of developments relating to ocean affairs and the law of the sea. It works, inter alia, through various processes, which may address issues related to marine litter. For example, in 2016, the related UN Open-ended Informal Consultative Process addressed the issue of marine litter and microplastics, providing an overview of actions undertaken to prevent and significantly reduce marine litter, including plastics and microplastics, and further action necessary to prevent and significantly reduce marine litter in coastal and marine areas. The General Assembly also addresses these issues through its annual resolutions on oceans and the law of the sea and sustainable fisheries. For example, the review of the actions taken by States and Regional Fisheries Management Organizations/Arrangements in response to the relevant paragraphs of General Assembly resolutions addressing the impacts of bottom fishing on Vulnerable Marine Ecosystems and the long-term sustainability of deep-sea fish stocks is undertaken in the context of its resolutions on sustainable fisheries. This review may also look at the impacts on marine ecosystems from other pressures including marine pollution, to address the issue in a holistic manner (see, for example, GA resolution 75/89, paragraph 203).
Global Programme of Action (GPA)	The GPA for the Protection of the Marine Environment from Land-Based Activities is a non-legally binding instrument, aimed at preventing the degradation of the marine environment from land-based activities by facilitating the preservation and protection of the marine environment, adopted by 108 governments in 1995. In order to advance this agenda, the GPA fosters voluntary collaboration and coordination among member states. The Parties' common goal is to sustain and take effective action to deal with all land-based impacts on the marine environment. In 2012, marine litter was selected as one of the priority impacts to be addressed.
The Global Partnership on Marine Litter (GPML)	The GPML is a voluntary, international and multi-stakeholder partnership in which UNEP provides Secretariat services, that brings together actors working to prevent marine litter and microplastics, including governments, NGOs, the private sector and international agencies. It serves as a global platform for knowledge and experience-sharing among partners to create and advance solutions. It supports the implementation of relevant resolutions of the UNGA and UNEA on or related to marine litter and microplastics. Its objective is to reduce the leakage of plastic pollution in the oceans. The GPML was launched at the Rio+20 Conference in June 2012.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
Clean Seas Campaign	The Clean Seas Campaign, launched by UNEP in 2017, aims to engage with governments, the general public, civil society and the private sector to address the cause of marine litter by targeting the production and consumption of single-use plastic.
Honolulu Commitment and Honolulu Strategy	The Honolulu Commitment issued at the 5th International Marine Debris Conference in 2011 calls on international organizations, governments, industry, NGOs, citizens and other stakeholders to halt and reverse the occurrence of marine debris by minimizing waste and turning it into a resource in an environmentally sustainable manner. The related Strategy is meant to connect marine litter programmes and foster collaboration among them by sharing lessons learned and best practices. It has three overarching goals, these being to: (i) reduce the amount and impact of land-based sources of marine debris in the oceans; (ii) reduce the amount and impact of sea-based sources of marine debris; and (iii) reduce the amount and impact of accumulated marine debris on shorelines in benthic habitats and in pelagic waters.
1st UN Ocean Conference	Voluntary pledge actions with 181 voluntary commitments dealing with plastic.
UN Environment Assembly (UNEA) Resolutions	At the third session of UNEA, in 2017, Member States committed to the long-term elimination of discharging litter and microplastics into the oceans by adopting a resolution that called for the strengthening of international governance structures in order to address marine litter. By 2020, UNEA had adopted four resolutions on marine litter and microplastics: 2014/1/6 (UNEA-1); 2016/2/11 (UNEA-2); 2017/3/7 (UNEA-3); and UNEP/EA.4/Res.6 (UNEA-4). These non-legally binding resolutions emphasize that improved waste management and litter prevention are key to combating marine litter and must be given top priority, in addition to strengthening scientific evidence. Through these resolutions, it was also agreed that the world must eliminate emissions of litter and microplastics to the sea.
Ad hoc open-ended working group on marine litter and microplastics (AHEG)	In 2017, the third session of UNEA agreed on the establishment of the AHEG. AHEG's programme of work outlines its tasks as: (i) explore all barriers to combating marine litter and microplastics, including challenges related to resources in developing countries; (ii) identify the range of national, regional and international response options, including actions and innovative approaches as well as voluntary and legally binding governance strategies and approaches; (iii) identify environmental, social and economic costs and benefits of different response options; (iv) examine the feasibility and effectiveness of different response options; and (v) identify potential options for continued work for consideration by the UNEA.
Joint Group of Experts on the Scientific Aspects of Marine Environmental Pollution (GESAMP)	GESAMP functions under the auspices of ten UN Organizations, all with substantial maritime and ocean interests and potentially overlapping responsibilities. GESAMP provides advice to the UN on scientific aspects of marine environmental protection and since 2010 has produced a number of reports on microplastics and the monitoring of marine litter in the marine environment. It is also completing a global assessment on sea-based sources of marine litter.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
International Instruments for Environmental Protection of relevance to Marine Litter: agreements, conventions, treaties	
Marine Environment Protection	
UN Convention on Law of the Sea (UNCLOS)	The UNCLOS entered into force in 1994 and has 168 parties. This global Convention establishes a general obligation on States to protect and preserve the marine environment. Part XII of UNCLOS contains provisions for the protection of the marine environment and applies to pollution from all sources, such as land-based sources of pollution, including litter, dumping, pollution from vessels and pollution from abandoned, lost or otherwise discarded fishing gear (ALDFG). The 1995 United Nations 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 (UNFSA), an implementing agreement to UNCLOS, also requires States parties to, inter alia, minimize pollution, waste, discards, catch by lost or abandoned gear, and protect biodiversity.
IMO International Convention for the Prevention of Pollution from Ships (MARPOL Annex V)	Annex V of MARPOL prohibits the discharge of garbage into the sea, including all forms of plastic disposal from ships and fixed or floating platforms, except in cases explicitly permitted under the Annex. Binding for 156 parties, it is the main international convention to protect the marine environment from sea-based pollution. A number of amendments adopted have strengthened the implementation of the Annex for all types of garbage, including plastics. Accidental losses of garbage, provided that all reasonable precautions have been taken to prevent the accidental losses, are not included.
London Convention and London Protocol	This Convention and its related Protocol regulate the prevention of marine pollution in seas by dumping of wastes and other matter. According to Article 2 of the Protocol "Contracting Parties shall individually and collectively protect and preserve the marine environment from all sources of pollution and take effective measures, according to their scientific, technical and economic capabilities, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter. Where appropriate, they shall harmonize their policies in this regard." Binding for 87 Convention Parties and 53 Protocol Parties, it regulates dumping at sea, and prohibits the dumping of matters that include plastics. The treaties, which are implicitly referred to in Article 210(6) of UNCLOS in the context of the global rules and standards to prevent, reduce and control pollution of the marine environment by dumping, cover both territorial and international waters.
FAO Code of Conduct for Responsible Fisheries	FAO's Code sets up international standards of behavior for responsible practices in fisheries and aquaculture. It includes marking fishing gear against ALDFG and ghost fishing.
OPRC Convention and OPRC-HNS Protocol	International Convention on Oil Pollution Preparedness, Response and Co-operation to Pollution Incidents, establishing measures for dealing with marine oil pollution incidents, and its Hazardous and Noxious Substances (HNS) Protocol.
Regional Seas Programme(s) (RSP) and their Action Plans; Regional Seas Conventions	Assessing the magnitude of the problem and action plans to reduce and eliminate marine litter, the RSPs also address the accelerating degradation of marine and coastal areas through their sustainable management and use. The RSPs cover 18 regions globally; whether binding or not is variable. Half of regional seas conventions and action plans adopted protocols related to land-based sources activities.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
Environmental Protection	
Basel Convention	Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. As of March 2021, it is binding for 188 parties and includes all top plastic waste exporters except the United States of America (U.S.). In 2019, the Basel Convention adopted amendments to Annexes II, VIII and IX to the Convention with the objectives of enhancing the control of the trans-boundary movements of plastic waste and clarifying the scope of the Convention as it applies to such waste. These amendments have strengthened the Basel Convention as the only global legally binding instrument to specifically address plastic waste and will make global trade in plastic waste more transparent and better regulated. The Basel Convention's Conference of the Parties (CoP) has established the Plastic Waste Partnership, aiming to improve and promote the environmentally sound management of plastic waste at all levels, and prevent and minimize their generation so as to reduce significantly and in the long-term eliminate the discharge of plastic waste and microplastics into the environment, in particular the marine environment.
Stockholm Convention	The Convention requires Parties to prohibit, eliminate and/or restrict the production, use, import and export of listed intentionally produced POPs. It also requires Parties to reduce or eliminate releases from unintentionally produced POPs and has provisions on the environmentally sound management of stockpiles and wastes consisting of, containing or contaminated with POPs. It is binding for 184 Parties as of March 2021. Notable non-parties include Israel, Italy, Malaysia and the U.S. The Stockholm Convention controls various POPs used as additives, flame retardants, plasticizers in plastics or manufacture of fluoropolymers. Its Programme of Work (PoW) for the biennium 2020-2021 features various activities relevant to plastic waste. In early 2021, the POPs Review Committee (POPRC), which is a subsidiary body responsible for reviewing POPs for listing in the Stockholm Convention, found that UV-328, an additive in plastic products, satisfies all the criteria set out in Annex D, namely persistence, bioaccumulation, potential for long-range environmental transport and adverse effects to humans and/or the environment. A future CoP could trigger its reduction or elimination.
LRTAP Convention	The Convention on Long-Range Transboundary Air Pollution (LRTAP) serves to limit and, as far as possible, gradually reduce and prevent air pollution, including long-range transboundary air pollution. The Convention has been extended by eight protocols that identify specific measures to be taken by Parties to cut their emissions of air pollutants.
Freshwater Protection	
Water Convention	A global legal and intergovernmental framework for transboundary cooperation on the protection and use of transboundary watercourses and international lakes. The Water Convention's work is preventive, aiming to improve water management. As such, when supporting the reduction of transboundary pollution with its obligations, the Convention limits the amount of litter ending up in marine environments. Specifically, Article 2.6 states that ' <i>countries should reduce pressures on the rivers (riverine pollution), which impacts the sea and marine ecosystems</i> '. Micropollutants and microplastics may become an additional topic for the Convention in the future.
Protocol on Water and Health	An international agreement to attain an adequate supply of safe drinking water and adequate sanitation, and effectively protect water used as a source of drinking water. The Protocol is linked to the treatment of water and water quality, including aspects such as the presence of microplastics, and thus has direct relevance to tackling marine litter and microplastics by addressing water and sanitation services such as improved water supply.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
Biodiversity Protection	
Convention on Biological Diversity (CBD)	A multilateral treaty that coordinates the work on coastal and marine biodiversity, and incorporates a number of various areas of work, including marine debris. The CBD has a relevant mandate under its CoP-13 decision CBD/COP/DEC/XIII/10 on addressing impacts of marine debris and anthropogenic underwater noise on marine and coastal biodiversity.
Ramsar Convention on Wetlands	An intergovernmental treaty for the conservation and sustainable use of wetlands through which litter may enter the marine environment. Ramsar focuses on water quality in wetlands as well as on water flows, species migration, biodiversity and on-site management issues.
Convention on Migratory Species (CMS)	An international agreement to conserve terrestrial, aquatic and avian migratory species throughout their range that addresses marine litter and microplastics through resolution 12.20 on Management of Marine Debris. CMS focuses on prevention of impacts of marine litter (including plastic and microplastics) on migratory species; awareness-raising and enhancing knowledge on the impacts of marine litter on migratory species; with a recent expansion to investigate the impacts of plastic pollution on terrestrial and freshwater migratory species including fish and birds. In addition, the 13th Meeting of the Conference of Parties (CoP-13) to CMS in 2020 also passed Decisions 13.122 to 13.125 on "Impacts of Plastic Pollution on Aquatic, Terrestrial and Avian Species."
Addressing Marine Litter in the Context of Trade and Economy	
International Instruments and Processes for Trade and Economy of relevance to Marine Litter: agreements and treaties	
Global Trade	
WTO Agreements	A global legal framework for trade helping countries to achieve sustainable development, which has potential to support global efforts against litter pollution.
WTO Committee on Trade and Environment (CTE)	The WTO's CTE deals with marine litter, and various other WTO committees address plastic litter from other angles. ⁴⁶
Sustainable Consumption and Production	
Marrakech Process	Marrakech Process on Sustainable Consumption and Production.
10YFP	The 10-Year Framework of Programmes on Sustainable Consumption and Production.
UNEA-4 Resolution 1	UNEA Resolution 1 on Innovative Pathways to Sustainable Consumption and Production.
Economic Development and Labour	
Regional Commissions (RCs)	These regional outposts of the UN foster economic integration at the sub-regional and regional levels, and promote the regional implementation of internationally-agreed goals. The RCs address marine litter and microplastics as part of their sustainable economic development objectives through different workstreams and processes in each region.

⁴⁶ https://www.wto.org/english/news_e/news21_e/tessd_29mar21_e.htm

UN Instrument/Process	Marine Litter and Microplastics-related Scope
UNCTAD Forum	UN Conference on Trade and Development's Forum for sustainable economic development.
ILO Chemicals Convention, 1990 (No. 170) and Chemicals Recommendation, 1990 (No. 177)	The Convention and the Recommendation apply to all branches of economic activity. Member States must formulate, implement and periodically review a coherent policy on safety in the use of chemicals at work in consultation with the most representative organizations of employers and workers. When, in an exporting State, all or some uses of hazardous chemicals, including plastics, are prohibited for reasons of safety and health at work, the State must communicate this fact and the reasons for it to any importing country.
ILO Maritime Labour Convention, 2006 (MLC, 2006)	The Convention provides comprehensive coverage of almost all the subjects dealt with by the existing Maritime Labour Conventions, including minimum age, hours of work and rest, annual leave, seafarers' employment agreements, occupational safety and health, repatriation, medical care, accommodation standards, and social protection and establishes an important new compliance and enforcement system involving complementary flag State, port State and labour supplying State responsibilities.
ILO Work in Fishing Convention, 2007 (No. 188) and Work in Fishing Recommendation, 2007 (No. 199)	Member States are required to adopt laws, regulations or other measures, which may include collective agreements, court decisions, arbitration awards, or other means consistent with national law and practice, in order to fulfil its commitment under this Convention with respect to all fishers and all fishing vessels engaged in commercial fishing operations under its jurisdiction. Each ratifying Member has to, among other things: ensure fishing vessels are sufficiently and safely manned; address the prevention of occupational accidents, occupational diseases and work-related risk on board fishing vessels, including risk evaluation and management, training and on-board instruction of fishers.
ILO Guidelines for a just transition towards environmentally sustainable economies and societies for all	These Guidelines are both a policy framework and a practical tool to help countries at all levels of development manage the transition to low-carbon economies and can also help them achieve the 2030 Sustainable Development Goals. Designed to promote decent work on a large scale and ensure that social protection exists where needed, these guidelines also include mechanisms for social dialogue among governments, workers and employers' organizations throughout policy making processes at all levels.
Human Rights and Sustainable Development in Communities	
Human Rights Council's Special Procedures	Relevant special procedures mechanisms of the Human Rights Council, for example the Special Rapporteur on human rights and the environment and the Special Rapporteur on toxics and human rights, engage on environmental issues, including the negative impacts of marine litter on the enjoyment of human rights.
WHO Human Health Risk Assessment Toolkit	Human Health Risk Assessment on Chemical Hazards providing guidance to identify, acquire and use the information needed to assess chemical hazards, exposures and the health risks.
JMP for Water plus WHO Guidelines	Joint Monitoring Programme (JMP) for Water Supply and Sanitation by UNICEF and WHO, plus WHO Guidelines for drinking-water quality and for safe recreational water environments.

UN Instrument/Process	Marine Litter and Microplastics-related Scope
Addressing Marine Litter in other international action plans	
G7	The G7 Action Plan to Reduce Marine Litter contains nine overarching principles and a range of priority actions to address land-based sources as well as sections on litter removal measures, actions to address sea-based sources, education, research and outreach. The G7 also agreed in 2018 on the Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities, which includes an Ocean Plastics Charter in the annex.
G20	The G20 Action Plan on Marine Litter is a set of seven high-level principles to address the issue, containing a commitment to take action to prevent and reduce marine litter of all types, including single-use plastics and microplastics. As part of the G20's work programme, the Osaka Blue Ocean Vision G20 Implementation Framework for Actions on Marine Litter is a common global vision to reduce additional pollution by marine plastic litter to zero by 2050 through a comprehensive life-cycle approach that includes reducing the discharge of mismanaged plastic litter by improved waste management and innovative solutions.

2.1 Addressing Marine Litter in the Context of the 2030 Agenda for Sustainable Development

In 2015, the United Nations Member States adopted the 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (SDGs). Marine litter is directly referred to in SDG 14 'Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development' in Target 14.1. UNEP is the custodian of indicator 14.1.1 that proposes to measure floating plastic litter as a global indicator of marine pollution.

"By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution" [SDG 14, Target 14.1]

A number of other SDGs directly or indirectly relate to marine litter and microplastics, even if no explicit references to these are made. Marine litter and

microplastics is an issue that is multisectoral and cross-cutting, with the SDGs being wide-ranging and interdependent. The linkages among the majority of SDG themes and targets to marine litter issues are depicted in Figure 3. For instance, all targets of SDG 12 (*Responsible consumption and production*) are closely related to tackling marine litter and microplastics, by addressing topics such as the efficient use of resources and sustainable practices in production, responsible consumption, food loss, life-cycle approaches including recycling and reuse, and waste including chemical waste. Other closely related SDGs and targets include SDG 3 (*Good health and well-being*), SDG 6 (*Clean water and sanitation*) and SDG 8 (*Decent work and economic growth*). The crucial role of transboundary cooperation, including related agreements as well as joint bodies for cooperation, is recognized by the SDGs, specifically in relation to water management by SDG target 6.5: 'By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate'.



Figure 3: Examples of linkages between various SDGs and marine litter and microplastics.

2.2 Regional Governance

The UN Regional Economic Commissions under the UN Secretariat, and the Regional Seas Programmes under the guidance of UNEP, serve as bridges between processes at the global, regional, sub-regional and national levels in implementing the 2030 Agenda for Sustainable Development, including consideration of marine litter pollution. While Regional Commissions deal with economic development, trade facilitation, food security and sustainable development in the regions, the Regional Seas Programmes address the marine environment in the various sea basins. Regional Fisheries Bodies (RFBs) introduce measures to minimize and retrieve ALDFG, and several of the existing RFBs⁴⁷ are administered or supported by FAO. There are some 50 RFBs worldwide. Most provide only advice to their members and are hence referred to as regional fisheries advisory bodies (RFABs). Regional fisheries management organizations (RFMOs) have mandates to adopt legally binding conservation and management measures based on the best scientific evidence. Furthermore, Large Marine Ecosystem (LME) activities aim at combating marine litter as part of regional Strategic Action Programmes, while the European Union addresses marine litter through numerous regulations and legally binding directives.⁴⁸ These regional instruments support national efforts and link them to multilateral requirements while ensuring the integration of the regional dimension in global development policy discussions. A listing of the Regional Seas Programmes is found in Annex 4.

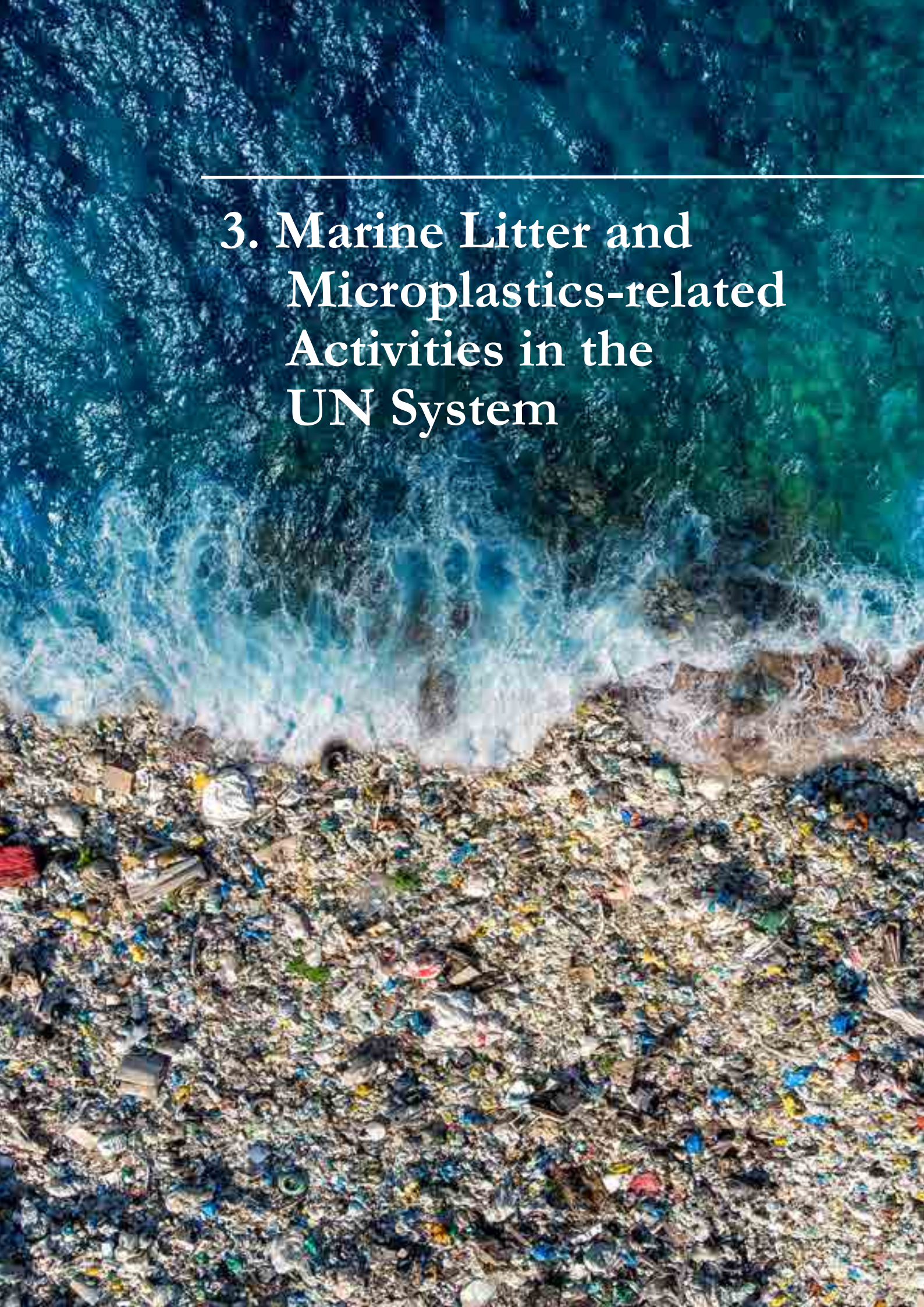
2.3 Other international efforts to combat Marine Litter

Growing concern about the adverse environmental impacts of marine litter has led to a number of high-profile multilateral initiatives,⁴⁹ including the G7 Action Plan to Reduce Marine Litter, with overall principles and priority actions, recognizing the need to use existing platforms and tools to avoid duplication and build on progress made in other regional and global frameworks. Marine plastics were introduced to the G20 in 2017 with the adoption of the G20 Action Plan on Marine Litter, which outlines a set of seven high-level principles to address the issue. The G20 Action Plan contains a commitment to take action to prevent and reduce marine litter of all kinds, including single-use plastics and microplastics, reiterating its previous commitment to preventing and substantially reducing marine litter and its impacts by 2025 in support of the 2030 Agenda for Sustainable Development.

⁴⁷ Overview of RFBs: Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, P. 2020. Regional fisheries management organizations and advisory bodies. Activities and developments, 2000–2017. FAO Fisheries and Aquaculture Technical Paper No. 651. Rome, FAO. <http://www.fao.org/documents/card/en/c/ca7843en>

⁴⁸ https://publications.iass-potsdam.de/rest/items/item_6000714_5/component/file_6000717/content

⁴⁹ <https://www.oecd.org/g20/summits/osaka/OECD-G20-Paper-Resource-Efficiency-and-Marine-Plastics.pdf>

An aerial photograph showing a beach heavily polluted with marine litter and microplastics. The foreground is a dense layer of colorful plastic debris, including bottle caps, fragments, and fibers, mixed with sand. In the background, the ocean waves are breaking onto the shore, with white foam visible. The water is a deep blue-green color.

3. Marine Litter and Microplastics-related Activities in the UN System

The UN System addresses marine litter and microplastics through various instruments and processes, including programmes, strategies, conventions and resolutions for the protection of the marine environment and sustainable development, as well as specific mandates of the UN entities and related activities. This chapter provides an overview of UN System mandates, activities and initiatives that directly or indirectly relate to marine litter and microplastics. This overview or mapping covers activities addressing litter in the marine environment and across product life cycles, from design to waste, illustrating the cross-cutting nature of the issue. Selected examples of current and past initiatives, programmes and projects of UN entities are provided. A more complete and detailed list of programmes and projects is available in a related [database](#) that was developed during the consultation process with the entities.⁵⁰

The UN joined forces with the private sector, international organizations, NGOs, institutions and academia, that undertake a number of initiatives globally to combat marine litter. As such, Friends of Ocean Action convened by the World Economic Forum in collaboration with the World Resources Institute, is a coalition of over 50 leaders on ocean-related issues from business, civil society, international organizations, science and technology, who are fast-tracking solutions to the most pressing challenges facing the oceans, such as the plastic pollution. Another example is the Global Commitment for a circular economy for plastic, led by the Ellen MacArthur Foundation in collaboration with UNEP, supported by the WWF and endorsed by the World Economic Forum, the Consumer Goods Forum and academic figures.

Emerging initiatives and existing partnerships and collaborations are also referred to. This report focuses on collaborations within the UN System and does not aim to specifically address joint efforts with the private sector.^{51, 52} An overview of international efforts by multiple stakeholders has been prepared by the Global Partnership on Marine Litter,⁵³ while a stocktaking and state of action analysis of existing activities and actions by governments, NGOs, the academic and private sectors has been prepared for the ad hoc open-ended expert group on marine litter and microplastics (AHEG) as part of UNEA resolution 4/6 paragraph 7a and 7b.^{54, 55} This analysis covers the long-term elimination of discharges into the oceans to reduce marine plastic litter and microplastics, as well as identifies technical and financial resources or mechanisms for supporting countries in addressing marine plastic litter and microplastics.⁵⁶ The UN System integrates environmental sustainability in its facilities and operations, and as such reduces the plastic footprint of UN facilities and operations. UNEP annually collects and analyses information provided by UN System entities on their environmental impacts and publishes this data in the “Greening the Blue Report: The UN System’s environmental footprint and efforts to reduce it”.⁵⁷

⁵⁰ A database of programmes and projects was developed based on the information collected during the consultation process with the interviewed entities. The initiatives to include in the database have been identified according to the following criteria: (i) *Leadership*: projects led by at least one of the interviewed agencies (UN-led projects); (ii) *Objective*: addressing a type of pollution contributing to marine litter; (iii) *Status*: ongoing projects (i.e. ending date after August 2020); (iv) *Duration*: one-year project or recurrent; (v) *Information*: available online and/or mentioned during the consultation with the EMG (only projects with detailed online information were considered).

⁵¹ <https://www.weforum.org/friends-of-ocean-action>

⁵² <https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy/global-commitment>

⁵³ <https://www.gpmarinelitter.org/>

⁵⁴ <https://www.unep.org/environmentassembly/proceedings-report-ministerial-declaration-resolutions-and-decisions-unea-4>

⁵⁵ <https://wedocs.unep.org/bitstream/handle/20.500.11822/35933/UNEP%20AHEG%204%202%20English%20Advance%2029%20Sept%202020.pdf?sequence=8&isAllowed=y>

⁵⁶ <https://wedocs.unep.org/bitstream/handle/20.500.11822/35933/UNEP%20AHEG%204%203%20English%2029%20Sept%202020.pdf?sequence=9&isAllowed=y>

⁵⁷ https://www.greeningtheblue.org/gtb_reports

Presentation of mapping results of the UN System

In this chapter, entities are grouped according to broad thematic areas and sectors (Figure 4), based on the main focus of their activities in the topic of marine litter and microplastics.⁵⁸ Most of the entities fall mainly under one thematic area, but some may cover

two or more thematic areas. In such a case, the entity has been grouped according to the thematic area in which they are mainly active in relation to marine litter and microplastics. For example, UN-Habitat is placed in the category of 'Business, Trade, Life cycle' given the organization's focus on the topic of solid waste management.

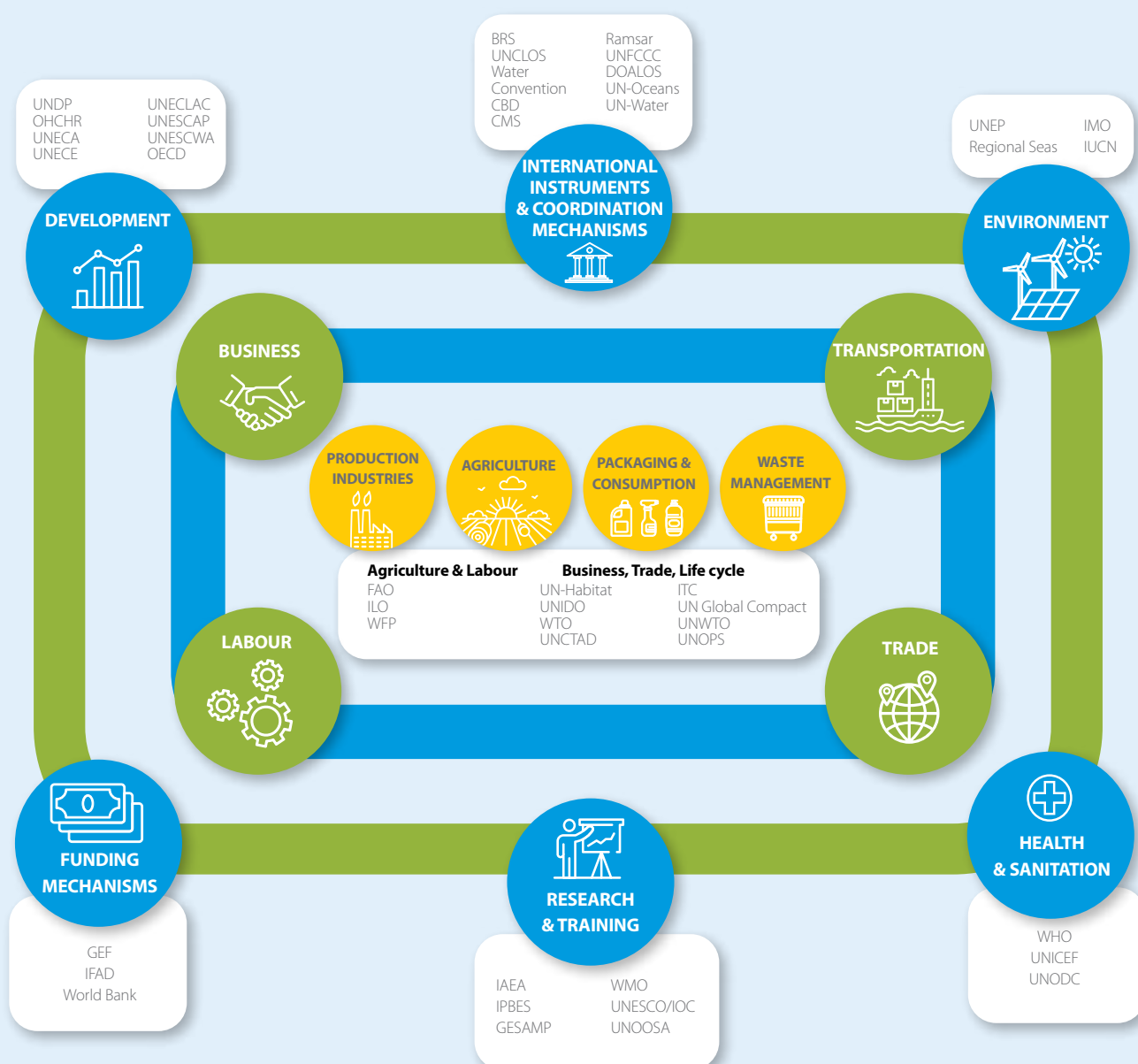


Figure 4: Grouping of the entities under thematic areas and sectors, based on entities' activities in the realm of marine litter and microplastics.

⁵⁸ The applied categorization is based on groupings of UN entities in the earlier reports of the EMG, that were previously approved by EMG members.



3.1 International Instruments and Coordination Mechanisms

3.1.1 UN CONVENTIONS

The Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS) supports Parties in addressing plastic waste, including through the Plastic Waste Amendments (decision BC-14/12), by which in 2019 the CoP adopted amendments to Annexes II, VIII and IX to the Convention with the objectives of enhancing the control of transboundary movements of plastic waste and clarifying the scope of the Convention as it applies to the same. Decision BC-14/13, also adopted by the CoP in 2019, includes a set of actions for preventing and minimizing the generation of plastic waste, improving its environmentally sound management (ESM) and controlling its transboundary movement. Marine litter

and microplastics are prominently considered and addressed in the Secretariat's technical assistance and capacity building activities, with activities supporting Parties to address plastic waste and a series of pilot projects on plastic waste through the regional centres. The two largest projects on plastic waste currently implemented by the Secretariat are 'Marine litter and microplastics: promoting the environmentally sound management of plastic waste and achieving the prevention and minimization of the generation of plastic waste' (BRS-Norad-1),⁵⁹ and 'Further actions to address plastic waste under the Basel Convention'

⁵⁹ <http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad1/tabid/8343/Default.asp>

(BRS-Norad-2). A project initiated in 2020 focuses on plastic waste management in mountains and remote areas. The Basel Convention Plastic Waste Partnership (PWP) was established in 2019 to support the Basel Convention, with the goal to improve and promote the ESM of plastic waste and minimize its generation. The purpose of the PWP is to significantly reduce and in the long-term eliminate the discharge of plastic waste and microplastics into the environment, in particular the marine environment. As of February 2021, the PWP includes more than 100 entities and over 200 representatives. A series of pilot projects will be implemented under the PWP, and it has already mapped plastic waste management initiatives, consolidated in a report that may lead to the creation of a web portal. The BRS Secretariat works in close collaboration and partnership with a number of UN entities regarding its three Conventions, including CBD, FAO, GESAMP, UNEP, UNFCCC and other conventions.

The Secretariat of the United Nations Convention on the Law of the Sea (UNCLOS)

provides information and advice on the uniform and consistent implementation of UNCLOS (1982) with regard to the protection and preservation of the marine environment in Part XII of the Convention's text. The UN Open-ended Informal Consultative Process (ICP) on Oceans and the Law of the Sea facilitates discussions of the UNGA on oceans. The ICP has addressed the issue of marine litter and microplastics, confirming it is cognizant of the emerging issues and challenges that relate to the protection and preservation of marine environments. Under the UN Intergovernmental Conference on an international legally binding instrument on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ Conference), the package that was agreed upon as elements of the potential treaty includes area management-based tools, including Marine Protected Areas (MPAs), environmental impact assessments (EIAs), capacity-building and the transfer of marine technology. These tools can play an important role in shedding light on the impact of high seas pollution and currents that transport and distribute marine litter and microplastics. An annual resolution on Sustainable

Fisheries includes provisions on plastic pollution. An example of related work by the General Assembly is the review of actions taken by States and Regional Fisheries Management Organizations/ Arrangements (RFMO/As). This review was in response to the relevant paragraphs of UNGA resolutions addressing the impacts of bottom fishing on Vulnerable Marine Ecosystems (VMEs) and the long-term sustainability of deep-sea fish stocks.⁶⁰ To address the issue in a holistic manner, the review also looks at the impacts on those ecosystems from other pressures, including marine pollution.

The Secretariat of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE/Water Convention)

aims to support Parties in improving water management of freshwater systems and to ensure the sustainable use of transboundary water resources by facilitating cooperation among Member States. The issue of marine litter and microplastics is becoming more recognized by Parties in the context of "reducing pressures on the rivers, which impacts the sea and marine ecosystems."⁶¹ The Secretariat addresses the topic of marine litter occasionally in the Meetings of Parties (MoP). In terms of relevant projects, UNECE has partnered with the Global Water Partnership Mediterranean branch (GWP-Med)⁶² on the Drin basin to support political cooperation across borders in the Balkans region to protect water resources and develop a Strategic Action Programme⁶³ based on a Transboundary Diagnostic Analysis that includes the goal to "Improve management and appropriate disposal of solid wastes." Additionally, in the intersectoral Assessment of the Water-Food-Energy-

⁶⁰ This review is mandated by the General Assembly which has requested further review of the actions taken by States and regional fisheries management organizations and arrangements in response to specific paragraphs (paragraphs 113, 117 and 119 to 124 of resolution 64/72, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123).

⁶¹ Article 2.6 of the Convention on the Principle of Cooperation with other Conventions

⁶² <https://www.gwp.org/en/GWP-Mediterranean/>

⁶³ <https://www.thegef.org/news/political-cooperation-across-borders-protects-water-resources-drin-basin>

Ecosystems Nexus in the Drina River Basin, solid waste was identified as an issue requiring coordinated action across borders and sectors.⁶⁴ UNECE is invited to the CoP of the Regional Seas Convention, but is not actively participating, and there is no cooperation with other conventions such as the Basel Convention or UNCLOS.

The Secretariat of the Convention on Biological Diversity (CBD) incorporates various areas of work in relation to coastal and marine biodiversity, including marine litter, in support of the implementation of the Convention. Following the request by Parties in 2014 for more information on how to mitigate and minimize the impacts of marine litter on marine biodiversity habitats, the CBD Secretariat coordinated expert workshops to synthesize best practices and recommendations on marine litter as advice to Parties. CoP13 (2016) and CoP14 (2018) adopted decisions on biodiversity mainstreaming that include measures where Parties committed to minimizing waste in areas of work that link to marine litter and microplastics, such as fisheries, forestry, agriculture, infrastructure, mining, consumption and production. The CBD Secretariat also addresses marine litter in other areas of work, such as priority actions to achieve Aichi Target 10 (*Pressures on vulnerable ecosystems reduced*).⁶⁵ The Secretariat developed a series of technical reports on marine litter and microplastics⁶⁶ in the form of voluntary practical guidance on preventing and mitigating the impacts of litter on marine coastal biodiversity and habitats. In decision 13.10 (CoP-13 in 2016), the CoP took note of this voluntary practical guidance and encouraged Parties and other governments to use it. The CBD Secretariat has since periodically requested information from Parties on

what they are doing in regard to addressing marine litter. Parties recently considered a voluntary workplan on biodiversity cold-water areas, where marine litter is specifically addressed. The Secretariat is in the process of preparing the Post-2020 Global Biodiversity Framework (GBF) that will address pollution, requiring work on strategic mapping of needed actions on marine litter and microplastics. The updated zero draft of the post-2020 global biodiversity framework is available online,⁶⁷ and in July 2021, the first draft of a new global biodiversity framework was released, to guide actions worldwide through 2030, to preserve and protect nature and its essential services to people.⁶⁸

The Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) started working on the issue of marine litter and microplastics at CoP10 in 2011. As such, the CMS Secretariat has been mandated to look at specific issues related to marine litter, with the overall objective to understand the issue from the perspective of impacts on species and habitats under CMS Resolution 12.20 on Management of Marine Debris.⁶⁹ Subsequent additions to the Resolution include a stronger focus on microplastics and ghost fishing gear. The CMS Secretariat has been focused on enhancing knowledge on the impact of marine litter on migratory species, with a recent expansion to investigating the impacts of plastic pollution on terrestrial and freshwater migratory species, including fish and birds. The Secretariat of the CMS published study reports on marine litter in 2014, which summarized the status of knowledge and set the basis for CMS' work on understanding marine litter through the perspective

⁶⁴ <https://unece.org/environment-policy/publications/assessment-water-food-energy-ecosystem-nexus-and-benefits>

⁶⁵ <https://www.cbd.int/aichi-targets/target/10>

⁶⁶ CBD Technical Series 83 <https://www.cbd.int/doc/publications/cbd-ts-83-en.pdf>

⁶⁷ <https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eafa/post2020-prep-02-01-en.pdf>

⁶⁸ <https://www.cbd.int/article/draft-1-global-biodiversity-framework> ; <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>

⁶⁹ https://www.cms.int/sites/default/files/document/cms_cop12_res.12.20_marine_debris_e.pdf

of migratory species and their habitats.^{70, 71, 72, 73} In 2019, the Migratory Bird Day was celebrated under the overall theme of plastics pollution, as part of awareness-raising activities organized together with African-Eurasian Waterbird Agreement. CoP13 in 2020 passed decisions 13.122 to 13.125⁷⁴ on “Impacts of Plastic Pollution on Aquatic, Terrestrial and Avian Species,” requesting a compilation of relevant knowledge on the impacts of marine litter on species. Finally, the CMS Secretariat is currently conducting a literature review on the status of knowledge on the trends, scope and impact of plastic and microplastic pollution on CMS-listed species in terrestrial and freshwater ecosystems. The Secretariat collaborates closely with UNEP and is a member of the Global Partnership for Marine Litter (GPML).

The Secretariat of the Ramsar Convention on Wetlands (Ramsar) supports Parties in addressing issues related to marshes as well as lakes, rivers and coastal marine ecosystems, including mangroves, seagrass, shallow waters, etc., essentially all ecosystems from upstream water catchments to downstream river systems through which the litter enters the marine environment. The Ramsar Convention covers water quality in these ecosystems as well as water flows, species migration, biodiversity and on-site management. Although there are no decisions or CoP resolutions that specifically reference marine litter and microplastics, the Ramsar Convention Secretariat stays informed by following relevant working groups on the topic. Ramsar was involved in the GPA for the Protection of the Marine Environment from Land-based Activities and is co-custodian (with UNEP) of the water-related ecosystems extent indicator SDG 6.6.1. In this

role, Ramsar encourages Parties to make inventories regarding the quality of water in ecosystems.

The Secretariat of the United Nations Framework Convention for Climate Change (UNFCCC) received a mandate to work on oceans in 2019 through the Nairobi Work Programme (NWP).⁷⁵ All ocean-related work of the Secretariat considers the findings of the IPCC’s Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC),⁷⁶ which highlights that climate change impacts act as threat multipliers when combined with other anthropogenic impacts such as marine pollution. A range of activities under the NWP are in progress to advance evidence-based action,⁷⁷ including the establishment of the Specialized Group of Experts on the ocean.⁷⁸ The Secretariat collaborates on marine issues with IOC, DOALOS, UNDP, UNEP, FAO, the World Bank, SPREP, IPCC, IUCN, associated with the UNFCCC/NWP Specialized Group of Experts on the ocean. The Secretariat also follows UN-Oceans and works closely with the Inter-Organizational Programme for the Sound Management of Chemicals on pollution, and on SDG 14 in preparation for the Ocean Conference.

3.1.2 UN COORDINATION OFFICES AND INTER-AGENCY MECHANISMS

The Division for Ocean Affairs and the Law of the Sea (DOALOS) of the UN Office of Legal Affairs has several mandates related to marine environmental protection, conservation, and sustainable development that includes serving as a Secretariat to UNCLOS and UNFSA, as well as a

⁷⁰ (i) Report I: Migratory Species, Marine Debris and its Management (COP11/Inf.27); (ii) Report II: Marine Debris and Commercial Marine Vessel Best Practice (COP11/Inf.28); and (iii) Report III: Marine Debris: Public Awareness and Education Campaigns (COP11/Inf.29).

⁷¹ <https://www.cms.int/en/document/report-i-migratory-species-marine-debris-and-its-management-0>

⁷² <https://www.cms.int/en/document/report-ii-marine-debris-and-commercial-marine-vessel-best-practice-0>

⁷³ <https://www.cms.int/en/document/report-iii-marine-debris-public-awareness-and-education-campaigns-0>

⁷⁴ <https://www.cms.int/en/document/decisions-conference-parties-cms-effect-after-its-13th-meeting>

⁷⁵ <https://www4.unfccc.int/sites/NWPStaging/Pages/oceans-page.aspx>

⁷⁶ <https://www.ipcc.ch/srocc/> The Intergovernmental Panel on Climate Change (IPCC)

⁷⁷ <https://www4.unfccc.int/sites/NWPStaging/Pages/oceans-page.aspx>

⁷⁸ <https://unfccc.int/topics/adaptation-and-resilience/workstreams/nairobi-work-programme-nwp/workshops-meetings/nwp-virtual-expert-group-meeting-on-the-oceans-17-18-june-2020#eq-5>

wide variety of related mechanisms and processes.⁷⁹ Many of the related activities of these bodies, as mandated by the UNGA, involve addressing marine litter, including plastics. DOALOS also serves as the Secretariat of the process under which the First Integrated Global Marine Assessment (World Ocean Assessment I/WOA I) was published in 2015 as well as the second World Ocean Assessment (WOA II), which was completed in 2020. These Assessments address the issue of plastic pollution and each includes a chapter on marine debris with numerous references to plastics, microplastics and nanoplastics. Marine protection and sustainable development of coastal and marine areas in accordance with the legal framework provided by the Convention are at the heart of the activities of DOALOS, and as such it is a custodian agency of SDG target 14.c. The Division also offers capacity building programmes that address marine litter and microplastics, including within the curricula of the UN-Nippon Foundation fellowship programmes. Through the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea, the international community has addressed plastic pollution in 2016 by focussing its discussions on “marine debris, plastics and microplastics” and in 2005 on “marine debris.”⁸⁰ According to its mandate to coordinate the annual marking of World Oceans Day, DOALOS organizes events on ocean issues and solutions, including on marine litter and microplastics. DOALOS is involved in many mechanisms that relate to marine environmental protection and marine litter; for example, GESAMP. Within its capacity building and technical cooperation mandate, DOALOS will continue to highlight the linkages between marine

litter and ocean affairs and the law of the sea, including within the context of the blue economy and the science-policy interface.

The United Nations-Oceans (UN-Oceans) is an interagency coordination mechanism mandated by the UN General Assembly to: strengthen and promote coordination and coherence of UN System activities related to ocean and coastal areas including marine pollution; regularly share ongoing and planned activities of participating organizations with a view of identifying possible areas for collaboration and synergy; and facilitate inter-agency information exchange in ocean-related matters. More than 28 agencies and entities having competencies on oceans and the law of the sea are members of UN-Oceans. UN-Oceans prepared an inventory of the various mandates and activities of its members with the view to identifying possible areas of synergies and collaboration. The UN-Oceans’ most recent salient activity is its work in support of the development of the implementation plan of the UN Decade of Ocean Science for Sustainable Development (2021-2030), which addresses SDG 14, including the issue of marine litter and microplastics.

The United Nations-Water (UN-Water) is an interagency mechanism that coordinates the efforts of UN entities and international organizations with regard to water and sanitation issues globally. It focuses on all freshwater-related issues, and as such contributes to activities in the framework of SDG 6. More than 30 UN agencies, programmes and funds with a water-related mandate are members of UN-Water. UN-Water works on SDG targets 6.3 and 6.6 related to litter in freshwater systems under which the implementation of data collection and coordination at the country level is shared with other custodian agencies of SDG 6: Clean water and sanitation. Dealing with freshwater that can transport litter to marine environments makes this work relevant for addressing marine litter. Despite the relevance of the mandate of UN-Water, the issue of marine litter and microplastics has not been a focus activity. UN-Water collaborated with UN-Oceans for the UN Ocean Conference in 2017 where they organized a joint side event on the connection of freshwater and marine systems.

⁷⁹ These include: (i) UNCLOS, (ii) the 1995 United Nations Fish Stocks Agreement, (iii) the UN Open-ended Informal Consultative Process on oceans and the law of the sea (ICP), (iv) UN-Oceans, (v) the Regular Process, (vi) the informal UN General Assembly consultations on the draft resolution on oceans and the law of the sea and on the draft resolution on sustainable fisheries, and (vii) the Intergovernmental Conference on an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

⁸⁰ https://www.un.org/Depts/los/consultative_process/consultative_process.htm



3.2 Environment and Development

3.2.1 UN PROGRAMMES AND SPECIALIZED AGENCIES FOR ENVIRONMENT PROTECTION

The United Nations Environment Programme (UNEP) has an explicit mandate to work on marine litter and microplastics since 1995, in the context of the protection of the marine environment through the GPA for the Protection of the Marine Environment from Land-based Activities. Within UNEP, a GPA team supports and facilitates the implementation of the work programme and relevant UNEA resolutions by acting as a coordinating unit. UNEP was requested by UNEA to establish the Global Partnership on Marine Litter (GPML),⁸¹ while providing technical

assistance to countries and aiming to improve the science-policy interface on this issue. UNEP is also the custodian of indicator 14.1.1 and other SDG targets related to marine litter, for example, targets 6.3 and 6.6, while administering seven Regional Seas Programmes and hosting their Secretariats. UNEP shares knowledge with different types of audiences, including recommendations for policy-makers, massive open online courses (MOOCs) on marine litter and through the Clean Seas Campaign.⁸² UNEP also undertakes a number of projects and initiatives aimed at understanding the impact of consumption and production patterns on plastic pollution and identifying solutions offered by a plastic circular economy. UNEP serves as the secretariat of the One Planet Network (which implements the

⁸¹ <https://www.gpmarinelitter.org/>

⁸² <https://www.cleanseas.org/>

10 Year Framework of Programmes on Sustainable Consumption and Production - 10YFP) and the Strategic Approach to International Chemicals Management (SAICM).^{83, 84} One key initiative has been the GEF-funded project in 2017-2019 “Addressing Marine Plastics - a systemic approach”.⁸⁵ The project sought to develop a baseline of knowledge on marine plastics sources, pathways and environmental impacts. The New Plastics Economy Global Commitment,⁸⁶ led by the Ellen MacArthur Foundation in collaboration with UNEP, is an example of an initiative which focuses on the uptake of circular economy across the entire plastic value chain; UNEP is leading the engagement of government signatories. UNEP works closely on marine issues with FAO, IMO, IOC, the Regional Seas Programmes and Regional Seas Conventions, and with many other UN agencies such as UN-Habitat, the BRS Secretariat, UNIDO (for example, sustainable alternatives to fossil fuel-based plastics), UNWTO, OECD and IUCN on upstream issues such as waste management, plastics and consumption and production.

The Regional Seas Programme (RSP) serves as a platform for knowledge and experience sharing, as well as for exploring possibilities for new partnerships and collaboration. The RSPs organize capacity building campaigns on marine litter and contribute to expert working groups on marine litter and microplastics in the regions, with efforts to harmonize approaches for marine litter strategies at the regional level. The RSP has numerous projects and initiatives taking place in different regions;⁸⁷ some of these are referenced in the database, and more information on specific initiatives is available on the webpages of individual RSPs. Examples of regional efforts presented in this report include the Mediterranean Sea (UNEP/MED), the Caribbean Sea (UNEP/CEP) and the Pacific Ocean

(SPREP). Other examples include the Coordinating Body on the Seas of East Asia (COBSEA)’s sea-circular project that applies the source-to-sea approach, using reusable opportunities within the value chain; North-West Pacific’s (NOWPAP’s) marine litter regional strategy; and the Teheran Convention’s adopted protocol on land-based sources of pollution. The RSP collaborates closely with UNEP and other UN entities having relevant mandates for marine litter and waste. Various RSPs share experiences and best practices among themselves in regard to solid waste action plans and marine litter and plastic management projects. The Regional Seas are preparing a joint report on their achievements related to SDG14, with the aim of presenting successful cases in each region per target, and sharing good practices and showcasing these at, for example, the UN Ocean Conference. Annex 4 contains a full description of the UNEP-administered and other Regional Seas Programmes.

Secretariat of the UNEP Mediterranean Environment Programme (UNEP/MED)

(or the Barcelona Convention Secretariat) supports the implementation of seven Protocols, including on the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS Protocol). Contracting Parties to the Convention adopted the Regional Plan on Marine Litter Management in 2013. Numerous pilot activities have been implemented in different Member States by UNEP/MED, aiming to scale up the work and improve governance in tackling marine litter challenges in the sea basin. National actions were implemented through National Action Plans (NAPs) in 2003-2004, which were updated in 2015-2016. UNEP’s Mediterranean Action Plan (MAP) is leading a mid-term evaluation of these action plans, including the consideration of a new medium-term strategy. Some of these action plans include specific activities related to solid waste. Preventive measures include addressing single-use plastics, littering habits and generation of waste in ports and marinas. The Barcelona Convention has prepared regional guidelines for the implementation of these measures. The regional plan on marine litter management was the subject of a recent assessment, presented as an information document at the CoP-21, where Parties requested to update the marine litter regional plan

⁸³ <https://www.oneplanetnetwork.org/one-planet-network-wide-plastics-initiative>

⁸⁴ <http://www.saicm.org/>

⁸⁵ <https://gefmarineplastics.org/>

⁸⁶ <https://www.newplasticseconomy.org/assets/doc/Global-Commitment-2019-Progress-Report.pdf>

⁸⁷ <https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/working-regional-seas>

to take into account aspects such as the circular economy and microplastics. UNEP/MED collaborates with UN entities including FAO, GFCM, IMO and the BRS Secretariat. Partnerships and collaboration are also central to UNEP/MAP, which created the Regional Cooperation Platform on Marine Litter. The latter includes international organizations focusing on marine litter, plastics industries, NGOs and academics.

Secretariat of the UNEP Caribbean Environment Programme (UNEP/CEP)

addresses the issue of marine litter and microplastics in the Wider Caribbean Region through two main mechanisms: the Cartagena Convention including its LBS Protocol⁸⁸ and the Caribbean Regional Action Plan for Marine Litter (RAPMALI) that serves as a framework for providing guidance to national and regional actions on addressing marine litter and microplastics. Waste management is a strategic priority identified in the marine litter action plan, and thus the Secretariat promotes integrated waste management approaches in coastal zones and beach clean-ups, while also aiming to control, reduce and prevent wastes at their source. The Caribbean Regional Node for Marine Litter co-hosted by the UNEP/CEP Secretariat was established with support from the GPA and GPML. Under this umbrella, activities/projects on plastics and microplastics have been implemented in the region. A communications strategy for the Caribbean Regional Node was developed and a regional marine litter strategy is under preparation. The Secretariat supports governments in the region on policy and legislative reforms, legislation and policies related to waste, litter and plastics management, and in collaboration with local communities and industry. As such, there is an increased effort by the Cartagena Secretariat as a Regional Seas Programme to partner with the private sector and document best practices and case studies; for example, with the Caribbean Tourism Organization. The Secretariat also supports pilot projects on measuring the levels of microplastics in selected fish species, which aim to better understand the impacts of microplastics on human health. The recently

published State of Marine Pollution Report highlighted the importance of monitoring floating microplastics from sea-based sources. The Secretariat collaborates on marine litter and microplastics issues with UNEP, IMO, GESAMP, FAO, IMO, the International Environmental Technology Centre (IETC), while exploring opportunities to work with UNDP.

Secretariat of the Pacific Regional Environment Programme (SPREP)

addresses marine litter and microplastics in the region through the Marine Litter Action Plan (MLAP; 2018-2025) that is implemented under the wider framework of the Cleaner Pacific 2025. The MLAP outlines the aspirations of the region including banning single-use plastics, polystyrene and other products. SPREP's aim is to implement the objectives of the Action Plan by 2025, with one of the current goals being to have a regional legally binding instrument to address plastic pollution. SPREP has past and ongoing projects on marine litter to include different players from the region to fully implement the MLAP. SPREP also conducts the Pacific Ocean Litter Project (POLP) that complements existing waste management projects in delivering the MLAP. SPREP collaborates with UNEP and other international organizations active in the Pacific region on the issue of marine litter. However, there is currently no collaboration with ESCAP on the same issue.

The International Maritime Organization (IMO)

is the global standard-setting authority for the safety, security and environmental performance of international shipping, as well as the prevention of pollution from dumping of wastes at sea. The majority of conventions adopted under the auspices of IMO or for which the Organization is otherwise responsible fall into three main categories: maritime safety, prevention of marine pollution, and liability and compensation, particularly in relation to damage caused by pollution. IMO adopted an Action Plan on preventing marine plastic litter from entering the oceans through ship-based activities. The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V and the London Convention and Protocol are important IMO instruments in addressing marine plastic litter. In 2015, the London Convention and London Protocol

⁸⁸ <https://www.unenvironment.org/cep/news/editorial/caribbean-addresses-scourge-plastic-pollution-help-cartagena-convention-secretariat>

Contracting Parties completed a review of the state of knowledge with respect to how ship wastes may contribute to the presence of litter. The policy implications of the findings of the review⁸⁹ were discussed by the Contracting Parties in 2016, leading to the adoption of a “Recommendation to encourage action to combat marine litter”. IMO delivers training and workshops on regulation and building capacity in maritime administrations. Together with FAO, IMO has launched the GloLitter Partnerships Project, which is IMO’s first global capacity building project for marine litter. Within this Partnership, IMO will be developing guidance documents, training material and toolkits to help enforce existing IMO regulations, enhance regional cooperation and expand government and port management capacities. IMO promotes inter-agency collaboration in the context of GESAMP for which IMO serves as the secretariat. IMO works with UNEP and the Basel Convention, as well as with FAO on fishing-related waste; bilaterally and through GESAMP in several working groups; and with DOALOS in fulfilling the functions of UNCLOS.

3.2.2 UN PROGRAMMES AND COMMISSIONS SPECIALIZED IN DEVELOPMENT

The United Nations Development Programme (UNDP) oversees a large environmental portfolio, including marine litter and microplastics activities that cover a broad range of areas, including solid waste management, human health, chemicals, mercury and other issues. The UNDP has a vast international water portfolio that includes high seas and marine ecosystems in every major region of the world. The UNDP waste management portfolio includes general solid waste management, hazardous waste and plastics waste management, contributing to reducing the sources and preventing the leakage of plastic waste into waterways and the marine environment. A number of UNDP country offices,

supported by GEF and bilateral donors, work on marine litter. Various national and local projects on marine litter are conducted in collaboration with local stakeholders, NGOs and governments, and in which the focus on plastic pollution is increasing. Examples include the Ocean Innovation Challenge; work through the GEF Small Grants Programme; “Let’s talk plastics” that consolidated input for UNDP’s Global Plastic Offer; and case studies on Extended Producer Responsibility (EPR), among others. The Ocean Innovation Challenge revealed that 90 per cent of the responses of proposals focused on marine plastic. The GEF Small Grants Programme has supported 782 community projects globally for a total grant amount of USD 23 million, focusing on innovative product redesign, community-based solid waste management, awareness-raising, community engagement and a bottom-up approach to policy influence. “Let’s talk plastics” has four sub-thematic areas: Plastics and Oceans, Plastics and Islands, Plastics and Cities, and Plastics and Human Well-Being. UNDP’s ambitions are related to the Ocean Challenge, given its high potential for leverage and replication, and its innovative and transformative nature, including for the topic of marine litter and microplastics. A new UNDP-UNEP-ADB-GEF Pacific islands programme includes plastics-related activities, and UNDP is also involved in marine litter work under the GEF Yellow Sea project being implemented by UNDP and executed by the UN Office for Project Services (UNOPS).

The Office of the United Nations High Commissioner for Human Rights (OHCHR)

considers the potential negative impacts of marine litter and microplastics on the effective enjoyment of human rights, including the rights to culture, health, water and life. OHCHR emphasizes the disproportionate impacts of environmental harm on groups, persons and communities in vulnerable situations. Human rights mechanisms, including special procedure mandate holders appointed by the Human Rights Council, have also engaged on human rights and marine litter. Activities by OHCHR relating to the topic of marine litter and microplastics include: (i) highlighting the importance of addressing the issue from a human rights perspective (impacts on ecosystems, food security,

⁸⁹ http://www.imo.org/en/OurWork/Environment/LCLP/newandemergingissues/Documents/Marine%20litter%20review%20for%20publication%20April%202016_final_ebook_version.pdf

livelihoods, culture and health); (ii) engaging in processes on marine litter, such as marine litter and environmental justice; and (iii) human rights and hazardous substance/toxics. The work that is undertaken on this topic by OHCHR addresses both the marine and terrestrial aspects. Marine litter is also linked to the work on business and human rights, through for example OHCHR's engagement on environmental and social safeguards (including the UN Model Approach to Environmental and Social Standards for UN programming⁹⁰), and the Guiding Principles on Business and Human Rights, as well as standards developed by multilateral development banks and financial development institutions. The work on the human right to a healthy environment and consideration of marine litter and microplastics by the Special Rapporteur on human rights and environment and the Special Rapporteur on human rights and toxics is ongoing. OHCHR collaborates with many actors on human rights and the environment, including civil society, academia and UN entities such as UNDP, UNEP, the UNFCCC Secretariat, and interagency mechanisms such as the EMG, along with regional actors such as UNECLAC, UNESCAP and UNECE.

The United Nations Economic Commission for Africa (UNECA) addresses marine litter and microplastics indirectly through blue and green economy projects that introduce sustainable economic models. The issue of plastic litter has been flagged at all governance levels by a number of African Member States, and marine litter has been flagged specifically in the context of blue economy strategies within the African Union. Regional efforts include banning single-use plastics in Tanzania and Kenya, for example. UNECA implements projects and programmes on the green economy transition for more sustainable patterns of consumption and production, as well as the blue economy, which are linked to marine litter and microplastics. For example, the Commission together with the Green Growth Institute and UNEP is conducting a study in Kenya, Zambia, South Africa, the Ivory Coast and Cameroon

to scale up the potential of the private sector in moving towards green growth, considering the key sectors of agriculture, waste management, energy and forestry. It is expected that this work will activate the reduction, reuse and recycling of plastic waste. Programmes linked to microplastics include waste management is climate change and food security. UNECA is also starting a project on blue economy in Eastern Africa, in which the Commission may provide support in terms of conservation practices linked to reducing marine litter.

The United Nations Economic Commission for Europe (UNECE) is mandated to work on promoting the reduction, prevention and finding solutions to food loss and waste in agricultural supply chains. Addressing food waste, in particular, is indirectly linked to marine litter and microplastics due to plastic food wrapping and the challenge of separating organic and conventional waste. Under a recent UNECE project, food loss and waste were addressed, resulting in the development of a block-chain enhanced smart tool for tracking and tracing food lost along food supply chains, FeedUP@UN, that will be piloted in several countries. Food waste can contain plastic packaging. So far, the Member States have not proposed to include addressing plastics in UNECE's programme of work.

The United Nations Economic Commission for Latin America and the Caribbean (UNECLAC) has developed several initiatives in LAC region in relation to marine litter and microplastics, including on plastics' traceability, the circular economy and the economic implications of single-use plastics. The Commission provides technical assistance in the region, including providing recommendations to Member States on the management of marine litter and microplastics, and is also considering the economic impacts of replacing single-use plastics in the context of the circular economy. The work on plastics' traceability aims at tracing the first entry into the economy in order to determine how much plastic is recycled and how much stays in the environment, with the ultimate objective to diminish the amount of plastic lost and entering the sea. This initiative began in Chile with the goal to expand to other LAC countries, including

⁹⁰ https://unemg.org/wp-content/uploads/2019/07/FINAL_Model_Approach_ES-Standards-1.pdf

those of the Pacific Alliance.⁹¹ The Caribbean sub-regional office is conducting a study on the “Economic Implications of the Ban of Single-Use Plastics on the Economies of the Caribbean”, with a case study of Trinidad and Tobago, that seeks to obtain data on alternatives to single-use plastics. In Small Island Developing States (SIDS) of the Caribbean, UNECLAC’s work on plastics aims at addressing vulnerabilities in relation to solid waste management, including support for establishing legislation on import control⁹² of single-use plastic products by the region. UNECLAC contributes regional content to the Global Report on Climate Change Solutions on oceans, conducted in regard to the status of SDG14, which includes a section on marine litter and microplastics. UNECLAC is also convening a conference with UNEP to discuss green recovery with UNEP’s Plastic Initiative.

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) is mandated to strengthen regional ocean governance and partnerships for the sustainable use of the ocean and the protection of marine ecosystems in the Asia and Pacific region. UNESCAP faces a growing demand from Member States in the region for marine plastic litter and microplastics, and thus has programmes and partnerships that address the issue, leveraging the SDGs as a framework for action. The regional policy recommendations on marine litter at the 76th Commission Session in 2020 covered the plastic waste value chain and led to an intergovernmental resolution on the issue. This mandate strengthens UNESCAP’s work to accelerate regional action for sustainable oceans, including changes in lifestyle for sustainability, waste management regulations, reducing waste-oriented demand, promoting responsible consumption and banning single-use plastics. Technical cooperation projects of UNESCAP focus on solid waste management, including at the municipal level with local government partners. Influencing solid waste management systems to be more circular is UNESCAP’s entry point to action on

marine litter. As such, the “Closing the loop”⁹³ project aims to help increase the collection of plastics in water bodies, and to support the implementation of waste management at the local level. The interest from Asian Member States continues to grow, while in the Pacific, there is recent demand to address the issue of marine litter. UNESCAP partners with the Regional Seas Programme COBSEA on promoting marine litter action plans in the region, as well as working closely with UNEP, the World Bank and UN-Habitat. UNESCAP also has a close relationship with the FAO regional office on the topic of fisheries, as well as with IMO in regard to transport.

The United Nations Economic and Social Commission for West Asia (UNESCWA) supports regional activities on sustainable consumption and production (SCP) in collaboration with the League of Arab States, and in this context indirectly addresses marine litter and microplastics. Efforts include showcasing best practices, reviewing progress and exchanging views on the needs and priorities of the region to promote a shift towards SCP, and encouraging Member States to adopt green technologies. The reports “Comprehensive baseline assessment of regional, sub-regional and national progress and challenges for achieving SCP and the SDGs”, and “Assessment of Sustainable Consumption and Production in the Arab Region 2020”,⁹⁴ prepared by UNESCWA in 2017 and 2020 respectively, provide background information on progress, trends, challenges and best practices on SCP in the Arab region. UNESCWA is undertaking various activities in regard to circular economy, particularly on encouraging the use of green technologies and sustainable waste management in rural areas to enhance resilience to climate change. These initiatives aim to provide policy recommendations/options for integrating circularity into national development and sectoral plans. The intention is to disseminate findings and regional experiences through case studies of concrete circular economy solutions and innovative green technologies relating to natural

⁹¹ The Pacific Alliance is a Latin American trade bloc, formed by Chile, Colombia, Mexico and Peru, all of which border the Pacific Ocean.

⁹² Most of the Caribbean countries are importers (versus manufacturers) of plastics.

⁹³ <https://www.unescap.org/projects/closing-the-loop/>

⁹⁴ https://www.unescwa.org/sites/www.unescwa.org/files/events/files/progress_scp_arab-region.pdf

resources management. As such, in light of the need for increasing transboundary cooperation in regard to waste management, UNESCWA is currently collaborating with UNECE on a project on “Managing Food Loss and Waste”. UNESCWA has initiated preliminary collaboration discussion with UN-Habitat on the development of a project proposal on “Enhancing environmental collaborations between cities Waste Wise Cities (WWC) – Lebanon Chapter”, that is still in the pipeline. UNESCWA has also explored potential collaboration with UNEP/MAP and UNECE on the development of a joint project on “Enhanced regional knowledge and experience sharing for waste reduction in the Mediterranean”.

3.2.3 NON-UN ORGANIZATIONS SPECIALIZED IN ENVIRONMENT AND DEVELOPMENT

The International Union for Conservation of Nature (IUCN) works on the issue of marine litter from the perspective of its impact on biodiversity and ecosystems. It takes a multifaceted approach in assessing plastic leakage and guidance on policy options, as well as supporting action to address plastic leakage at national, sectoral and community levels. IUCN undertakes ‘Hotspot Analyses’ including detailed assessments of where the hot spots are in terms of production of plastic, type of plastics, geographical areas, type of management system and location. The information gathered through the ‘Hotspot Analysis’ is used to engage with different sectors of society and to promote circular economy initiatives. IUCN also engages with business and business actors, using the hotspot analyses to explain how plastic affects their activities or how their activities affect the generation of marine litter and microplastics. IUCN focuses on sectors such as waste management, fisheries and tourism, with the objective to understand plastic flows and find appropriate policy solutions. IUCN has projects on marine litter in Africa, Asia and the Pacific and the Caribbean focused on these three issues. Two current major projects are: “Marine plastic and coastal

communities” that focuses on countries in Africa and Southeast Asia; and “Effective quantifiable solutions to address plastic leakage from SIDS” that conducts holistic regional assessments in Africa. IUCN provides guidance to change negative business practices and find ways to use the portions of plastics that cannot be recycled, ensuring that different stakeholders are engaged in the process. Marine litter is a topic of growing ambition at IUCN, with three main foci: knowledge and science-based data to inform decision-making; building capacities on regional and national levels to implement action; and supporting different sectors such as civil society and business in taking action. IUCN exchanges information on the topic of marine litter with various UN entities, mainly at the country level.

The Organisation for Economic Co-operation and Development (OECD)

works on land-based sources of marine plastics from the perspective of waste management for plastic waste as well as upstream measures. The Environment Directorate of OECD has been leading science-based projects and initiatives on marine litter and microplastics involving interactions between Member States, partner countries, NGOs and the private sector. The Working Party on Resource Productivity and Waste (WPRPW) works with plastics from the perspective of closing the loop on resource use led by waste management experts. The OECD recently prepared a background paper “Towards G7 Action to Combat Ghost Fishing Gear”.⁹⁵ Under the programme “Plastics in the environment”, the OECD has developed a number of thematic projects, including work on policies to strengthen markets for recycling plastics⁹⁶ and on the effectiveness (including economic efficiency) of policies to address and reduce single-use plastics.⁹⁷ The OECD also has a workstream at the interface of chemicals and waste management where it looks into the design of sustainable plastics from a chemicals perspective, with a focus on

⁹⁵ <https://www.oecd-ilibrary.org/docserver/a4c86e42-en.pdf?expires=1626682478&id=id&accname=guest&checksum=D55388DFF6E1E8DF300C30978D1A1008>

⁹⁶ <https://www.oecd.org/environment/improving-markets-for-recycled-plastics-9789264301016-en.htm>

⁹⁷ <https://www.oecd.org/environment/preventing-single-use-plastic-waste-c62069e7-en.htm>

Coordinating Ministry for Maritime Affairs and Investments, the Association of Southeast Asian Nations (ASEAN), the COBSEA, and the UNESCAP, has also held a series of regional policy dialogues in Southeast Asia to enhance regional co-operation, policy coherence and sustainable financing solutions to address and prevent marine plastics pollution.¹⁰² OECD is a member of UNEP's Sustainable Blue Economy Finance Initiative (FI), wherein future collaboration could include financing to reduce marine plastics pollution.

¹⁰² <https://www.oecd.org/environment/2ndregionaloceanpolicydialogue-financingsolutionstoaddressmarineplasticpollutioninsouth-eastasia.htm>



3.3 Agriculture and Labour

The Food and Agriculture Organization of the United Nations (FAO) addresses all aspects of food production and consumption, including marine plastic litter originating from the agriculture and fisheries sectors and microplastics' impacts on seafood quality. FAO has a long record of working on sea-based sources of marine litter such as ALDFG,¹⁰³ which includes supporting the implementation of the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) through the Work Plan¹⁰⁴ on [Responsible fishing operations](http://www.fao.org/responsible-fishing/marking-of-fishing-gear/aldfg/en/). FAO is an executing partner in the "GloLitter Partnership Project" jointly with IMO, with FAO focusing on marine plastic litter from the fisheries sector. FAO has a permanent seat on the Steering Committee of the GPML and is an observer to the

IMO's Marine Environment Protection Committee (MEPC). FAO and IMO co-host the GESAMP Working Group 43 on Sea-based Sources of Marine Litter, which reports to the MEPC and the Committee on Fisheries. The FAO-Norad EAF Nansen Programme¹⁰⁵ is a capacity-building initiative to support sustainable fisheries through an ecosystem approach in 32 partner countries in Africa and Asia, taking account the impacts of marine pollution and climate variability. Part of EAF Nansen work on marine pollution builds on findings of a review on "microplastics in fisheries and aquaculture"¹⁰⁶ that took stock of scientific knowledge available until 2016. The review helped to raise awareness and conduct outreach to fisheries and aquaculture operators, scientists and policymakers to

¹⁰³ <http://www.fao.org/responsible-fishing/marking-of-fishing-gear/aldfg/en/>

¹⁰⁴ <http://www.fao.org/3/ne659en/ne659en.pdf>

¹⁰⁵ <http://www.fao.org/in-action/eaf-nansen/background/history/en/>

¹⁰⁶ <http://www.fao.org/3/i7677e/i7677e.pdf>

sensitize them to the issue of microplastics.¹⁰⁷ In 2020, the organization established an inter-departmental Working Group on Agricultural Plastics and Sustainability to ensure a coordinated, comprehensive and harmonized approach in FAO's programming and operations to agricultural plastics. As part of the initiative, FAO is developing an assessment of plastics used in agricultural and food system value chains with the aim to identify policy measures, innovations and best practices that can improve their circularity and reduce their potential for pollution. Finally, FAO is developing a background document compiling information on the occurrence of microplastics in food chains and the toxicity of plastic materials and packaging. FAO also provides the secretariat for the Global Soil Partnership where in the context of increasing attention to soil pollution, microplastics has been selected as a focus topic in 2021. The Global Assessment of Soil Pollution, published in June 2021, includes assessments of the sources, causes, extent and impact of plastic and microplastic pollution in soil around the globe, together with options for its mitigation and remediation.¹⁰⁸

The International Labour Organization (ILO) is the only tripartite UN agency. Since 1919, the ILO brings together governments, employers and workers of 187 member States, to set international labour standards, develop policies and devise programmes which promote decent work for all women and men. The unique tripartite structure of the ILO gives an equal voice to workers, employers and governments to ensure that the views of social partners [that is, employers' and workers' organizations] are closely reflected in international labour standards and

in shaping policies and programmes. In relation to marine litter and microplastics, ILO deals with waste management, e-waste management and the sound management of chemicals. Marine litter and microplastics are viewed in the context of the circular economy and a just transition towards environmentally sustainable economies and societies for all. Marine litter and microplastics are hazardous to millions of working people. The ILO recognizes that it is important to gauge the number of decent jobs created in the management of marine litter and microplastic hazards.¹⁰⁹ With respect to marine litter and microplastic, ILO works globally, with an emphasis on the Asian and Pacific regions, focusing on promoting decent work at the country level. Marine litter and microplastics are expected to be included in activities at ILO. The organization works with UN agencies such as IMO, ITC, FAO, UNIDO, UNDP, UNEP, and intergovernmental agencies on waste management.

The World Food Programme (WFP) aims to ensure that packaging used for food products maintains food safety and quality when supplied and used as part of humanitarian assistance. As such, WFP looks at the sourcing of the material for packaging food (size, fitness, prevention from contamination et cetera) with the objective to optimize and use eco-friendly packaging. The organization works directly with food manufacturers, but not with packaging suppliers. The WFP Environmental Unit works on managing solid waste as well as packaging waste that the organization produces, aiming to ensure that packaging waste is collected and managed as part of its operations.

¹⁰⁷ <http://www.fao.org/fishery/nems/41176/en>

¹⁰⁸ <http://www.fao.org/documents/card/en/c/cb4894en>

¹⁰⁹ <https://www.unwater.org/publications/world-water-development-report-2016/>



3.4 Business, Trade and Life-cycle

The United Nations Human Settlements Programme (UN-Habitat) focuses on advancing solid waste management in human settlements by developing methodologies (for example for rapid assessments), advocacy and education, as well as establishing project streamlines on the issue. UN-Habitat works with UNEP to establish monitoring methodologies for waste-related SDG targets and is the custodian agency for SDG indicator 11.6.1, which measures the proportion of municipal solid waste collected and managed in controlled facilities in cities. Expert Group Meetings were organized in 2018 and 2019, the results of which were summarized by UN-Habitat into a draft monitoring methodology with pilot activities in Kenya and the Seychelles. This resulted in the *Waste Wise Cities Tool: Step-by-Step Guide to Assess a City's Municipal Solid Waste Management Performance through SDG indicator 11.6.1*

Monitoring. In parallel, UN-Habitat launched the Waste Wise Cities Campaign on World Habitat Day in 2018, which in 2020 became the *Waste Wise Cities* programme. Thus far, 200 cities from around the world have joined the programme and committed to improving their municipal solid waste management. UN-Habitat works with various partners in the waste sector and on marine litter including UNEP, UNESCAP and the Climate & Clean Air Coalition (CCAC) waste initiative. For example, UN-Habitat conducted a study with UNEP to identify 50 marine litter hot spots in Africa and South Asia and is currently identifying marine litter hot spots in the East Asian Seas Region as well as globally.

The United Nations Industrial Development Organization (UNIDO) addresses marine litter from the perspective of the circular economy and

industry practices.¹¹⁰ The organization has a direct mandate to promote and accelerate Inclusive and Sustainable Industrial Development, which includes a contribution to responsible consumption and production (SDG 12) and climate action (SDG 13), among other SDGs. As such, the organization mainly works with governments and industries through capacity building and technology transfer to encourage the adoption of circular economy practices, including product design for reduction, reuse, redistribution and recycling, with the aim to create enabling environments for minimizing waste. In this context, UNIDO is implementing four projects on the plastic circular economy in Bangladesh, Egypt, Ghana, and South Africa, as well as regional studies in Egypt, Nigeria and Kenya.¹¹¹ Projects addressing marine litter and microplastics through the promotion of circular economy practices are relatively new and still under implementation. Currently, UNIDO works with IAEA on marine litter and microplastics in Ghana, and with UNEP in South Africa on waste management.

The World Trade Organization (WTO) ensures that trade flows as smoothly, predictably and freely as possible, helping countries to achieve sustainable development. There is a growing interest by WTO members to discuss the trade-related aspects of environmental sustainability and related issues such as how trade policy can help address plastic pollution and establish a global circular economy.¹¹² For instance, WTO is looking into how a process on trade and plastics via multilateral agreements can complement ongoing efforts to combat plastic pollution, including marine litter. WTO has identified several areas to engage on the issue of plastic pollution and marine litter in relation to trade. Specifically, the Committee on Trade and Environment holds discussions with members on aspects of the relationship between trade and marine litter, including national experiences and regional

and global efforts. While this Committee takes into consideration both the trade and environmental dimensions of plastics, other committees of WTO may consider plastics in regard to specific trade measures, such as licensing requirements or technical regulations and conformity assessment procedures. The Aid for Trade initiative could potentially focus on trade aspects related to combatting marine litter. WTO Members have discussed extensively the trade aspects of the Ocean Economy with a focus on fisheries.¹¹³ In 2017, WTO members adopted an agreement on fisheries subsidies that delivers on SDG 14.6, potentially providing an entry point for future interactions in the field of marine litter and plastics. In terms of collaboration, WTO partners with the BRS Secretariat, CITES, UNEP and UNFCCC. WTO coordinates the Informal Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade (IDP).¹¹⁴

The United Nations Conference on Trade and Development (UNCTAD)

addresses plastic litter from the perspective of trade and development, with the aim to ensure that relevant economic sectors and value chains produce in a sustainable manner. UNCTAD's two main marine litter-related activities are the Sustainable Manufacturing and Environmental Pollution (SMEP) programme and the Ocean Forum. SMEP includes components on improving sustainable production, as well as research and technical solutions to prevent plastic litter pollution, and consensus building by communicating the interests of developing countries in international fora. Within the workstream on improving sustainable production, UNCTAD commissioned a study to map manufacturing pollution in Africa and Asia, focusing on case studies in Bangladesh, Kenya and Nepal. The issue of marine litter has also been raised at the Ocean Forum. An Inter-Agency Plan of Action on food production between UNCTAD, FAO and UNEP includes a plastics and circular economy component. UNCTAD partners with agencies involved in the

¹¹⁰ https://www.unido.org/sites/default/files/files/2019-06/UNIDO_Addressing_the_challenge_of_Marine_Plastic_Litter_Using_Circular_Economy_0.pdf

¹¹¹ Links to these projects and funding partners can be seen in Annex 3.

¹¹² https://www.wto.org/english/news_e/news20_e/envir_03jul20_e.htm

¹¹³ WTO Members launched negotiations on fisheries subsidies in 2001, with a mandate to "clarify and improve" existing WTO disciplines.

¹¹⁴ https://www.wto.org/english/news_e/archive_e/ppesp_arc_e.htm

Ocean Forum including FAO, UNECE and UNEP, and with DOALOS on developing Oceans Economy and Trade Strategies. The ambition is to raise the issue of marine litter and plastics at the national level to sensitize trade negotiators to UNCTAD's findings on plastics.

The International Trade Centre (ITC) works with Small- and Medium-sized Enterprises (SMEs) on the international value chain and sustainability, addressing trade-related issues such as climate change, environment, e-commerce and gender. ITC addresses marine litter and microplastics through projects with developed methodologies on waste management, implementing resource efficiency strategies, and strengthening climate resilience of SMEs in different sectors of relevance to plastics. ITC has developed methodologies for resource efficiency that concern chemical and other types of waste at the source. The Trade for Sustainable Development programme (T4SD) is ITC's main sustainability-related trade initiative related to marine litter and microplastics, mainly aimed at enterprises including farmers and institutions. Most of the ITC's work focuses on the agricultural and textile sectors, but activities also cover services, e-commerce and tourism.¹¹⁵ ITC works with several cooperatives that are in contact with thousands of producers upstream in different sectors in the Caribbean, West Africa and Asia. ITC has collaborated with ILO and UNEP on a project proposal on waste management, and was subcontracted by UNEP to deliver training on SCP in China in 2017 for SMEs and policy-makers. The agency works on capacity building with WTO and is part of the UN E-waste Coalition where it collaborates with *inter alia* the BRS.

The United Nations Global Compact (UN Global Compact) mobilizes a global movement of sustainable companies and stakeholders and supports companies to do business responsibly by aligning their strategies and operations with the Ten Principles on human rights, labour and environment; and to take strategic actions to advance broader societal goals, such as the SDGs with an emphasis on collaboration

and innovation. The entity has a mandate to ensure a healthy ocean and as such launched the Sustainable Ocean Principles¹¹⁶ in 2019, and in 2020 published "Blue Bonds: Reference paper for investments accelerating sustainable ocean business".¹¹⁷ Its work related to marine litter mostly concerns the shipping sector, including green ships¹¹⁸ and responsible ship recycling standards for the shipping industry. The current focus of the Action Platform for Sustainable Ocean Business in regard to marine litter is two-fold: (i) run-off to the sea (nutrients) and (ii) plastic waste. In terms of concrete initiatives, the UN Global Compact is involved in the Water Action Hub to address water risk and advance sustainable water management (SDG 6); is a strategic partner to the IMO-FAO GloLitter Partnership Project addressing marine litter in the fisheries and shipping sectors; and has participated in the planning of the UN Ocean Conference. The UN Global Compact recognizes that a greater effort should be devoted to both the circular economy and a more holistic view on the issue of marine litter.

The United Nations World Tourism Organization (UNWTO) addresses marine litter in the context of the Global Tourism Plastics Initiative. The Initiative, launched in January 2020, is led by UNWTO and UNEP in collaboration with the Ellen MacArthur Foundation. It provides a global framework for action structured around a common vision and commitments to address the root causes of plastic pollution and drive the tourism sector towards a circular economy of plastics. The initiative is aligned with the New Plastics Economy Global Commitment. Tourism destinations (governments), businesses and associations can become signatories. In July 2020, the initiative released "Recommendations for the Tourism Sector to Continue Taking Action on Plastic Pollution During the

¹¹⁶ <https://www.unglobalcompact.org/take-action/ocean>

¹¹⁷ Blue Bonds aim at delivering financing to cover the broad scope of environmental, social and economic issues facing the sector, relating to all SDGs, not only those relating to climate. <https://ungc-communications-assets.s3.amazonaws.com/docs/publications/Blue-Bonds-Reference-Paper-for-Sustainable-Ocean-Investments.pdf>

¹¹⁸ A green ship is one that is made up of recycled and refurbished parts, or is run off of renewable energy.

¹¹⁵ ITC does not cover manufacturing, which is a domain of UNIDO.

COVID-19 Recovery”,¹¹⁹ which call for the alignment of hygiene and health protocols with sustainability criteria. Additionally, UNWTO is the lead for the Sustainable Tourism Programme of the One Planet network,¹²⁰ an implementation mechanism for SDG 12 on SCP that also contributes to SDGs 13, 14 and 15, respectively on climate action and the protection of marine and terrestrial resources.

The United Nations Office for Project Services (UNOPS) addresses the topic of litter and microplastics in their in-house management and their programmes and projects by applying best practices and innovative solutions of integrated solid waste management. The in-house environmental management system encourages the minimization of single-use plastics, while waste management is applied in projects implemented/administered by UNOPS. The entity contributes to the reduction

of plastic and other waste generation through its corporate principle to have a limited environmental footprint. UNOPS has a Health, Safety, Social and Environmental (HSSE) Policy in place, and all programmes, projects and facilities globally are obliged to comply with this policy. In addition to environmental policies and guidance set at headquarters, some country offices have developed standard operating procedures at the country level to expand and enhance sustainable practices. Measures including the prevention of waste generation, the use of alternatives to plastics and inclusive green jobs generation. These are mainstreamed in all activities of UNOPS, along with guidance on minimum waste management requirements in line with international standards and best practices in all projects. UNOPS also promotes green jobs generation through a shift in recycling activities and collaborates with UN entities on environmental sustainability management.

¹¹⁹ <https://www.oneplanetnetwork.org/sustainable-tourism/recommendations-plastic-pollution-and-covid-19>

¹²⁰ <https://www.unwto.org/sustainable-development/one-planet>



3.5 Health and Sanitation

The World Health Organization (WHO) considers marine litter and microplastics in terms of their impacts on human health. WHO has focused on environmental exposure to microplastics, with the publication of a report on microplastics in drinking water.¹²¹ The report provides an overview on the occurrence of microplastics in freshwater environments as well as in drinking water, the potential human health aspects of microplastics in terms of particle toxicity, chemical toxicity and biofilms, and assessed the potential risks considering exposure and toxicity. More recently, WHO has been assessing the broader human health implications of exposure to microplastics in the environment including food and air. The related report is expected to be published in Q2/Q3 2022. In addition, WHO updated the guidelines on recreational water quality,

published in 2021. The document focuses on public health aspects of bathing water quality; the updated guidelines will include reference to microplastics as an emerging issue, and to marine litter as a nuisance and aesthetic issue. WHO is connected to entities working on marine litter and microplastics through meetings and partnerships such as GESAMP; FAO is kept updated about WHO's broader work on microplastics.

The United Nations Children's Fund (UNICEF) deals with marine litter and microplastics in the context of its work on health, water and sanitation, and on children and sustainability more broadly. The topic of marine litter and microplastics is fairly new for UNICEF and there is a need to better understand how the organization could further support joint efforts to address the challenge. UNICEF's current work on marine litter and microplastics focuses mostly on *ad hoc* awareness-raising and recycling

¹²¹ <https://www.who.int/publications/i/item/9789241516198>

efforts such as a beach cleaning campaign in Libya and raising awareness about hazards of plastic in the environment more generally. UNICEF is also considering to prepare an information factsheet on the issue of marine litter and microplastics. The issues of climate and environment are part of the strategic plan of UNICEF, and there is the intention to strengthen this work. UNICEF is in the process of preparing a framework on environmental health, in which microplastics may be included. UNICEF has an ambition to contribute to research and evidence on how marine litter and microplastics affect children's health, with the possibility to facilitate some of the work of other technical UN agencies, including dissemination globally.

The United Nations Office on Drugs and Crime (UNODC) assists Member States in better addressing a coordinated, comprehensive response to the interrelated issues of illicit trafficking and abuse of drugs, crime prevention and criminal justice. UNODC is undertaking work of relevance to marine litter in three workstreams: (i) the Programme by the UNODC's Laboratory and Scientific Section (LSS) on the safe handling and disposal of chemicals, including chemical waste that is generated from drug production and is being burned or dumped directly in the environment; (ii) the Global Maritime Crime Programme (GMCP) that addresses transnational organized crime that occurs at sea and that supports Member States in tackling maritime environmental crime including pollution, oil spill and fisheries crime; and (iii) the UNODC-World Customs Organization (WCO) Container Control Programme (CCP) that works with Member States to enhance their capacity to detect illicit goods in cargo containers at sea, land and

airports, including plastic and hazardous waste. LSS provides information to make appropriate legislation and policy, raises awareness of the transnational problem of chemicals, develops a series of manuals and guidelines to support forensic laboratories and law enforcement, and trains officers and organs for labelling and handling dangerous toxins from synthetic drugs, biological hazards and/or chemical weapons. GMCP provides support to Member States in maritime domain awareness including the use of satellite technology, and capacity building in maritime law enforcement including patrolling and inspections. In 2020, GMCP conducted an assessment on existing frameworks of Transnational Organized Maritime Environmental Crime (TOMEC), to better understand how the programme can support Member States in tackling environmental crime in the maritime domain as well as enhance the governing and patrolling of Marine Protected Areas (MPAs). In 2020, CCP launched a technical assistance programme to enhance frontline level customs and law enforcement officers' capacity in profiling, targeting and examining suspicious cargo containers in the context of plastic and hazardous waste. In 2021, UNODC Global Programme for the Implementation of the Organized Crime Convention worked on the development of a legislative guide to support States in strengthening their legislative framework against waste trafficking, including illegal disposal of waste. It delivers technical assistance to countries that wish to draft, amend or review relevant national legislation. UNODC collaborates with WHO, Interpol, World Customs Organization, Universal Postal Union, among other international organizations.



3.6 Research and Training

The International Atomic Energy Agency (IAEA) addresses the ‘downstream’ side of marine plastic pollution by developing and utilizing a suite of nuclear and derived technologies to assess the fate and biological consequence of microplastic particles in the ocean. This is achieved using experimental aquaria and target marine animals, such as fish, coral, crustaceans and mollusks. New methods and findings are conveyed to Agency Member States in an information exchange facilitated by the Technical Cooperation programme of the IAEA. The IAEA’s Marine Plastics project is one component of how the Agency is addressing Ocean Change, which includes projects on eutrophication, pollution, ocean acidification, warming and deoxygenation. As the only marine laboratory in the UN System, the IAEA works closely with its sister UN agencies to address marine, environmental and climate change impacts studies. The IAEA is an official partner to the IOC-UNESCO Decade

of Ocean Science for Sustainable Development and thus supports its Member States in their work on the UN’s 2030 Agenda.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

in its Global Assessment of Biodiversity and Ecosystem Services (2019)¹²² refers to marine litter and microplastics in certain chapters. Chapter 2 in particular addresses water quality, including marine water quality, along with agricultural causes, solid waste effects including plastic waste production and flow into global oceans. Two key messages (4 and 5) also focus on the issue of marine litter and microplastics, particularly the increasing quantities of plastics and their impacts on the oceans. Direct drivers, aquaculture and pollution, future impacts of

¹²² <https://ipbes.net/global-assessment>

pollution on marine ecosystems, regional examples of pollution, and pollution impacts on terrestrial ecosystems are also addressed.

The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)

is a group of independent scientific experts that provides advice to UN organizations on scientific aspects of marine environmental protection. GESAMP delivers milestones, guidance and reports, regularly publishing these on its website. Two working groups (WG) specifically address the topic of marine litter and microplastics: WG-40 and WG-43. WG-40 on “Plastics and microplastics in the ocean” (led by IMO, UNEP, UNESCO/IOC) has published three reports¹²³ providing a global overview of sources of plastics/microplastics in marine environments, and harmonizing methodologies to assess and monitor marine litter. The last published report of WG-40 deals with the risks associated with plastics and microplastics in the marine environment.¹²⁴ This WG contributes to UNEA and the AHEG. WG-43 on “Sea-based sources of marine litter” (co-chaired by FAO and IMO) was created in 2019 to better understand sea-based sources of litter in order to guide the work of FAO and IMO in this area. Other working groups of GESAMP are also of relevance to marine litter, including WG-42 on mining waste in the marine environment (IMO, UNEP), WG-39 on coastal pollutants (IAEA) and WG-41 on marine geo-engineering and atmospheric inputs of pollutants to the ocean (IMO, IOC, WMO). GESAMP supports the core team of several UN agencies¹²⁵ that co-lead the expert group to work jointly on the issue of marine litter and microplastics in respective working groups. GESAMP has been involved in the planning of the UN Decade of Ocean Science for Sustainable Development, providing inputs on request to UNESCO/IOC.

The World Meteorological Organization (WMO)

collaborates with GESAMP WG-38 (Atmospheric Input of Chemicals to the Ocean) and WG-41 (Marine Geo-engineering) on marine litter and microplastics. Outside of this collaboration, the organization has not yet addressed marine litter and microplastics, as this is not within the direct scope of WMO’s mandate. An assessment report published by the GESAMP WG-38 concluded that approximately 50 per cent of excessive nitrogen in the ocean comes from the atmosphere by direct deposition, suggesting that the feed of microplastics into oceans via atmospheric transport and deposition may be similar. Following the preliminary work by WG-38, WMO may become engaged in the topic of microplastics and begin to play a role in understanding transportation of microplastics by air, building on its expertise in atmospheric transport modeling.

The Intergovernmental Oceanographic Commission of UNESCO (UNESCO/IOC)

complements the work of other UN technical agencies specialized in environmental issues through its focus on ocean science and research,¹²⁶ including research on aspects of marine litter and microplastics. Marine litter management is an element of a larger scope of work addressed by IOC. Within GESAMP WG-40, IOC supports the development of guidelines covering terminology and methodologies for the sampling and analysis of marine macroplastics and microplastics. Additionally, IOC has engaged in the assessment of the significance of plastics and microplastics as vectors for indigenous and non-indigenous organisms. IOC co-sponsored the International Symposium on Plastics in the Arctic together with UNEP in the context of the UN Decade of Ocean Science. IOC considers the UN Decade of Ocean Science for Sustainable Development as an opportunity to launch coordinated initiatives among UN agencies and other stakeholders, considering that the Decade will be addressing multi-stressors including climate change and marine litter. In this regard, marine litter can be considered in a

¹²³ <http://www.gesamp.org/site/assets/files/1720/rs90e.pdf>
<http://www.gesamp.org/site/assets/files/1720/rs93e.pdf>
<http://www.gesamp.org/publications/guidelines-for-the-monitoring-and-assessment-of-plastic-litter-in-the-ocean>

¹²⁴ <http://www.gesamp.org/site/assets/files/2136/rs103e-1.pdf>

¹²⁵ DOALOS, FAO, IAEA, IMO, IOC, UNEP, WHO and UNIDO.

¹²⁶ Most of these agencies have the mandate to work with science in an applied science approach; however, IOC is the only agency with a mandate on ocean research.

broader context of understanding and assessing the ecosystem effects of multiple stressors (the cumulative effects and interactions). IOC participates in GESAMP and partners with the involved entities. In the future, IOC could potentially focus on observation systems in relation to marine litter.

The United Nations Office for Outer Space Affairs (UNOOSA) offers capacity building on space-based solutions for Member States, including on Earth observation, through collaboration with countries or country groups with specific needs through long-term projects. UNOOSA has various programmes and projects of relevance to marine litter and microplastics. *Space Solutions for the Pacific* is a project to support small island states in the Pacific in accessing technologies for their own priorities,

such as coastal and marine management (illegal fisheries). In the project “*Space4Water*”, UNOOSA, with support from the Prince Sultan Bin Abdulaziz International Prize for Water, provides a platform on space applications in addressing water scarcity and water quality, among other water-related issues. In the *Space4Health* project, UNOOSA works on space applications for global health including issues such as air quality and water pollution that has led to cross-sectional projects and a collaboration with WHO. The Office is willing to explore more activities on marine pollutants and land-based sources of pollution. UNOOSA collaborates with the Atlantic International Research Centre in Portugal, which focuses on monitoring the Atlantic Ocean, including the problem of microplastics. UNOOSA does not work with other UN agencies on marine litter-related topics.



3.7 Funding and Financial Mechanisms

The Global Environment Facility (GEF) is the financial mechanism for a series of programmes and work that address multilateral environmental conventions. Consequently, the GEF is committed to meeting its obligations to the conventions and its mandate is tied to various activities related to plastics; for example, POPs reductions from plastic mismanagement (the Stockholm Convention). The GEF operates through thematic focal areas with a direct mandate to focus on marine pollution, including chemicals and waste, and international waters, not tied to any specific convention. To date, marine litter has primarily been indirectly addressed through investments under the Chemicals and Waste Focal Area due to linkages with convention agreements on POPs and hazardous chemicals. Starting in GEF-5 (2010-2014) projects to reduce the release of POPs from the manufacturing of plastics and unsound waste management and

recycling practices were funded, including in the Philippines,¹²⁷ Indonesia¹²⁸ and the Caribbean.¹²⁹ In GEF-6 (2014-2018), a more upstream approach was taken in a global project to support green chemistry with the objective to reduce the use of hazardous chemicals throughout the industrial life cycle.¹³⁰ To more directly address marine litter, the GEF endorsed a US \$2 million investment to build a global alliance across the entire plastics value

¹²⁷ <https://www.thegef.org/project/integrated-pops-management-project-dioxins-and-furans-pcb-and-contaminated-sites-management>

¹²⁸ <https://www.thegef.org/project/reducing-releases-pbdes-and-upops-originating-unsound-waste-management-and-recycling>

¹²⁹ <https://www.thegef.org/project/development-and-implementation-sustainable-management-mechanism-pops-caribbean>

¹³⁰ <https://www.thegef.org/project/guidance-development-and-case-study-documentation-green-chemistry-and-technologies>

chain,¹³¹ including major plastic-producing and plastic-using corporations, as well as governments and processing companies; identify and socialize waste management solutions among APEC countries; and advise on opportunities for GEF investments based on stocktaking analysis of existing initiatives, areas of need and the drivers and leverage points for investments along the marine litter life cycle. In GEF-7 (2018-2022), the GEF is building on previous investments, analyses and partnerships to address the life cycle of marine plastics with targeted interventions that emphasize circular solutions, public-private partnerships and on-the-ground investments. GEF-7 includes the target to avoid 50,000 tonnes of plastics entering the ocean, which has already been met. The GEF collaborates with the Global Plastic Action Partnership (GPAP) by co-financing projects in Ghana, Indonesia and Southeast Asia, which are led by UNIDO and the Asian Development Bank (ADB). It is also funding a marine litter/plastic-related project in the LAC region in collaboration with UNEP. Other projects that address marine litter and plastic pollution include the Circular Economy Regional Programme Initiative (Near Zero Waste)/ EBRD - US\$18 million.¹³² Future plastic-related project interests will be considered as part of the GEF-8 (2022-2026) replenishment negotiations. The GEF Science and Technical Advisory Panel (STAP), an independent group of scientists advising the GEF, publishes on plastics and the circular economy.¹³³

The International Fund for Agricultural

Development (IFAD) is an international financial institution supporting developing countries in designing projects related to agriculture, aquaculture and fisheries, through which it addresses agricultural waste. Activities of IFAD include supporting fishermen and aquaculture practitioners, investing in technologies, and developing certain services and infrastructures that are required across the value chain, including the upgrading of fishing gear. IFAD's projects, which are often co-founded by other entities, provide support to Member States for instance on fish production, strengthening capacity and providing governments with the equipment to enable monitoring, control and surveillance. Most of IFAD's projects are located in Asia and Africa and to some extent in Latin America. Currently, a project in Tanzania focusing on the marine sector and inland aquaculture is under preparation. In the agriculture sector, IFAD focuses on the production value chain. IFAD addresses waste management as a key focus of sustainable production systems linked to agricultural systems and marine litter and microplastics. Its fisheries and aquaculture portfolio is one of its youngest, but also one of its fastest-growing, and there are plans to include plastics and microplastics in its work and projects. IFAD works with FAO mainly in the fishery sector, while FAO assists IFAD in designing the technology side of production.

For **the World Bank**, marine litter and pollution is a focus area, and the organization is involved in related activities around the world. The World Bank addresses marine litter in a comprehensive way in collaboration with both governments and the private sector. The organization has developed an approach to tackling marine litter from the perspective of the entire life cycle and circular economy. The World Bank's activities on marine litter cover a broad range of SDGs, from sustainable industries and cities to water and climate. They also involve collaboration with the International Finance Corporation (IFC) to engage with the private sector along the entire plastics' value chain, from scaling up innovations on material design to recycling, helping to develop new business models that avoid plastic becoming waste. The focus of the World Bank's activities on marine

¹³¹ <https://www.thegef.org/project/addressing-marine-plastics-systemic-approach>

¹³² <https://www.thegef.org/project/circular-economy-regional-programme-initiative-near-zero-waste>

¹³³ <https://www.thegef.org/sites/default/files/publications/PLASTICS%20for%20posting.pdf>

litter and microplastics depends on country-specific entry points. A key part of the World Bank's Blue Economy approach is the PROBLUE Program that addresses all areas of the blue economy, including the prevention of marine litter and microplastics as well as improved fisheries governance, oceanic sectors and integrated seascapes. As of June 2020, PROBLUE funded over 45 activities in all regions to support World Bank's client countries in their efforts

to address marine plastic pollution. The World Bank also develops critical global analytical tools to help governments make informed and strategic policy and investment decisions. The World Bank organizes regional workshops in collaboration with UNEP's RSPs. Collaboration also takes place at the country level, where the UN entities' country teams and the World Bank teams interact without formal partnerships in place.

4. Analysis of UN System Activities on Marine Litter and Microplastics



This chapter presents an analysis of the information collected during the mapping effort, based on consultations and survey submissions, as well as the web pages and reports of UN entities. It explains the findings about the concentration of efforts to address marine litter and microplastics in the UN System, and it identifies gaps, areas of synergy and opportunities for further cooperation.

As shown in Table 1 of Chapter 2 (Key International Instruments, Processes and UN Entity Mandates) and Chapter 3 on the relevant activities of UN entities, numerous UN and related entities are involved in efforts on marine litter and microplastics by:

- supporting the development of **regulatory frameworks and policies at global, regional and national levels**;
- providing **technical assistance to Member States**, both national and sub-national

government entities, through assessments; the development of national policies, strategies and action plans; guidance; collaboration on technology and innovation; capacity-building and training; education mentoring and financing; and

- working with **industry and businesses** in joint efforts for advancing solutions in various sectors, raising awareness on the issue of marine litter, and providing guidance and recommendations.

These efforts are pursued in various areas, as visualized in Figure 5, including in marine (downstream) and terrestrial (upstream) domains; from environmental and economic perspectives; from product generation to the discharge of litter into the oceans in terms of drivers, pressures and impacts, and responses; and the provision of regulatory frameworks and technical assistance. As such, UN efforts aim at various stages of the product life cycle through entry points and

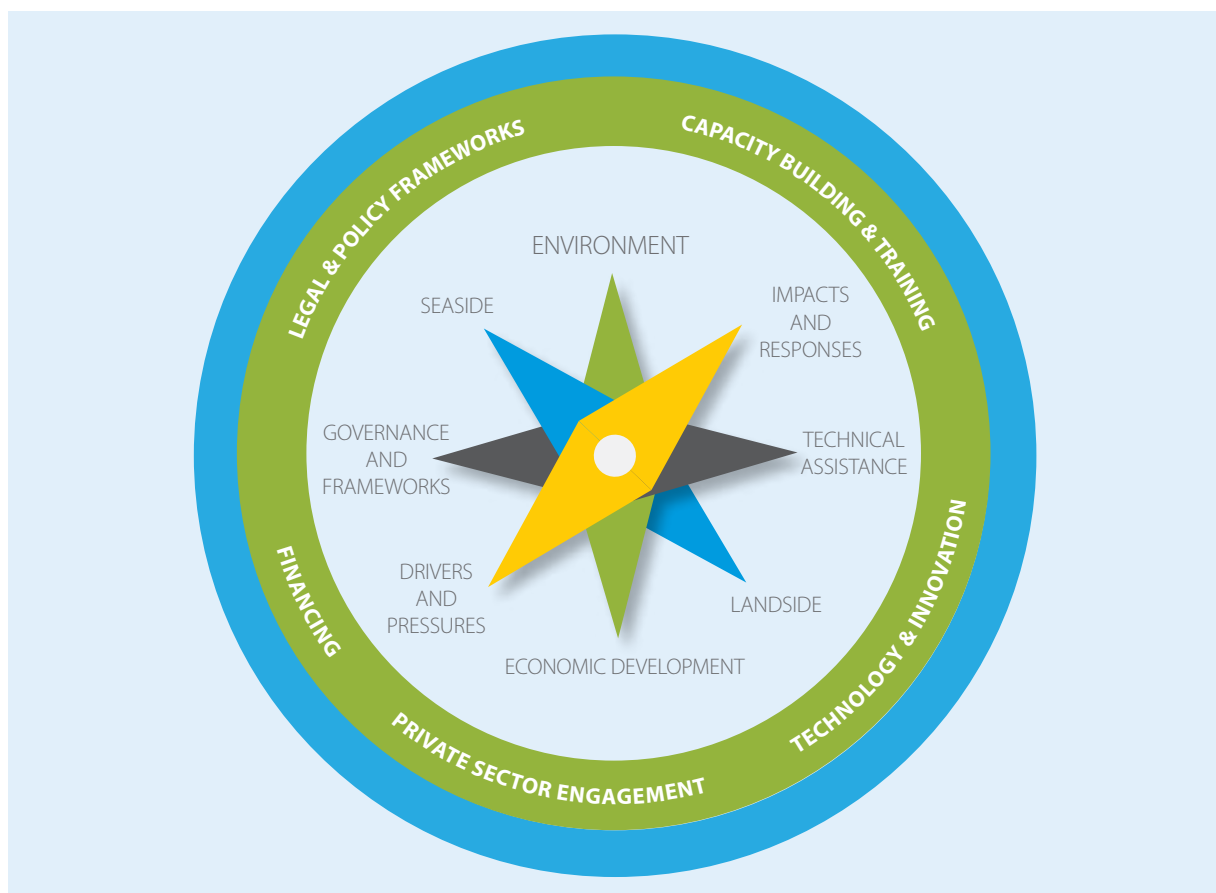


Figure 5: An overview of the thematic considerations for addressing marine litter and microplastics by the UN and related entities in this report.

mechanisms such as the legal and policy area, technology and innovation, capacity building and training, financing, and private sector engagement. All of this is accomplished by addressing:

- Drivers such as production and consumption in various sectors, including working with Member States, industry, the business community and others on technological innovations, capacity building and training, in order to retain plastic in the economy for as long as possible at its highest economic value (circular economy) and promote the reduction of the use of materials in (pre-) manufacturing as well as waste during the use stage ('Reduce');
- Pressures and impacts such as environmental and socio-economic impacts, including monitoring and assessment campaigns aimed at raising awareness and related efforts; and
- Responses such as solid waste management, including working with Member States and industry on technological innovations, education and capacity building, aiming for example at multiple product life-cycles for the circular plastic economy to recover products at the end of the use stage, reusing them for subsequent life cycles, recycling material into new material or products, redesigning and reusing materials recovered, and remanufacturing used products ('Recover', 'Reuse', 'Redesign', 'Remanufacture', 'Recycle').¹³⁴

¹³⁴ 'Reduce', 'Recover', 'Reuse', 'Redesign', 'Remanufacture', 'Recycle' refer to the principles of 6R-based material flow in sustainable manufacturing at interconnected product, process and system levels as a basis of the circular economy. *Reduce* focuses on the first stages of the product life cycle and refers to the reduced use of resources in pre-manufacturing, reduced use of materials and other resources during manufacturing, and the reduction of emissions and waste during the use stage. *Recover* refers to the process of collecting products at the end of the use stage; *Reuse* refers to the reuse of the products after its first life cycle, for subsequent life cycles, to reduce the usage of virgin materials to produce newer products. *Recycle* involves the process of converting material that would otherwise be considered waste, into new material or products. *Redesign* of new generation products using materials recovered from the previous life cycle. *Remanufacture* involves the re-processing of already used products. [Source: DOI:10.1016/j.procir.2016.01.067] With additional 'Repair', 'Refurbish', 'Repurpose', circular economy process refers to 9R. [Source: UNEP Circularity Platform: <https://buildingcircularity.org/>]

Based on these categories, in the context of the multisectoral and cross-cutting nature of marine litter and microplastics, the report has identified both high and low concentrations of current efforts. The analysis¹³⁵ aims to increase knowledge about how the UN System is engaged in addressing marine litter and microplastics and to highlight possible synergies in terms of linking different agendas. It is expected that this information may help reduce duplication of efforts in the UN System and strengthen collaboration among UN entities working on similar issues.

4.1 Current status of Marine Litter Activities by UN and related entities

The UN System addresses the topic of marine litter and microplastics through various UN instruments and processes, including programmes, strategies, conventions and resolutions for the protection of the marine environment (Chapter 2), as well as through specific activities (Chapter 3). The consultation revealed that nearly all entities are involved in addressing the topic of marine litter and microplastics (Figure 6), with 31 per cent being directly involved through an explicit mandate and/or significant activities. An additional 31 per cent of entities categorized their involvement as partial; that is, the organizations have some activities within a broader, more indirect role, such as the Regional Commissions. Entities having activities in areas that relate to marine litter and microplastics account for another 33 per cent. Four per cent of entities reported no involvement.

¹³⁵ All quotations and specific information analyzed and presented in this chapter, come from transcripts from interviews with entities. The transcripts have been reviewed/amended and approved/endorsed by the respective entities. The transcripts are not a part of this report.

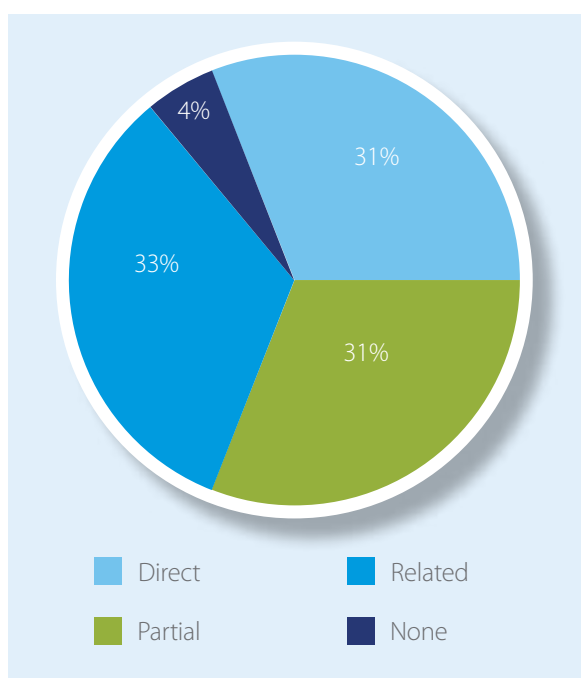


Figure 6: Categorization of entities' involvement in addressing marine litter and microplastics.

Entities directly involved operate mostly in the field of marine environmental and ocean matters (SDG 14), such as FAO, IMO, UNEP and its Regional Seas Programmes, IOC, DOALOS and the BRS Secretariat (in particular in the context of the Plastic Waste Amendments adopted by the CoP of the Basel Convention in 2019). Entities that characterized their involvement as 'partial' comprise those providing secretariats to environmental conventions, such as CBD, CMS and the UN Economic Commissions, programmes and organizations such as the GEF, ILO, UNDP, UNIDO, UN-Habitat and UNWTO, which directly or indirectly address marine litter and microplastics across a wide range of thematic areas. Entities that described themselves as 'related' are in the majority indirectly linked to the topic of marine litter and microplastics through their remits in areas such as food loss, the green economy, sustainable consumption and production, waste, agriculture, freshwater systems, climate, trade and humanitarian efforts. These entities may not recognize that they are contributing to activities carried out upstream, such as on sustainable consumption and production (SDG 12) and freshwater quality (SDG 6), or may not perceive these as relevant to the marine litter challenge. Two entities that reported no involvement are members of

the EMG Task Team on Marine Litter and Microplastics, whereas one entity pointed to linkages with its internal work on waste management and packaging. In general, the perception that marine litter and microplastics is purely a sea-related problem may have led agencies not to recognize their work upstream (for example, on SDGs 2, 6 or 12) as relevant in this context. The paragraphs below present the results of the mapping exercise in which a life-cycle approach is applied, considering both efforts downstream and upstream.¹³⁶

4.1.1 Current initiatives, programmes and project activities

The mapping exercise revealed that all interviewed entities play a role in providing expertise in the context of marine litter and microplastics, together covering a broad range of topics across relevant product life cycles, on either marine and/or land areas and in regard to environmental and economic considerations (Figure 7). The majority of interviewed UN and related entities carry out numerous initiatives, programmes and/or projects on marine litter and microplastics, with a wide sample of these highlighted in Box 2 below.

¹³⁶ As specified in the Term of Reference of the Task Team: "The Task Team shall apply a life-cycle approach to discharges of litter and microplastics into the oceans. Relevant interventions may cover various parts of the life cycle of e.g. plastics production."



Figure 7: The thematic focus of the marine litter-related activities of UN and related entities (specifications provided in Annex 5).

Focus areas: The bulk of the UN entities' expertise in relation to the topic of marine litter and microplastics concerns the environmental aspects of addressing impacts (Figure 8). Nearly all entities that described their involvement as direct had marine-focused activities. The concentration of efforts by entities on addressing environmental impacts, in particular in marine and coastal areas, can be explained by the UN's past addressing of the marine litter issue, which began with impacts on the marine environment and environmental protection of the seas. The impact of litter was initially recognized regarding the marine environment, leading to a concentration of efforts to combat this problem through existing regulatory instruments for marine pollution, their enforcement and wider promotion globally, together with awareness-raising campaigns in coastal areas.

Following environmental impacts, the second most common category of activities by UN entities covers 'responses' to marine litter and microplastics that include efforts in solid waste management and the circular economy. A number of entities are involved in responses in coastal areas and upstream, including the BRS Secretariat, UN-Habitat, the Economic Commissions, UNEP and its Regional Seas Programme and others on solid waste management, and UNIDO,

UNEP and UNDP on the circular economy. Some entities made reference to '*an increase in the number of upstream initiatives by UN bodies on the topic of waste management*' and to there being '*more and more efforts in the sphere of the circular economy*'. This may also be observed as a trend in the GEF investment cycles where the (traditional) chemicals focus on marine litter has been expanded to include plastics and the entire life cycle in the current GEF-7. Similarly, other organizations have expanded their scope for addressing marine litter and microplastics, as is the case for the World Bank that today covers the full product life cycle and the majority of the SDGs when addressing marine litter in its activities. The inclusion of upstream actions is also visible at the regional level, with the Regional Seas Programme covering activities on solid waste management and responsible consumption, whereas the Regional Commissions are active in these fields in urban areas.

It is observed that the category that is least addressed by the UN is that of 'drivers', meaning efforts to reduce pollution, including through collaboration with the private sector. Activities addressing marine litter drivers include work on food packaging and food waste (for example, by FAO, UNECE, UNEP and the WFP), collaboration with industry (for example by

UNIDO), maritime businesses (for example the UN Global Compact) and the private sector upstream (for example by UNEP).

To date, only a small number of initiatives focus on issues such as the development of technologies for the design of plastic, work with multinationals (oil companies) and Extended Producer Responsibility (EPR). These efforts are few and in their early days (for example at UNCTAD), both in terms of the number of initiatives and number of entities undertaking this kind of activity, as shown in Figure 8. In terms of the number of mapped initiatives, most entities have less than five marine litter projects. Entities carrying out more than five marine litter projects include the GEF, UNDP, UNEP and the World Bank. These projects address the issue from both marine and terrestrial perspectives.

Another observation made is that very few projects directly address microplastics. The focus of projects is rather on (macro)plastics and chemicals. This can probably be explained by the more obvious visible effects of marine litter including fishing nets, plastic bottles and oil spills in the marine environment. Microplastics may have received much less attention due to their lack of visibility in the environment. This phenomenon also correlates with the limited knowledge to date on the presence and impacts of microplastics in the environment, equally in marine, terrestrial and freshwater systems and in the air (Annex 1). In short, knowledge gaps translate into a lack of initiatives in this area by UN entities.

Box 2: Existing distribution of efforts across the life cycle and drivers-pressures-responses

- *The marine perspective* of addressing marine litter and microplastics has strong regulations and guidelines in terms of ocean governance (UNGA, UNCLOS), regional seas conventions and action plans (UNEP/Regional Seas Programme), waste from ships (IMO MARPOL Annex V, LC/LP) and other maritime industries (for example, FAO Voluntary Guidelines on the Marking of Fishing Gear). There are also a number of ongoing marine litter initiatives, and partnerships such as the Global Partnership on Marine Litter (GPML), aspects of the FAO-Norad Ecosystem Approach to Fisheries (EAF) Nansen Programme and GloLitter Partnerships project, and through scientific initiatives such as GESAMP working groups 40 and 43, including connections with maritime industries (for example, the UN Global Compact Sustainable Ocean Business Platform).
- *Solid waste management* is an increasing area of activity with a growing number of entities addressing waste management (for example, the Regional Seas Programmes, Regional Commissions, UN-Habitat, BRS and the World Bank). The Basel Conventions Plastic Waste Amendments have encouraged global-scale efforts on plastic waste, while also providing technical assistance at the national and regional levels. UN-Habitat and UNEP address waste management in cities. Further collaborations in this area are beginning under the Basel Conventions Plastic Waste Partnership working group; other projects are being carried out mostly individually.

- *Freshwater systems:* As much as the interconnectedness of freshwater and marine issues is recognized by the two main framework conventions UNCLOS and the UNECE/Water Convention, there is no collaboration in place regarding the issue of marine litter and microplastics by the processes under these conventions or by Parties to these conventions, neither by the two UN interagency mechanisms dealing with ocean and freshwater issues (UN-Oceans and UN-Water, respectively). Likewise, implemented projects mainly consider water systems upstream and downstream separately, and in general are not involved in cross-cutting issues such as plastic litter and nutrient cycling.
- *Production and consumption upstream* is characterized by a relatively limited number of activities on the production side, with the least efforts in the sphere of 'closing the pollution tap', including through joint efforts with the production industry. The current efforts in sustainable consumption and production (SCP) aim at providing technical assistance to some Member States and at preparing guidelines for industries; for example, by UNCTAD, UNDP, UNECLAC, UNEP and UNIDO. There is little formal collaboration on marine litter partnerships in this context.
- *Cross-cutting issues:* Entities with remits for topics such as trade, humanitarian efforts, health and sanitation including the human right to a healthy environment, that are directly or indirectly related to marine litter and microplastics, may have ongoing activities but no collaboration or partnerships specifically on marine litter. These entities show interest in the topic of marine litter and microplastics and recognize the added value of the same to their ongoing activities.
- *Microplastics:* Very few projects of interviewed entities address the topic of microplastics. The focus of projects continues to be on (macro)plastics and chemicals.

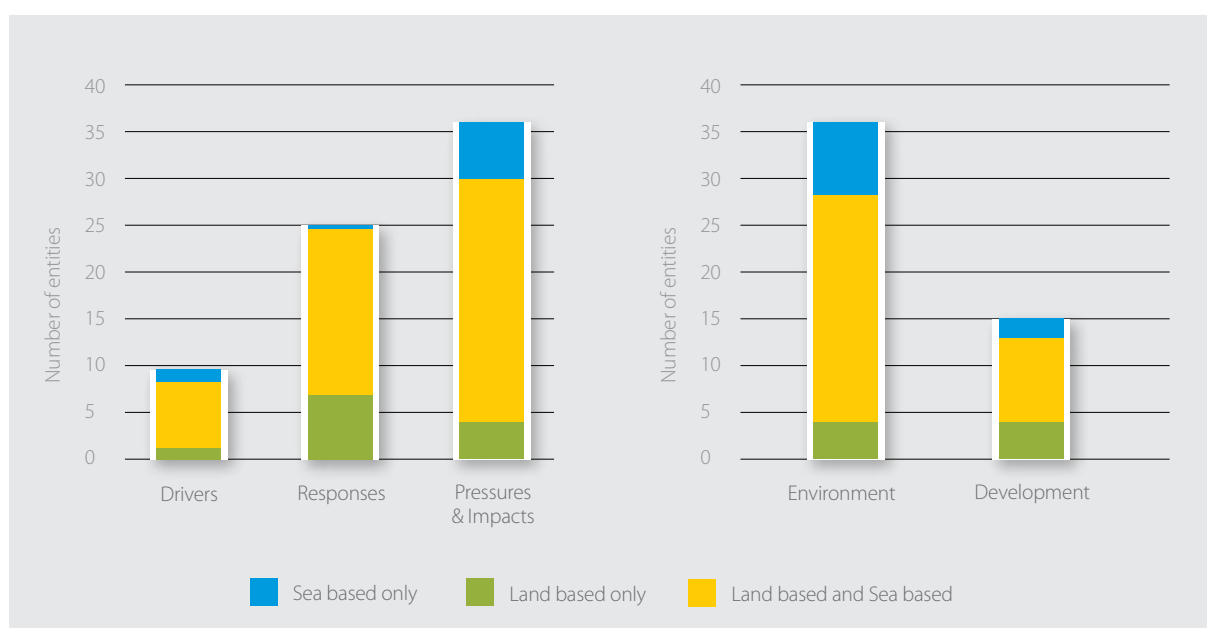
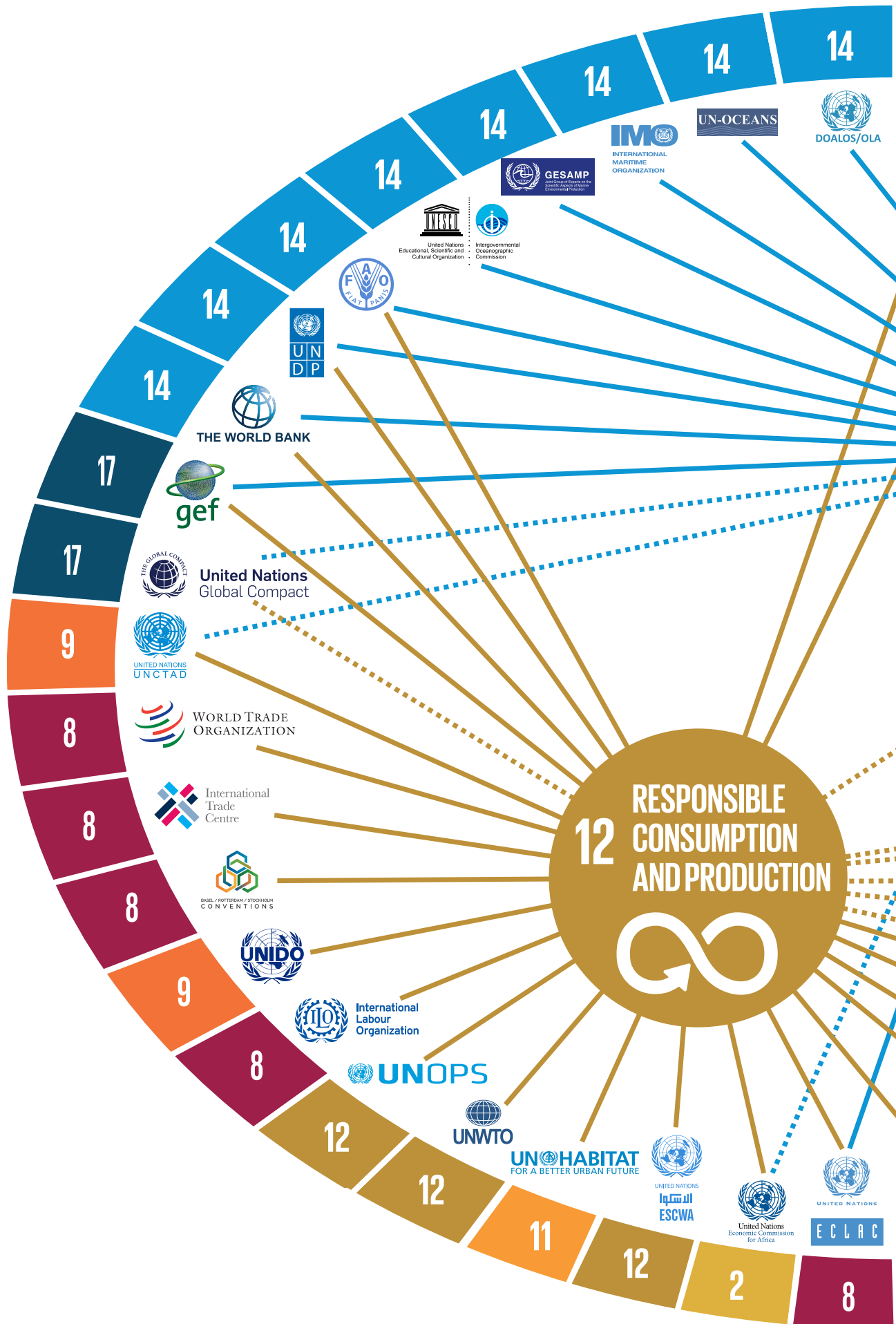


Figure 8: Activities of the UN and related entities in terms of their focus of marine litter activities (environment, development), with related drivers, pressures/impacts and responses. The activities and remits considered encompass both direct and indirect links to the topic of marine litter and microplastics. Some entities may cover several areas (specifications provided in Annex 5).



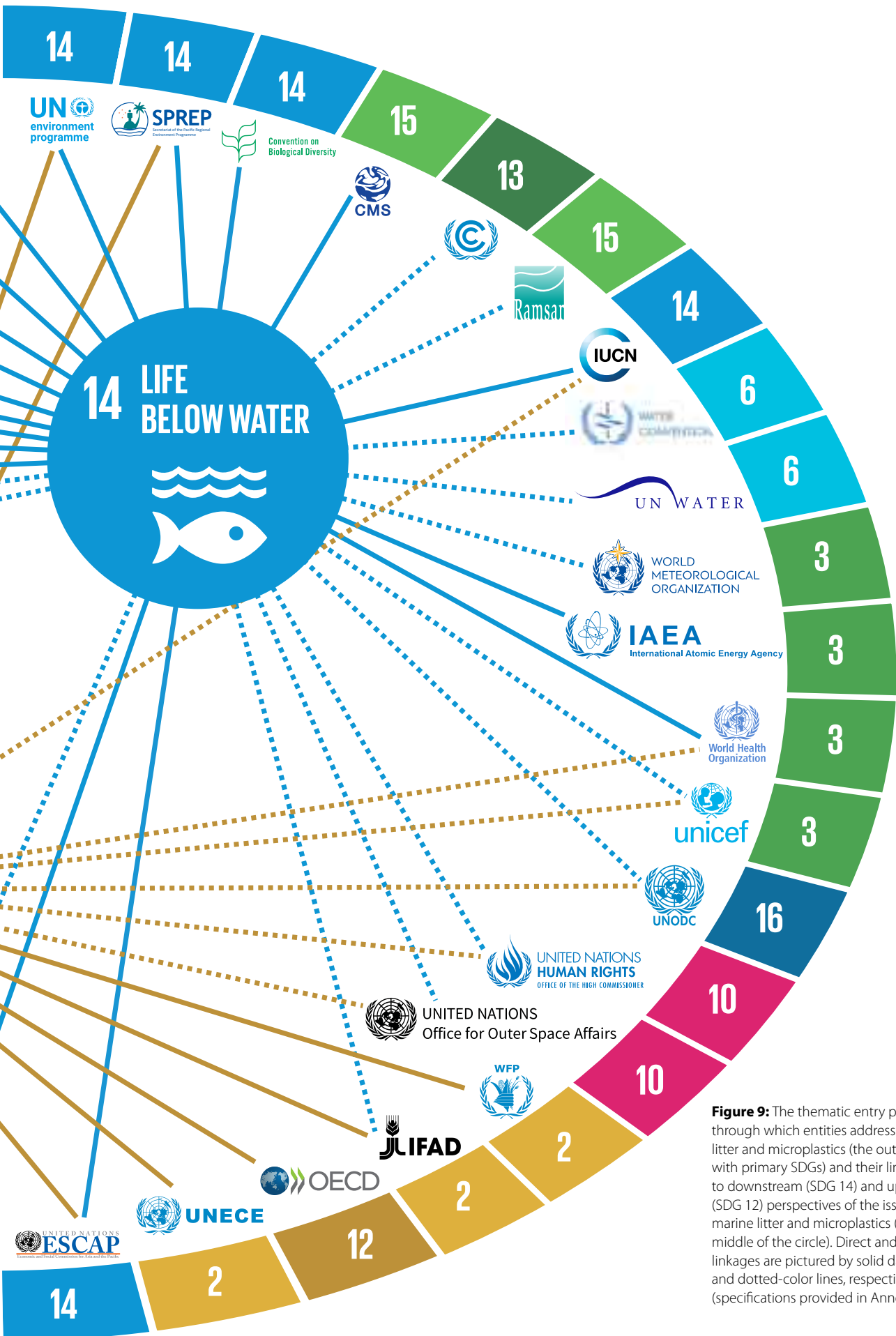


Figure 9: The thematic entry points through which entities address marine litter and microplastics (the outer ring with primary SDGs) and their linkages to downstream (SDG 14) and upstream (SDG 12) perspectives of the issue of marine litter and microplastics (the middle of the circle). Direct and indirect linkages are pictured by solid darker- and dotted-color lines, respectively (specifications provided in Annex 5).

Activities from the perspective of the SDGs:

It can be observed that the majority of entities work with the issue of marine litter and microplastics downstream through efforts related to SDG 14 on Life Below Water, primarily focusing on marine environmental protection. Many entities also offer expertise on marine litter and microplastics upstream, including through Responsible Consumption and Production under SDG 12 and activities related to SDG 2 on Zero Hunger (sustainable food production), SDG 8 on Decent Work and Economic Growth, SDG 11 on Sustainable Cities and Communities, and SDG 9 on Industry, Innovation and Infrastructure. Water connects land and sea activities (“source to sea”) along with pollution, and thus SDG 6 on Clean Water and Sanitation is of direct relevance to marine litter and microplastics, linking to SDG 3 on Good Health and Well-being, SDG 10 on Reduced Inequality, and SDG 15 Life on Land, with a number of entities directly or indirectly addressing marine litter in these contexts. Some of the entities also play an important role through SDG 16 (*Strong Institutions*) and SDG 17 (*Partnerships for the Goals*). Figure 9 illustrates the thematic SDG entry points through which entities directly and indirectly address marine litter and microplastics and their linkages to downstream (SDG 14) and upstream (SDG 12) perspectives on this issue. Indirect involvement includes activities that *per se* do not address the topic of marine litter, but through other activities contribute to tackling marine litter and microplastics. Examples include the work of UN-Water on freshwater quality and sanitation (SDG 6), also contributing to SDGs 12 and 14, while the enforcement of the Water Convention (SDG 6) leads to less pollution of upstream water systems from industry and municipal/household sources (SDG 12), which in turn contributes to clean and healthy oceans (SDG 14).

Types of activities and expertise in projects:

UN and related entities are involved in efforts to raise international awareness on the issue of marine litter, provide recommendations, guidance, technical assistance and financial support to Member States, as well as advance solutions in joint efforts with governments and businesses. The overall goal of these efforts is to encourage and enhance the international response to combating the problem of marine litter and microplastics, and to foster collaboration and coordination among Member States, through governance and technical support activities. The most common type of activities by entities is technical assistance, with a large majority of expertise and projects providing technical assistance to Member States and few directed towards industry. Technical assistance includes the development of guidelines and manuals, country and regional projects and studies/reports. UNEP, UNIDO and the UN Global Compact, for instance, also provide support to industry in the form of guidelines and recommendations. The majority of the interviewed entities provide marine litter-related expertise both for sea- and land-based areas.



Activities and expertise from the perspective of the circular plastic economy: Concerning the thematic areas of the circular plastic economy, that is, Reduce, Reuse, Repair, Refurbish, Remanufacture, Redesign, Refuse, Repurpose, Recycle (9R approach), Figure 10 cross-maps the activities and expertise of UN entities in the 9Rs of the plastic economy approach against five UN functional areas: legal and policy frameworks, technology and innovation (including analytics/data generation), capacity building and training, financing, and private sector engagement. Figure 10 presents a general overview of the thematic areas of reducing, recovering (including reuse, remanufacture and redesign) and recycling of plastics in the programming activities of UN agencies.¹³⁷ This preliminary assessment indicates that in the circular plastic economy, the majority of the UN's efforts take place in the area of 'Recycle', with a lower

engagement in the area of 'Reduce' (reduced use of resources in pre-manufacturing, the reduced use of materials and other resources during manufacturing, and the reduction of emissions and waste during the use stage). Efforts range from national, such as UNDP's work in Member States, which is potentially replicable, and the Ocean Innovation Challenge on plastic projects; to regional work, for example, the BRS Secretariat's pilot projects on plastic waste through regional centers, and the GPML's regional nodes for strengthening interregional and regional cooperation and awareness-rising; to the international, including the examples of global tools and guidance developed under the plastic-waste amendments to the Basel Convention, the established multi-donor trust fund at the World Bank, and voluntary measures under the GPML and GPA.

¹³⁷ This analysis does not concern the operational activities of the UN System.

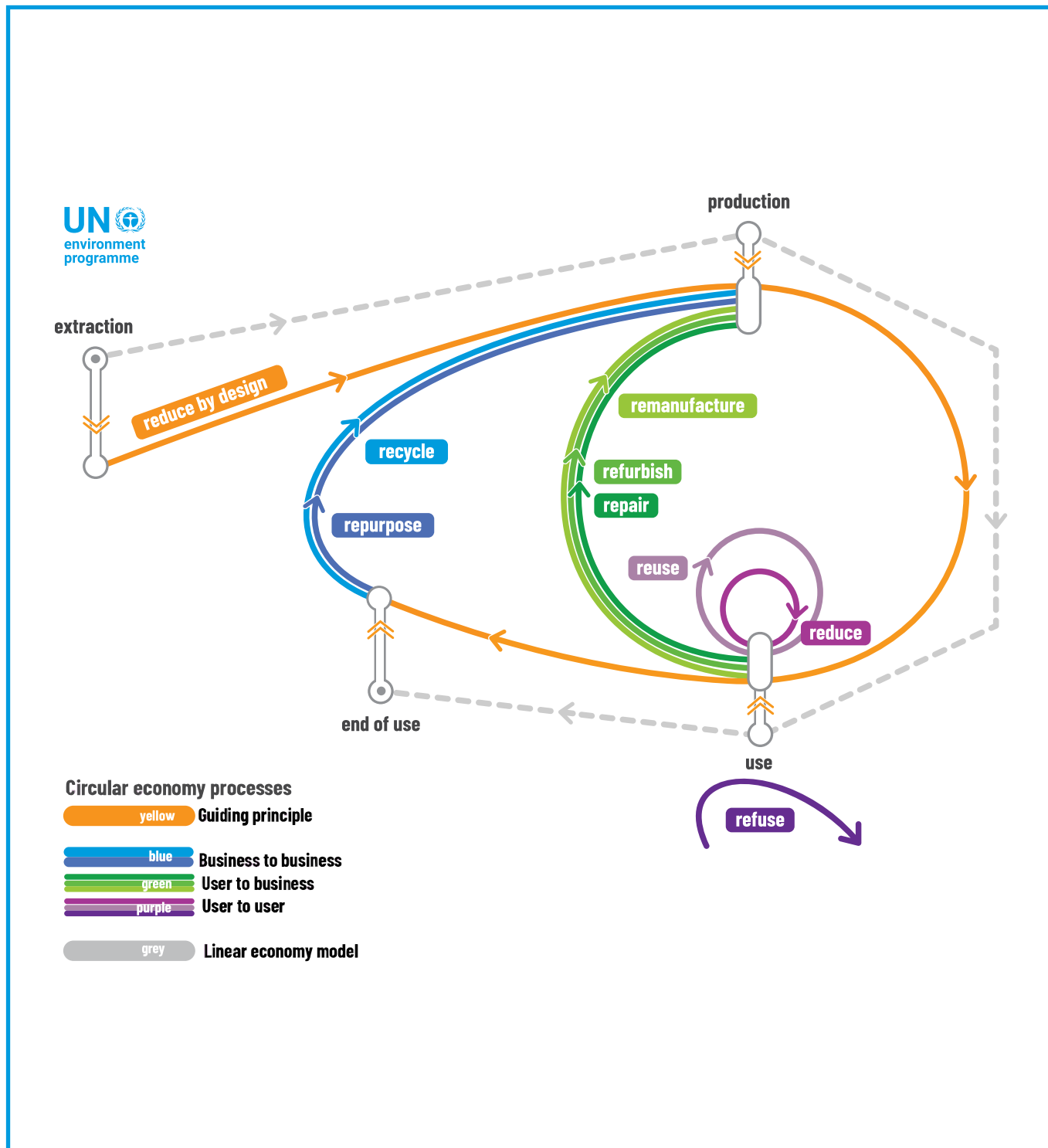


Figure 10: Involvement of UN and related entities in the circular plastic economy themes within five categories of UN functional areas. 9R circular economy process with elements along the plastic life cycle stages of Reduce, Reuse, Repair, Refurbish, Remanufacture, Redesign, Refuse, Repurpose, Recycle (source: figure - UNEP Circularity Platform: <https://buildingcircularity.org/>; table was developed in this EMG study by the EMG Task Team on Marine Litter and Microplastics)

Category	Circular Processes of the Plastic Economy			
	Reduce	Reuse, Repair, Refurbish, Remanufacture, Redesign	Recycle, Repurpose	Example
Legal and policy frameworks	UNEP, UNIDO	BRS, FAO, IMO, RSP, UNCLOS, UNEP, UNIDO, World Bank	BRS, FAO, IMO, RSP, SPREP, UNEP, UNIDO, World Bank	<ul style="list-style-type: none"> Plastic waste under the Basel Convention Action Plans of Regional Seas Programmes (RSP) Work of RFB and the Voluntary Guidelines on the Marking of Fishing Gear
Technology and Innovation	GEF, UNCTAD, UNDP, UNEP, UNIDO, WFP, World Bank	BRS, FAO, GEF, UNCTAD, UNDP, UNEP, UNIDO, OECD, WFP, World Bank	BRS, FAO, GEF, UN-Habitat, IFAD, ITC, IUCN, OECD, RSP, SPREP, UNCTAD, UNDP, UNEP, UNIDO, UNOPS, UN Regional Commissions (RC): UNESCAP, UNECLAC, UNECA, UNECE, UNESCWA, UNWTO, WFP, World Bank	<ul style="list-style-type: none"> UNCTAD's R&D of potential solutions and technological innovation UNEP's Sustainable Consumption and Production works WFP's packaging improvement projects
Capacity building and training	FAO, GEF, OECD, RSP, UNCTAD, UNDP, UNEP, UNIDO, UNOPS, WFP, World Bank	BRS, DOALOS, FAO, GEF, IMO, OECD, RSP, RC, SPREP, UNCTAD, UNDP, UNEP, UNIDO, UNOPS, WFP, World Bank	BRS, FAO, GEF, UN-Habitat, IFAD, ILO, IMO, ITC, IUCN, OECD, OHCHR, RSP, RC, SPREP, UNCTAD, UNDP, UNEP, UN Global Compact, UNICEF, UNIDO, UNODC, UNOPS, UNWTO, WFP, World Bank, WTO	<ul style="list-style-type: none"> UNEP's GPML with regional nodes BRS' pilot projects on plastic waste UNDP's Ocean Innovation Challenge on plastic projects; and work at the local level
Financing	GEF, World Bank	GEF, World Bank	GEF, IFAD, World Bank	<ul style="list-style-type: none"> The World Bank's multi-donor trust fund GEF's global funding mechanism
Private sector engagement	GEF, UNEP, UNIDO, World Bank	BRS, GEF, OECD, UNEP, UNIDO, World Bank	BRS, GEF, UN-Habitat, ILO, ITC, OECD, RSP, RC, UNCTAD, UN Global Compact, UNEP, UNIDO, UNWTO, World Bank	<ul style="list-style-type: none"> UNIDO's global work with the industry on circular economy in the plastics packaging value chain UNEP's work with the Ellen MacArthur Foundation

Geographical distribution of programmes

and projects: Programmes such as the GPML, the GloLitter Partnership project and the Basel Conventions Plastic Waste Partnership are run globally with outreach to all regions. Projects and initiatives by entities such as UNDP, UNEP and the World Bank are also of a global nature. These organizations conduct numerous marine litter and related projects in various regions and across different parts of product life cycles. Both the Regional Seas Programmes and some of the Regional Commissions have active marine litter initiatives and projects. A few other entities, which in recent years have become involved in marine litter and microplastic efforts, for example, the BRS Secretariat, UNCTAD and UNIDO, have a small number of projects. These projects take place mainly at the country level in support of Member States and cover areas such as sustainable production, waste management, circularity and technologies. Currently, most of these projects are being conducted in Bangladesh and Ghana.

4.1.2 Emerging actions and ambition going forward

In addition to ongoing activities, various entities have emerging initiatives as well as in some cases plans to expand the scope of their work regarding marine litter and microplastics. Recently initiated activities are to be implemented over the coming years. The ambition of entities in the context of marine litter and microplastics is closely related to their mandates and available resources for activities/projects, including both funding and human resources. Reported future ambitions include:

- Engagement in topics where further development is required; that is, technological development and technology transfer;
- Implementation of Conventions such as the Plastic Waste Amendments to the Basel Convention, the CBD with the Post-2020 Global Biodiversity Framework and the CMS;
- Delivering the 2030 Agenda with the SDGs, and related UN Decades such as the UN Decade of Ocean Science for Sustainable Development and the UN Decade of Actions; and
- Aspirations of entities that are new in the field of marine litter and microplastics; for example, ITC, UNICEF and others.

4.1.3 Partnerships and collaborations

Table 2 presents an overview of existing partnerships and collaborations on marine litter and microplastics within the UN System, including related entities. The majority of collaborative efforts on marine litter and microplastics concern the marine side of the marine litter challenge. Collaboration on plastic waste is a recent development and is carried out under the Basel Convention's Plastic Waste Partnership (PWP), whereas collaboration on municipal solid waste in general is carried out under UN-Habitat's Waste Wise Cities programme. It is acknowledged that all entities have some level of collaboration with each other in regard to the topic of marine litter, as well as indirectly through broad areas such as the blue and green economies, sustainable development and other issues.

Table 2: Partnerships and collaboration on marine litter and microplastics in the UN System.

Entity	Partnerships and collaborations in the UN System on the topic of marine litter and microplastics
BRS	works in close collaboration and partnership with a number of UN entities regarding its three Conventions that are of relevance to the issue of marine litter, including UNEP, GESAMP, FAO, the CBD, UNFCCC and other Conventions, etc.
CBD	works with various UN entities, such as UNEP and IMO. The CBD Secretariat maintains formal and informal connections with other UN agencies and generally, CBD parties seek alignment with other processes in the UN System.
CMS	collaborates closely with UNEP and is a member of the Global Partnership for Marine Litter (GPML).
DOALOS	is involved in many mechanisms that relate to the marine environment protection and marine litter, e.g. GESAMP, and through UNCLOS, UN-Oceans and the World Ocean Assessment, DOALOS is well aware of activities in marine litter.
UNECA	works with UNEP on green growth and with FAO on agriculture and applying the concept of green economy to ensure sustainable agriculture.
UNECE	collaborates on the topic of food loss and waste with other regional commissions - ECLAC, ESCAP, ECA and ESCWA.
UNECE-Water Convention	collaborates closely with the Global Water Partnership Mediterranean branch for example on a project in the Drin basin in the Western Balkans. There is no cooperation with UNCLOS or the Basel Convention. UNECE is invited to the Conferences of Parties of the Regional Sea Convention, but is not actively participating.
UNECLAC	is convening a joint conference with UNEP to discuss green recovery and partners with UNEP's Plastic Initiative.
UNESCAP	partners with the Regional Seas Programme COBSEA on promoting marine litter action plans in the region. ESCAP works closely with UNEP, the World Bank, UN-Habitat - exploring synergies on marine litter and cities with the latter. ESCAP has a close relationship with the FAO regional office on the topic of fisheries, and with IMO with regards to transport.
UNESCWA	collaborates with the UNEP Regional Office in West Asia, the League of Arab States and UNECE to support regional work on sustainable consumption and production.
FAO	works with IMO in GloLitter programme and they also co-host GESAMP Working Group 43 on Sea-based Sources of Marine Litter. FAO is an observer to the Marine Environment Protection Committee, and is the co-chair of the Steering Committee of the GPML. In addition, FAO collaborates with the World Bank through the PROBLUE Programme Fund and has an MoU with UNEP covering different areas of work including plastics from the agriculture sector and marine plastic litter.
GEF	collaborates with the entire UN System, and in particular with UN entities related to the topic of environment and development, addressing the full life cycle of plastic, including materials and design.
GESAMP	supports the core team of 10 UN agencies that co-lead GESAMP, including IMO, FAO, UNEP, IOC, IAEA, WMO, DOALOS, etc., to work jointly on the issue of marine litter and microplastics in respective working groups.
UN-Habitat	works with various partners in the waste sector and on marine litter including with UNEP, UNESCAP and CCAC waste initiative, as well as with NGOs, academia, city networks, private sector and other (inter) governmental organizations.

Entity	Partnerships and collaborations in the UN System on the topic of marine litter and microplastics
IAEA	works with IOC, FAO and other UN agencies on many topics, including plastics, and is an official partner to the IOC on the UN Decade of Ocean Science.
IFAD	works with FAO, largely in the fishery sector. FAO helps IFAD in designing the technology side of production. In terms of activities on marine litter and microplastics in the UN System, IFAD is aware of the work of FAO.
ILO	works with UN agencies, such as IMO, ITC, FAO, UNIDO, UNDP, UNEP, and intergovernmental agencies on waste management, circular economy and sound management of chemicals. The main aims of the ILO are to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues in collaborating with governments and workers' and employers' organizations.
IMO	works directly with UNEP and the Basel Convention, as well as with FAO on fishing-related waste. They work bilaterally and through GESAMP in several working groups. IMO also works closely with DOALOS fulfilling the functions of UNCLOS.
IOC	participates in GESAMP and partners with the involved entities. It co-sponsors the GESAMP WG40 together with UNEP.
ITC	collaborated with ILO and UNEP on a project proposal on waste management. ITC is part of the UN E-waste Coalition where it collaborates with e.g. the BRS, and works with WTO on capacity-building. ITC was subcontracted by UNEP to deliver trainings on sustainable consumption and production in China in 2017 for SMEs and policymakers.
IUCN	exchanges information on the topic of marine litter with various UN entities, especially at the country level. For example, IUCN interacts with UNDP for projects in the Caribbean and with UNEP in Thailand.
OECD	is regularly asked by UN entities to review and provide input to UN reports, and in this way well-connected to the UN. It also collaborates with UNEP via the organization of specific meetings/events, such as the Regional Ocean Policy Dialogue organized with COBSEA.
OHCHR	collaborates with a number of UN entities on human rights and the environment more broadly, including UNDP, UNEP, the UNFCCC Secretariat, interagency mechanisms such as the EMG, and with regional actors such as ECLAC, ESCAP and UNECE (including through OHCHR regional and field offices).
Ramsar	cooperates with CBD; a partner to the Water Convention, the Biodiversity Liaison Group and UN-Water, not specifically addressing the issue of marine litter, however, Ramsar has formal preferential cooperation with the International Organization Partners, including IUCN, WWF, Wetlands International, BirdLife, WWT, IWMI focusing on marine litter.
SPREP	collaborates with UNEP and the international organizations active in the Pacific region on the issue of marine litter. There is currently no collaboration with ESCAP on marine litter, but the entities work together on other issues in the region.
UNCTAD	partners with agencies that are involved in the Ocean Forum, including UNECE, UNEP, FAO; with the BRS Secretariat and WTO on other projects; with DOALOS on developing Oceans Economy and Trade Strategies in some countries. Regarding SMEP programme, UNCTAD collaborated at the working level with UNIDO, the WTO, UNECE, FAO, SELA and the OECD, as well as benefited from UNIDO data.
UNDP	is involved in marine litter work under the GEF Yellow Sea project, which is implemented by UNDP and executed by UNOPS. Plastics activities under a UNDP-UNEP-ADB-GEF Pacific islands program are under preparation. UNDP is a member of UN-Oceans and UN-Water.

Entity	Partnerships and collaborations in the UN System on the topic of marine litter and microplastics
WFP	does not have specific linkages in the UN System on litter and microplastics. WFP is part of the joint initiative to manage packaging waste in humanitarian assistance with the USAID (outside the UN System), UNHCR and other actors.
WHO	is connected to entities working on marine litter and microplastics through meetings and partnerships such as GESAMP; FAO is kept updated about WHO's broader work on microplastics.
WMO	collaborates on the topic of marine litter and microplastics with entities at GESAMP.
World Bank	organizes regional workshops in collaboration with UNEP's Regional Seas Programmes. Collaboration also takes place at the country level, where the UN entities' country teams and the WB teams interact without formal partnerships in place.
WTO	collaborates with the BRS Secretariat, CITES, UNEP and UNFCCC. WTO Members have benefitted from briefings by FAO on topics as determinations of Illegal, unreported and unregulated fishing (IUU), and from regular briefings on SOFIA (The State of World Fisheries and Aquaculture) reports, the Agreement on Port State Measures etc. to tackle IUU fishing.

Notable collaborations and partnerships on marine litter and microplastics:

Entities closely collaborating on the topic of marine litter and microplastics are DOALOS, FAO, IAEA, IMO, IOC, UNEP and the UNEP Regional Seas Programmes and their related Conventions, and WHO and WMO. These entities work bilaterally and through the GESAMP scientific support mechanism on marine protection in several working groups that address various dimensions of the marine litter issue in the marine environment. These collaborative efforts are further strengthened in the context of UN-Oceans. In general, collaboration occurs through joint projects and initiatives including, for example, the GloLitter Partnerships, the Global Partnership on Marine Litter (GPML) and GESAMP on the topic of marine protection from sea-based sources of marine litter. The UN Decade of Ocean Science for Sustainable Development (2021-2030) creates additional opportunities for joint efforts in relation to the oceans, with the active involvement of DOALOS, IAEA, IOC and the UN Global Compact in the preparation for the Decade. Collaboration on marine litter and microplastics is mainly project-based (that is, short-term), with some collaboration of a programmatic, longer-term nature (for example, the GPML). The overall collaboration observed mainly addresses SDG 14.

Other collaborations on marine litter and microplastics and related entity interests:

A vast number of other entities are engaged in addressing marine litter and microplastics bilaterally. These joint efforts largely concern upstream topics such as sustainable consumption and production, agriculture, packaging, waste management and the circular economy. One such example is the GEF Yellow Sea project implemented by UNDP and executed by UNOPS. Entities that are currently not involved in a collaboration on marine litter and microplastics welcome such partnerships on, for instance, plastic management and enhancing circularity. Among the UN Regional Commissions, there is no formal collaboration on marine litter and microplastics.

Entities whose mandates may be indirectly related to marine litter and microplastics, such as on inland water quality, trade and health and sanitation, tend not to be involved in collaboration and partnerships on marine litter. In some cases, this is related to limited remits or resources of these entities to engage in active collaboration on marine litter and microplastics, whereas in other instances it is due to a lack of recognition by these entities of their connection and added value to tackling the marine litter challenge. These entities may, however, be engaged in collaboration under SDG 2, 6 or 12. For example, UN-Water has ongoing activities on upstream freshwater

and sanitation issues (SDG 6) that may be relevant to combating marine litter and microplastics in marine areas.

Some entities show interest in the topic of marine litter and microplastics and recognize that they could have a role to play in this regard. The work of these entities is related to SDGs such as SDGs 10 and 16 in relation to the right to a healthy environment in the context of inequalities and environmental justice, SDG 13 on climate action, SDG 15 on life on land, and others. Many of these UN entities expressed interest in the topic of marine litter and microplastics and highlighted the relevance of the work of their organizations. The EMG Task Team on Marine Litter and Microplastics has served as an opportunity for these entities to become involved and connect with other entities on the topic of marine litter and microplastics.

4.2 Visibility, Awareness, Gaps and Needs

During in-depth interviews, special attention was paid to the issues of the visibility of and commitment to the topic of marine litter and microplastics, awareness about the engagement of the UN System in marine litter efforts, and the challenges and needs of entities individually and as part of the UN System. Based on these aspects, possible gaps have been identified and are presented later in this section.

4.2.1 Visibility and commitment

The majority of interviewed entities were of the opinion that the visibility of and commitment to marine litter and microplastics issues is high in the UN System. Eleven per cent of entities classified it as low and a few organizations were not able to assess visibility. The entities that considered the visibility and commitment high are those with a marine environmental protection mandate and various marine litter-related activities. The visibility

was considered especially evident when comparing marine litter to other issues, and in terms of the number of related events taking place. For example, the World Oceans Day has addressed the issue of marine pollution (“Innovation for a Sustainable Ocean” in 2020 and “Clean Our Ocean” in 2018). One of the best practices is the highly successful Clean Seas Campaign by UNEP.¹³⁸ Furthermore, UN offices, including the UN Secretariat headquarters, have banned their own use of single-use plastics. The high visibility and the sheer number of efforts to deal with marine litter result from numerous campaigns. The issue of marine litter has also gained much momentum in the UN System itself and in Member States where awareness about marine litter and plastic pollution has been raised among the general public.

Differences in opinion (high versus medium or low) occurred in some entities internally, explained by a difference in perception on visibility and commitment between headquarters and country offices. Another discrepancy in opinion on visibility and commitment is related to different types of marine litter. While plastics have an increased visibility, chemicals and dangerous materials have a more limited visibility. This, however, can increase depending on how much the latter may impact human health and ecosystems; for example, in the case of an accident.

While the general opinion expressed is that there is high visibility of and commitment to the marine litter and microplastics issue in the UN System, some entities that expressed this opinion but were from outside the group of marine protection-related entities commented that it may be low in their own organization. Within UNEP the visibility is exceptionally high, and organizations that work closely with UNEP find the visibility of and commitment to marine litter high. They also recognize, however, that outside this collaboration it may be different.

Several entities classified the visibility and commitment of marine litter and microplastics issues in the UN System as low and even as ‘very low’.

¹³⁸ <https://www.unep.org/news-and-stories/story/surfing-wave-change-clean-seas-campaign-celebrates-two-years-action>

stating that *'visibility is where UN agencies really have to improve'*. Other entities remarked that *'it is very low compared to what it should be'*. It was mentioned that entities from the UN System should increase their commitment and be more active because Member States require more assistance. Visibility was considered very important in particular at the country level in order to tackle marine litter and microplastics along with other national priorities. It was stated that a higher visibility would help to convince national officers of the importance of marine litter and microplastics and the need for it to be mainstreamed, which requires funding. At the same time, it was stated that *'increasing the visibility and commitment to marine litter and microplastics in the UN System is difficult because there are many competing issues with few decision-makers and limited finance'*.

It was also noted that the visibility of this issue has not been high in the past, because UN entities were not engaged in marine litter and microplastics as a high priority. While there has been an increase at the system-wide level in addressing marine litter and microplastics over the last two years, the interviewed entities made a few suggestions on what could be done to further improve/increase the visibility and commitment to marine litter and microplastics in the UN System:

- Strengthen the link between marine litter and waste management issues. It was commented that agencies working across the life cycle, for example on waste management, were not consulted for the UN Ocean Conference;
- Create awareness among colleagues internally;
- Link the issue of marine litter and microplastics with activities related to the SDGs and Nationally Determined Contributions (NDCs). NDCs are a critical part of ensuring follow-up since they are constantly reviewed, measured and discussed with Member States; and
- Increase coordination on outreach activities and on establishing collaboration with the inland/terrestrial initiatives.

4.2.2 Awareness of and access to information

In terms of an awareness of ongoing efforts on marine litter and microplastics within the UN System, 36 per cent of entities indicated high awareness and 19 per cent medium awareness (Figure 11). The entities indicating high awareness were mainly involved in marine environmental protection. It was expressed, however, that *'while reports and public awareness campaigns are well communicated, information on regional and national efforts is less available. Sharing the experiences and lessons from these efforts would be useful to inform other organizations' work'*.

A relatively high number of interviewed entities indicated low (30 per cent) or a lack of (15 per cent) awareness of ongoing work on marine litter and microplastics of other UN organizations. Some entities stated that they are not aware of other initiatives and activities on the topic of marine litter and microplastics in the UN System. Others mentioned that it is difficult to access other UN entities' information on marine litter and microplastics, and that information about related ongoing UN efforts is either not communicated and/or disseminated, despite the relevance of such information to the workstreams of other organizations. A few of these entities that are active on the topic of marine litter and have related ongoing activities stated that:

- To gain an overview of other entities' activities/projects on marine litter and microplastics, agencies would require investing a lot of their own time on searching for such information. As a result, they are not well-informed of other UN entities' work on marine litter and microplastics.
- It is difficult to access information on ongoing projects in other agencies.
- Information on marine litter and microplastics in the UN System is not easily accessible, as it is not centralized. There are many reports related to the topic of marine litter and microplastics and no means to track the uptake of these reports in policy-making or in other projects.

- Communication and exchange of information on marine litter and microplastics is happening in an *ad hoc* manner in the UN System, for example, through a personal network at the country level, as opposed to in any organized way.

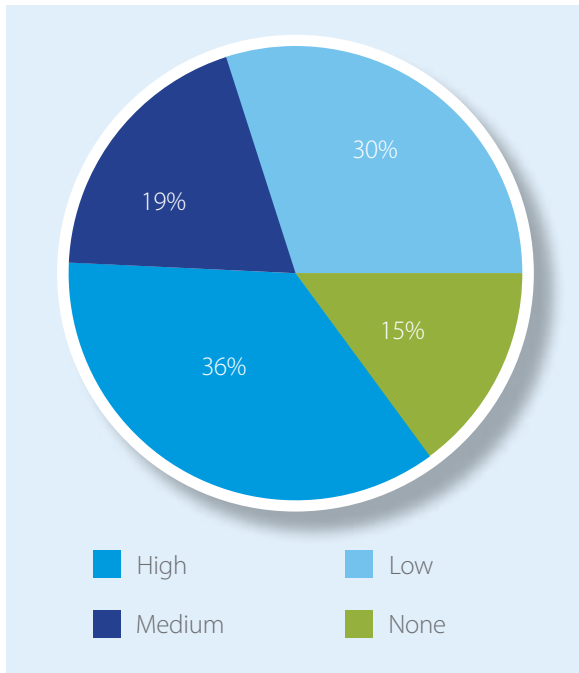


Figure 11: Awareness of marine litter efforts by the UN and related entities.

4.2.3 Gaps and needs

Based on the mapping exercise, including the interviews conducted, gaps and needs related to marine litter and microplastics in the UN System have been identified. The main identified gaps and needs in the UN System for tackling marine litter and microplastics can be summarized under communication (information sharing), collaboration and coordination.

COMMUNICATION (INFORMATION SHARING)

Communication on marine litter and microplastics activities and expertise has been identified as a missing element in the UN System by a majority of the interviewed entities. As described in the sub-section on 'Awareness of and access to information' above, communication on marine litter and microplastics takes place in an *ad hoc* manner in the UN System, mostly through personal networks. A coordinated way of sharing information internally in the UN System is missing and information on marine litter is not centralized, making it challenging to access information on ongoing projects in other agencies.¹³⁹ This lack of effective communication in the UN System results in a situation where entities are neither well-informed nor fully aware of work on marine litter and microplastics.

A need for more communication on marine litter and microplastics initiatives and activities in the UN System has been expressed by all entities (Figure 12) facing this lack of knowledge sharing. They stated that a culture of information sharing needs to be promoted in the UN System and that an effective information mechanism for this purpose should be considered. The UN organizations expressed a need to improve the way they communicate the results of and recommendations from their work. Furthermore, communication beyond the UN could be improved in the same way.

¹³⁹ Similar difficulty was faced in the collection of project information for developing the project Database in this assignment.

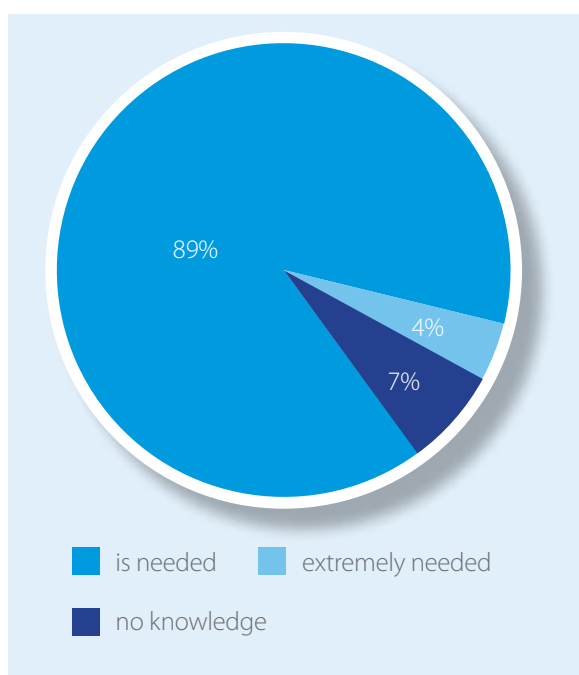


Figure 12: Need for more communication on marine litter and microplastics in the UN System.

COLLABORATION

A need for enhanced collaboration within the UN System on tackling marine litter and microplastics was also expressed by entities (Figure 13). Despite strong sea-related partnerships, a number of entities with mandates relevant to marine litter and microplastics undertake marine litter-related actions without formal collaboration or involvement in marine litter partnerships. A lack of collaboration exists within certain thematic areas of marine litter, such as the circular economy. As a result, there is a lack of collaboration among entities on combating marine litter from source to sea in terms of linking efforts on upstream freshwater systems to efforts on marine systems; that is, SDG 6 with SDG 14; and linking efforts on upstream production and consumption to efforts on marine systems; that is, SDG 12 (and other related SDGs such as 2 and 11) with SDG 14.

This missing collaboration implies that the internal expertise of the UN System may not be used to its full capacity in addressing marine litter and microplastics, resulting in thematic gaps, which also leads to possible overlaps and duplication of efforts. For example, partnerships and collaboration on marine litter

between the Regional Seas Programmes and the UN Regional Commissions could be strengthened, taking into account that they address the same thematic areas with Member States for combating marine litter upstream, such as waste management along with circularity and a single-use ban, all in the same geographic regions.

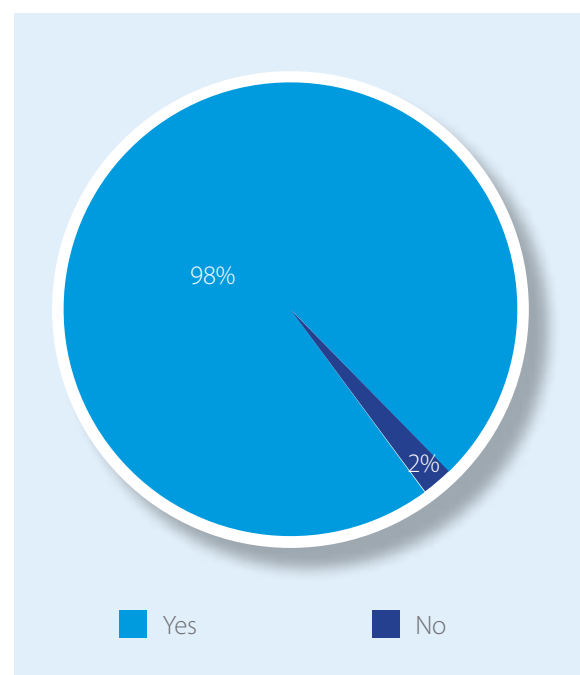


Figure 13: Need for more collaboration on marine litter and microplastics in the UN System.

In terms of the UN functional areas, the biggest gap in collaboration on marine litter within the UN System is in the category of 'drivers' – notably technology and innovation and capacity building and training (Figure 14a). While this expertise is available in the UN System, actively engaged entities do not collaborate much on the marine litter issue with other UN entities through joint initiatives, projects, partnerships or other bilateral arrangements. This is the case particularly for the first stages of the product life cycle, where industry and trade-related entities have relevant activities and projects, funded by Member States, in areas that require their specialized expertise, such as sustainable manufacturing with 9R-based closed-loop material flows. For example, UNCTAD targets marine litter from the trade and economic point of view to ensure that relevant economic sectors and value chains produce materials in a sustainable manner, including

by considering externalities and the circular economy. While this specialized expertise is available in the UN System, it has not been used in internal collaborations on marine litter, and instead becomes available when requested by Member States. These occasional demands from Member States have led UNCTAD to support developing nations in addressing the efforts of tradable sectors to reduce plastic inputs and to find alternatives to plastics. WTO members are increasingly considering the issue of plastic pollution and marine litter in relation to trade amid their recognition that trade occurs across plastics' supply chain. Currently, WTO has several activities linked to marine litter and microplastics within its overall framework of measures on plastics. However, as relevant as these efforts are for tackling the issue of marine litter, they remain disconnected from the other marine litter-related efforts in the UN System, as these entities mostly do not participate in the internal marine-litter dialogue and related collaborations.

The category of 'responses'; that is, waste management and recycling, encompasses a relatively high number of collaborations in the functional areas (Figure 14b). Nevertheless, some specialized entities that are working in this field are not involved or only partially involved in partnerships and collaborations on marine litter and microplastics within the UN System. One example is UNIDO's work with industries and Member States on circular-economy technologies and innovation, capacity-building, and governance, along with relevant projects and regional studies, while having currently limited UN partners on marine litter and microplastics.

Solutions to the problem of marine litter and microplastics clearly need to come from industry in terms of ensuring innovation, efficiency and recyclability. At the same time, the responsibility for and benefits from creating alternatives to plastic still need to be demonstrated to industry.¹⁴⁰ UN entities need to collaborate and collectively raise awareness and promote action at the country level. Relevant UN entities can support Member States and industries in responding to the litter problem. For example, they can provide policy suggestions and guidance, as

UNIDO and the Economic Commissions have done. Similarly, like ITC, they can develop methodologies for SMEs. ITC's current work on addressing marine litter and microplastics indirectly through methodologies on chemical and other types of waste, and resource efficiency for SMEs can be refined to develop appropriate methodologies for plastic litter. These adapted methodologies could then be put into practice via the delivery mechanisms for SMEs' work on data collection, waste behavior and corrective actions, through ITC's industry platforms and the business support organizations (BSOs) network.

The most active UN collaboration and partnerships are in the category of 'impacts', where many UN entities are working together (Figure 14c). Nevertheless, a number of entities with relevant expertise in this area currently do not collaborate on the issue of marine litter within the UN System. This includes entities with mandates for upstream water systems (for example the UNECE's Water Convention and UN-Water), entities with a local presence (for example UNDP and UNOPS), and entities that specialize in environmental impacts on society (for example UNICEF and OHCHR).

¹⁴⁰ Which today do not recognize it as Member States do.

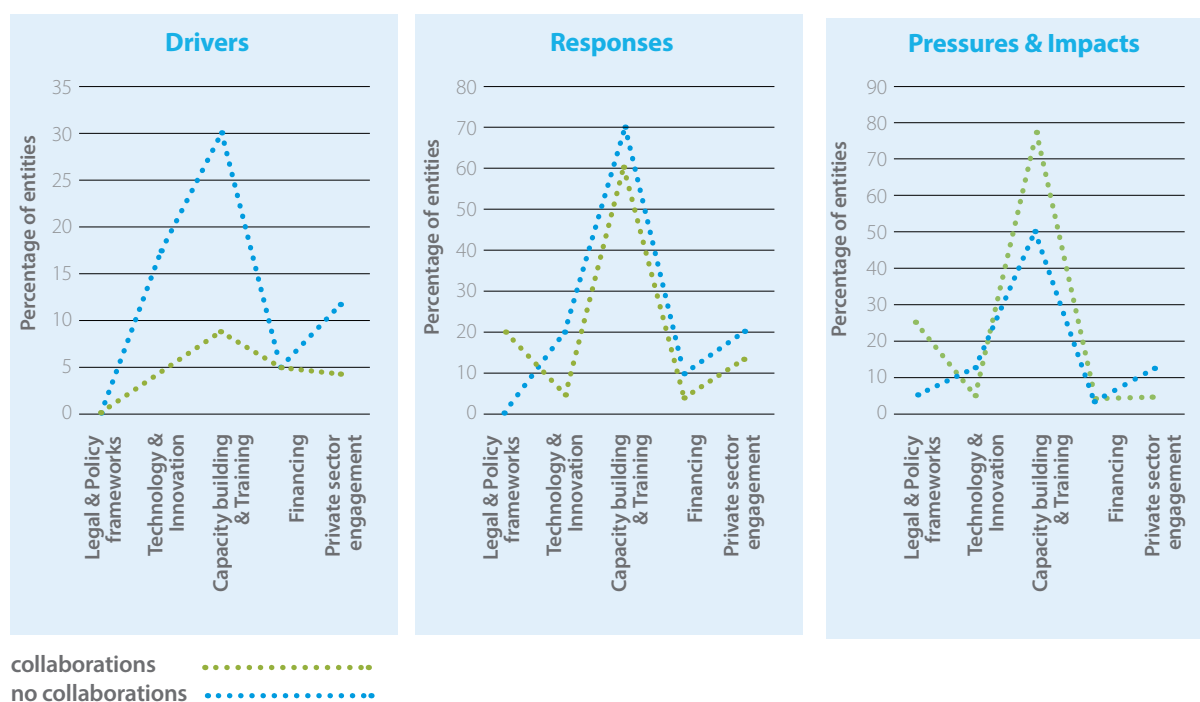


Figure 14: Collaboration and partnerships in the UN System on the topic of marine litter and microplastics in the functional areas of (a) Drivers (that is, production and consumption), (b) Responses (that is, waste management and the circular economy), and (c) Impacts. Specifications are provided in Annex 6; please note that a different percentage scale is used for each category.

Gaps in collaboration are described in more detail both in terms of thematic areas, including geographical and life-cycle considerations, and in terms of the comparative advantages of all UN System entities to further engage in tackling marine litter and microplastics:

- **The disconnect of freshwater and marine thematic areas in tackling marine litter and microplastics**

This study revealed that a link for addressing marine litter and microplastics is missing in the UN System, in terms of collaboration and partnerships between freshwater-focused entities and marine-focused entities. There is a lack of connection between freshwater and marine systems' expert communities and networks on marine litter and microplastics, as well as the fact that existing international treaties tend to address fresh and marine waters separately. While the interconnectedness of freshwater and marine issues is recognized by several framework conventions for ocean and freshwater systems and water pollution (for example, UNCLOS and

the UNECE/Water Convention),¹⁴¹ there is no collaboration on the issue of marine litter and microplastics by the processes under these conventions. The same is the case for the Parties to these conventions and the two UN interagency mechanisms dealing with ocean and freshwater issues: UN-Oceans and UN-Water. These examples demonstrate the lack of sufficient institutional linkages between sea- and land-based concerns and related management bodies. Likewise, many projects implemented examine upstream and downstream water systems separately and rarely deal with cross-cutting issues, such as plastic litter and nutrient cycling; for example, the GEF-funded Transboundary Waters Assessment Programme (TWAP)¹⁴² that considered five types of shared waters. UNCLOS recognizes that addressing plastic

¹⁴¹ The UNECE/Water Convention mentions the marine environment in the context of 'countries should reduce pressures on the rivers (the riverine pollution), which impacts the sea and marine ecosystems'; Article 2.6 of the Convention on the Principle of Cooperation with other Conventions

¹⁴² <http://www.geftwap.org/>

pollution and marine litter requires dealing with the multiple aspects of the plastic cycle on land as well: *'Implementing the provisions of UNCLOS will be challenging if approached in a sectoral rather than an integrated and holistic manner, given addressing marine pollution is broader than the oceans perspective'*. The Water Convention highlights that upstream pollution contributes to marine pollution, encourages all Parties to take marine environments into consideration, and recommends that transboundary cooperation bodies on freshwater coordinate with their counterparts for coastal/marine environments. Despite the relevance of UN-Water's mandate for addressing marine litter, the issue of marine litter and microplastics has not been a focus activity within UN-Water since this has not been requested by its members.

In general, as noted by UN entities, it is a challenge for land (terrestrial/freshwater system) actors and marine actors to come together to combat marine litter and microplastics. There is also a frequent lack of awareness of how land pollution is related to marine pollution; that is, a perception that marine litter is a marine problem. Due to the attention traditionally put on the *marine* aspect of the marine litter problem, tackling litter pollution at its source is largely associated with waste-related solutions. Here, however, the upstream-downstream link in terms of waste management is considered to be inadequate. In terms of collaboration on the SDGs, litter and microplastics are not captured in SDG 6 monitoring and there are no performance indicators on the quality of the water that is discharged back to the environment.¹⁴³ This leads to a lack of upstream data on litter monitoring under SDG 6 and a disconnect from SDG 14.1, resulting in a lack of joint work by UN entities for combating litter and microplastics through the SDG framework.

- **Tackling the problem of marine litter and microplastics upstream: limited efforts in the first part of the life cycle (production)**

Across the life cycle of plastic products, the mapping noted limited efforts by the UN System in the production stage; for example, limited engagement with multinationals/producers, thus limiting UN-wide collaboration and partnerships in the area of 'closing the pollution tap'. Overall, there is a lack of mechanisms in the UN System that would enable tackling marine litter and microplastics across the full life cycle of plastic products.

The efforts of UN entities are predominantly focused on downstream impacts, sea-based sources of marine litter and the end of the life cycle; that is, waste-related solutions. UN entities are gradually advancing towards more upstream approaches via the adoption of the circular economy. The fewest activities were observed upstream, with current efforts aimed at providing technical assistance to Member States and the preparation of guidelines for industries; for example, by FAO, UNCTAD, UNDP, UNECLAC, UNEP and UNIDO. Broader efforts related to upstream processes, such as product (re-)design and the use of alternative materials, remain limited. These are also considered as more radical solutions that would allow addressing plastic pollution at its source. A holistic perspective within the UN System where the entire life cycle would be considered is largely absent, with consumption and production practices being considered a secondary option for tackling the problem of marine litter and microplastics after waste management solutions. The mainstreaming of the Extended Producer Responsibility (EPR) principle was identified as a considerable gap, with limited action on the ground. It was noted that good EPR practices have not been replicated (or at least not successfully), and hence this area requires enhanced efforts by the UN System to support Member States. These could involve, for example, designing plastic reduction policies, the application of EPR schemes to more plastic products, integrating higher environmental standards into the standards of plastic products, and harmonizing EPR regulation for producers to take more responsible actions to reduce plastic pollution. The limited focus of UN entities on production processes includes weak engagement with the agricultural and food industries regarding the use of plastic throughout products' life cycle. Individual

¹⁴³ SDG 6.3 has two indicators for wastewaters and ambient water quality, which, however, are not performance indicators.

entity efforts in these areas, such as UNECE on food loss and waste, are limited due to restricted mandates and to plastic wrapping of food not being targeted specifically in ongoing programmes or projects. Nevertheless, sustainable packaging practice is a significant component of FAO's work to address food loss and waste within the supply chain.¹⁴⁴ A need to improve UN System synergies regarding the private sector and early stages of product life-cycles (that is, design, manufacturing and production) to encourage industries to explore the full mitigation potential of plastic pollution reduction was acknowledged, with entities noting that *'the UN cannot tackle ocean issues such as marine litter alone, [as] it requires the inclusion of the private sector and industries'*.

In terms of possibilities for further collaboration on the SDGs relating to upstream production, it was noted that there is a lack of solid indicators under SDGs 6 and 12 that would allow the monitoring of industrial activities contributing to pollution. Methodologies for monitoring SDG indicator 11.6.1 (Proportion of urban solid waste regularly collected by cities) are currently being developed that could contribute to the monitoring of SDGs 6 and 12 as well. In this context, some entities highlighted shortcomings of global measures and legal frameworks for plastic pollution reduction that need to be improved to change the production and consumption culture and reduce the flow of marine litter. It was stressed that *'global issues with global industries require global solutions'*. A dedicated convention for this purpose would enable taking steps towards reducing and eventually eliminating plastic pollution and stimulating related innovation. It was emphasized that a global legal framework could drive solutions upstream in terms of private sector innovation, efficiency, reuse models and recyclability. The private sector, in most cases, prefers standardization; a global convention on plastics could help drive action and innovation at all levels. It was stated by one entity that *"in the long run we will need a legally driven circular economy to tackle plastic, which will aim to harmonize standards at a global scale to optimize and maximize reduction, recovery, reuse and recycling"*.

- **Comparative advantages of all entities: lack of multisectoral considerations**

The mapping exercise showed that while the entities interviewed have respective comparative advantages in tackling marine litter and microplastics, internal UN expertise on this issue could be used more efficiently.

Entities with mandates related to topics such as trade, humanitarian aid, health and sanitation, and human rights, including the human right to a healthy environment, and entities that have activities directly or indirectly related to marine litter and microplastics, are often not engaged in relevant collaboration or partnerships. Nonetheless, these entities would welcome such partnerships. UNIDO, for instance, expressed interest in alliances on plastic management, and ILO indicated an interest in joining marine litter and microplastics efforts, since this would create an opportunity to work with other international organizations in creating decent jobs and enhancing circularity. Issues such as product design, the circular economy and EPR require enhanced collaboration efforts, given they are currently mostly carried out as individual activities by UN entities and are largely in the initial stages of development and/or implementation. Furthermore, the economic and socio-economic aspects of addressing the issue of marine litter and microplastics were highlighted as requiring further attention, and collaboration on this was desired. Tapping into UN entities' presence on the ground was stressed as an important area for tackling marine litter and microplastics that could be further utilized.

COORDINATION

Nearly all interviewed entities recognized a need for a coordinated approach/enhanced coordination on marine litter and microplastics within the UN System (Figure 15). It was stressed that *"partnering across the UN system is the only way to tackle a large problem such as marine litter and microplastics, which requires a different set of skills from various entities across the UN System"*. In particular, entities engaged in marine litter and microplastics upstream in the thematic areas of consumption and production, circularity and solid

¹⁴⁴ <http://www.fao.org/3/i7954e/i7954e.pdf>

waste management (SDG 12 and related upstream SDGs) called for strengthened coordination. The need for further coordination was highlighted in light of constraints in communication that were experienced as a result of fragmented or insufficiently disseminated information, involvement of a limited number of entities in collaboration and existing partnerships on marine litter, as well as insufficient use of internal expertise for tackling marine litter and microplastics. Enhanced coordination in the UN System was seen as a good way to significantly advance in addressing the challenge of marine litter and microplastics. The coordination done by UNEP through the GPML and by GESAMP is recognized in their work with Member States and various stakeholders, focusing on specific aspects of the problem of marine litter and microplastics. These include downstream effects and scientific data/indicators in the marine environment, which are insufficient for addressing marine litter across the entire life cycle. Entities that did not see a need (4 percent) for strengthened global, system-wide coordination considered regional coordination as being of the greatest importance for addressing marine litter issues.

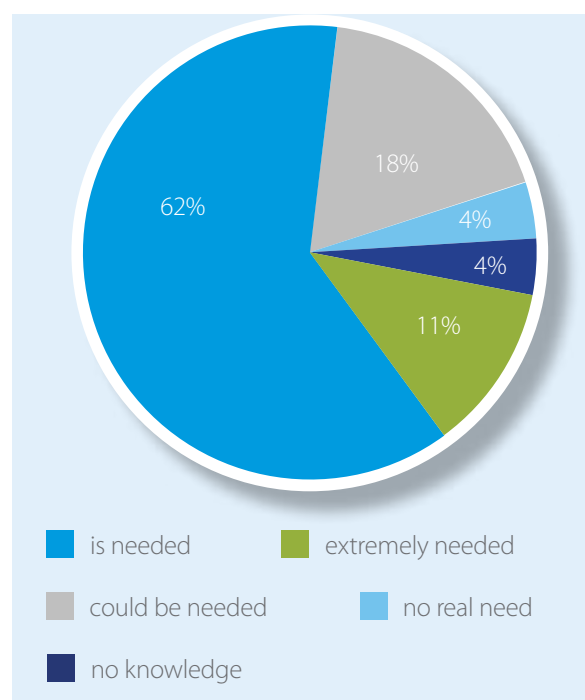


Figure 15: Need for coordination on marine litter and microplastics in the UN System and increased synergies.

A large number of entities saw coordination as a way to promote a systemic approach to addressing this multisectoral and multi-dimensional challenge in support of Member States. Strengthened coordination was also seen as needed at a country level where *“various UN organizations implementing projects at the same time may lead to overlaps and confusion”*, and that, *“in the end, the impact is not maximized, instead there is a risk of lack of sustainability in the UN approach”*.

- **Marine litter as a complex topic requiring a systematic approach by the UN System**

Entities highlighted that a coordinated approach is needed to tackle the multisectoral and multi-dimensional problem of marine litter and microplastics. Currently, while there are many good initiatives, these are not necessarily as coherent and integrated as they could be in the view of many respondents. Some UN entities, whose expertise could be relevant in combating marine litter, are not participating in this work due to a lack of a direct mandate and/or resources. Entities stated that enhanced coordination on marine litter and microplastics could allow various entities with relevant expertise to engage in the marine litter problem, which would be particularly needed regarding future governance measures for plastics and other materials.

- **Fragmentation and limited impact of UN activities**

While there is great interest in marine litter and microplastics, with many entities addressing the issue, entities stated that related activities are often fragmented and/or of a small-scale nature, resulting in limited impact. The focus of UN activities is generally on short-term interventions addressing the marine perspective only, along with waste management, rather than long-term solutions aimed at a common vision, including addressing production upstream. A lack of integration of marine and terrestrial concerns at the UN level – and in most cases at the national level as well – results in a lack of interaction between required actors and limited participation of relevant entities in addressing an issue that spans the land and sea domains. Furthermore, respondents stated that agencies promote various visions, solutions and strategies to tackle the problem of marine litter and

microplastics, resulting in the UN speaking in many different, rather than a single voice, on the same issue. As one respondent noted: *“Coordination is needed since pieces of the UN System need to be put together for combating the global problem of marine litter and microplastics.”*

- **Duplication of efforts by the UN System and lack of an overview on how to contribute**

Marine litter is a cross-cutting and multisectoral issue that has gained popularity as a topic. Unconnected activities in the UN System on marine litter have been found to have multiplied, although with the availability of financial resources for addressing this issue, there is potential for marine litter to fit within the mandates and projects of additional UN agencies. Lack of coordination was noted in terms of different entities pursuing similar proposals on marine litter and microplastics in the same regions, and marine litter projects being implemented by various entities in the same countries, leading to a concentration of project efforts in certain Member States. A need for further coordination in this regard was expressed by the respondents, in order to reduce duplication of efforts and increase transparency on what initiatives/projects are administered by various UN entities. Competition for resources may also lead to a lack of transparency, diminish effectiveness and result in a duplication of marine litter efforts in the UN System. A lack of mechanisms such as a centralized database on marine litter efforts further increases the risk of duplication. Respondents also highlighted that the UN could benefit from better coordination at a country level to become more efficient and effective in finding local solutions, sharing best practices and facilitating knowledge exchange. In this light, a need for greater complementarity was expressed. In order to be able *“to make progress at the UN level on marine litter and microplastics, there is a need for a clear process and clearly defined roles for each agency to avoid competition and duplication of efforts.”*

- **Sharing information as a prerequisite to harmonize marine litter efforts in the UN System**

A need for coordination was also expressed from the perspective of access to information and best

practices. A large number of entities emphasized that information on UN contributions to tackling marine litter and microplastics should be centralized and easily available. It is currently challenging to obtain a systematic overview on what is happening in the UN System. Respondents reported that information flows in the UN System are largely informal, based on personal networks and *ad hoc* opportunities. UNEP’s ongoing effort to establish an information mechanism to coordinate work on marine litter through the Sea of Solutions Programme may rectify this. However, thus far there is no formal mechanism dedicated to sharing information and coordinating the efforts of UN bodies on issues related to marine litter and microplastics. Improved communication between entities and an increased exchange of information were identified as necessary for tackling marine litter in the UN System. This would allow entities to identify how and where they could add value. Furthermore, harmonization is needed in regard to marine litter/waste terminology.

- **Lack of a long-term programmatic approach to interventions by the UN System**

In order to continuously support Member States in their efforts to address marine litter, long-term (as opposed to project-based) funding remains a challenge for many entities. It was emphasized that to tackle the problem of marine litter and microplastics, it is crucial to have sustained and long-term programmatic funding for carrying out marine litter activities instead of short-term project funding. Also, in many cases, agencies do not have the resources to collaborate and are restricted by not having dedicated funding mechanisms to carry out marine litter and microplastic-related activities. To this end, joint programming on marine litter and microplastics could leverage the strengths of different agencies and enable long-term programmatic sources of funding and plans that in turn should also lead to better coordination. One respondent suggested an institutional mechanism with resources, similar to the one the Joint United Nations Programme on HIV and AIDS (UNAIDS) has established for joint programming activities. Respondents also emphasized the lack of long-term commitments from Member States on addressing marine litter and microplastics as a challenge.

f) Other gaps and needs identified by entities

Several entities remarked that microplastics are the least-addressed topic by the UN System in relation to marine litter; with the mapping exercise confirming that there are very few initiatives and projects by UN entities that specifically address microplastics. The focus of the UN System is mostly on macro-plastics and other marine litter. It was emphasized that microplastics' physical and chemical properties are not well understood and that no network exists for monitoring microplastics in the air and collecting related data, representing a major gap. The challenges include collecting additional data on microplastics, while even the existing observing networks and methods are not optimal. For microplastics as a substance, work with the chemical and petrochemical industries would need to take place in order to understand what microplastics consist of; that is, its constituent properties and how it is shaped. At the same time, it was stated that microplastics require a different set of solutions compared to other plastics. Entities stressed that the knowledge gap relating to microplastics should be addressed through UN-coordinated efforts.

It was mentioned that much remains unknown about marine litter and microplastics, including the extent of pollution, the plastic footprint, agricultural plastic estimations, and atmospheric, ecosystem and human health impacts from, for example, microplastic impacts and burnt plastic emissions. Even with their current mandates, some entities face challenges in relation to existing data/state of knowledge, and hence their efforts in the field of marine litter can be restricted. Without data and scientific facts, meaningful exchanges with policy-makers and Member States are more subject to being challenged. For example, there is no integrated global assessment of agricultural plastics geographical distribution, context-specific

impacts and other factors, which constitutes a significant barrier to develop holistic policy actions for entities such as FAO. Such a global integrated assessment to inform action is being developed now.¹⁴⁵ FAO's current assessment of plastics used in agricultural value chains has identified data gaps and inconsistencies in their volumes and fate. Similarly, a lack of data on the impacts of plastic pollution and microplastics on migratory species is a challenge for CMS. Overall, resources are needed within the UN for global assessments of existing data and knowledge, including on assessment methodologies and metrics relating to marine litter and microplastics.

4.3 Opportunities for further collaboration

During the consultation, entities identified possible areas for further collaboration in the UN System regarding marine litter and microplastics. Based on these views, and in light of the various gaps and needs identified (section 4.2), areas of synergies and opportunities for further collaboration are presented in this section, with the aim to link entities' agendas and ambitions so that they more effectively support Member States in tackling marine litter and microplastics.

Synergies among UN entities are considered in light of their current strengths, complementarities and potential value added across the entire life cycle for addressing marine litter and microplastics. Examples of possible synergies are presented together with insights on how different agencies of the UN System and Member States could benefit from the same. An overview of such synergies and related potential cooperation in the UN System is provided in Table 3.

¹⁴⁵ Food and Agriculture Organization of the United Nations; FAO. 2021. Assessment of agricultural plastics and their sustainability. A call for action. Rome. DOI: <https://doi.org/10.4060/cb7856en>

Strengthening inter-agency collaboration across the entire material life cycle

To effectively tackle the issue of marine litter and microplastics, systematic inter-agency collaboration is needed throughout the product life cycle. Tackling pollution at its source is essential to prevent plastics from ending up as marine litter or waste. The issue of marine litter and microplastics is currently mainly addressed from an environmental perspective and in downstream domains, as indicated in this study. The UN System, however, comprises organizations that make it possible to foster the integration of marine litter issues in the broader context of economic and social development and planning (that is, across sectors and the product life cycle), and through an integrated 'source to sea' approach.

Entities such as the UN Regional Commissions, UNEP, ILO, OECD, UNIDO, the World Bank and others, offer complementarities that enable a system-wide understanding of marine litter and microplastics from upstream design and production to downstream deposition. They are making efforts to reduce the flow of litter more effectively and improving environmental protection, economic growth and societal benefits. Synergies through a strengthened UN System-wide inter-agency collaboration involving these entities would enable coordinated efforts across the entire life cycle. Creating a circular economy that retains plastic in the economy for as long as possible at its highest economic value and prevents the release of marine litter and microplastics can be achieved by promoting the use of design for circularity as well as more sustainable production and consumption with 9R approach. For example, further collaboration could be explored across:

- the entire life cycle from product design, production, packaging and consumption, to recycling and waste management. Expertise in production and consumption, high-value streams (reusing, remanufacturing, recovering, redesigning) and low-value streams of recycling, exists in UNEP, FAO, GEF, IFAD, ILO, ITC, the Regional Commissions, UNCTAD, UNDP, UNIDO, the UN Global Compact, UNOPS, WFP, the World Bank,

UNWTO, WTO and other entities committed to the circular economy's ingredients of 9R-based closed-loop material flow in sustainable manufacturing (Figure 10).

- the aquatic system, from inland freshwater to coastal and marine systems; for example, the UNECE/Water Convention, UN-Water, CMS, Ramsar, CBD, DOALOS/UNCLOS and UN-Oceans could collaborate on integrating the upstream terrestrial and downstream marine governance frameworks and provide a basis for joint efforts on marine litter and microplastics via integrated water resources-, river basin-, coastal- and marine management.
- cross-cutting issues such as health, human rights and education, involving OHCHR, UNICEF and WHO, aimed at integrating the pillars of society, economy and the environment and provide an overall assessment of sustainable value creation when addressing marine litter and microplastics.

Also, a focus on opportunities for green growth and green jobs would help Member States to make progress in a more sustainable way towards tackling the issue of marine litter and microplastics by ('*establish[ing] an economic development narrative based on the environmental shortcomings*').

These elements of collaboration within the UN System would enable the integration of all pillars of sustainability. A holistic approach to the global problem of marine litter and microplastics would offer Member States an integrated basis for achieving economic growth and an ecological balance that supports environmental protection along with benefits for human life and society. Such integrated UN-wide collaboration would effectively support mainstreaming the circular economy at country-level. Achieving national economic advancement, job creation and societal well-being would also bring a higher visibility to the issue and convince people of the need to treat marine litter and microplastics as national priorities.

As much as marine litter and microplastics are today a growing concern and a high priority for ministries of environment, marine litter has not been perceived as a priority issue by other ministries; for examples by

the ministries of economy, finance and agriculture. Demonstrating the socio-economic side of the problem of marine litter and microplastics might elevate its importance in Member States where other branches of governments often play a greater role in this regard. The involvement of other ministries would bring an economic perspective to formulating policy recommendations on marine litter and microplastics, sensitizing countries to reducing pollution at its source. By involving economy-related UN entities in collaborations on marine litter and microplastics, those entities could sensitize the respective ministries of economy and finance to this problem, and broaden the consideration of this cross-cutting issue across the entire life cycle. Furthermore, in the context of SDG reporting, separate reporting on different aspects of marine litter and the lack of cross-checking of data remains a challenge. For example, data on plastics production are likely to be reported to ministries of trade and industry, while waste management data are reported to ministries of environment. Strengthened cooperation of entities in a cross-sectoral and horizontal manner would thus be a benefit to Member States and would help to operationalize the SDGs at the national level.

Enhancing sectoral and thematic cooperation on marine litter and microplastics, including at the country level

As indicated in sections 4.1 and 4.2, while the UN System offers a wealth of expertise relevant to addressing marine litter and microplastics, collaborative actions are far from being optimized under various economic sectors and thematic areas. For this purpose, a number of possible synergies in these sectors/areas have been identified and are presented in Table 3.

Optimizing collaboration in various areas and sectors would help maximize the use of UN expertise in tackling marine litter and microplastics. Currently, potential synergies within the UN System are not being explored due to resource limitations and work mainly taking place in agency silos. For instance, while food wrapping is a major contributor to waste,

knowledge on packaging materials is not being shared across the UN System. This is also true for other areas including waste management, where the interface between sea-based sources and land-based management, as well as the control of trade in plastics, would benefit from harmonization at global and national levels. Breaking down silos and improving internal communication also pertains to the freshwater and marine communities that currently are not sufficiently interacting within the UN System. Certain entities may not be aware of the relevance of their work to tackling marine litter and microplastics, and could be supported to identify entry points in the context of their mandate.

Connecting the work by normative entities at the global level with local entities' expertise and local project execution could increase the efficiency of marine litter efforts. Finding local solutions to the implementation of global governance is crucial, considering that countries have large differences in terms of waste management and recycling infrastructure. Strengthened collaboration on the ground would help avoid duplication of efforts, on national waste management facilities for example, where several UN entities are engaged. Coordination at the country level is important since entities are typically each operating on their own. Furthermore, cooperation on the ground is a key issue to consider since certain agencies such as ILO, IMO, UNEP and UN-Habitat are not represented in all UN Member States. Agencies that do have this local presence can help ensure mainstreaming at the country level.

Given that SDGs offer high-level direction and provide a framework for sustainability at the global and national levels, the UN Sustainable Development Cooperation Framework (UNSDCF)¹⁴⁶ that supports collaboration between Member States and the UN System to achieve the SDGs, could be used as a unifying framework for enhancing collaboration on marine litter and microplastics at the country level.

¹⁴⁶ Recently renamed to the UN Development Assistance Framework (UNDAF): <https://unsdg.un.org/resources/united-nations-sustainable-development-cooperation-framework-guidance>

Ensuring access to data

A lack of knowledge is a significant bottleneck for some entities. Without scientific data, they cannot elevate the issue internally, and consequently cannot collaborate with other entities due to either a lack of mandate and/or resources. Knowledge gaps often provide a reason not to take action. Even though the current and potential ecological and human health risks associated with marine litter and microplastics are recognized by the scientific community (for example, in terrestrial ecosystems),¹⁴⁷ little work is being done on microplastics in the UN System. In this regard, entities would benefit from including concerns related to microplastics in projects. Different models have been developed to measure plastic leakage; however, in view of a general lack of reliable data in the waste sector, many models cannot calculate plastic leakage properly. Thus, guidance on how to conduct assessments and a common narrative could help Member States in their national assessments.

Lacking sufficient relevant data and evidence, Member States may not provide mandates that allow certain UN entities to engage in marine litter and microplastics-related activities. Due to the uncertainty over how to measure microplastics, there are few policies in place to date. Furthermore, marine litter and microplastics need to be seen in a broader context, including understanding and assessing the impacts of multiple stressors on ecosystems by the international community. Once there is more information available about the impacts of marine litter and microplastics, it will be possible for entities to support Member States in addressing the problem. For instance, there has not been any overall assessment of agricultural plastics that currently falls outside of global governance debates, including the Plastic Waste Partnership under the Basel Convention.

Table 3: Areas of synergies in the UN System on marine litter and microplastics based on consider possible in terms of collaboration opportunities mentioned by agencies as possible

CAPACITIES & SERVICES	DRIVERS AND RESPONSES		
	Manufacturing Product design	Agriculture, Food	Packaging
International Governance		FAO, UNEP	
Technical Assistance	UNEP, UNIDO, <i>UN Global Compact</i>	FAO, UNECE, UNIDO	WFP, UNEP, UNIDO
Work with industry/businesses	UNEP, UNIDO, OECD, <i>UN Global Compact</i>	UNIDO, ITC, FAO, <i>UN Global Compact</i>	UNEP, UNIDO
Work with SMEs	UNEP, UNIDO, <i>UN Global Compact</i>	UNECE, ITC IFAD, UNEP, UNIDO	UNEP, UNIDO
Convening capacities	UNEP, UNIDO, OECD, <i>UN Global Compact</i>	IFAD, ITC, UNECE, UNESCWA	UNEP, UNIDO
Capacity building	UNEP, UNIDO, OECD, <i>UN Global Compact</i>	FAO, UNECE, UNIDO	UNEP, UNIDO, <i>WFP</i>
Methodology development, assessments	UNEP, UNIDO, OECD	FAO, UNECE, ITC,	UNEP, UNIDO
Technology & Innovation	UNCTAD, UNIDO, <i>UN Global Compact</i>	IFAD, ITC, FAO	UNIDO
Financing projects	GEF, World Bank	IFAD, World Bank	GEF, World Bank
On-the-ground presence	UNDP, UNIDO	ITC, IFAD, UNIDO	UNIDO, WFP
Policy (local) interaction	UNDP, UNIDO	IFAD, ITC	UNIDO
PPP (local) development	UNDP, UNIDO	IFAD, ITC	UNIDO
Local project execution	UNDP, UNIDO	ITC, IFAD	WFP, UNIDO

¹⁴⁷ Rillig M. and A. Lehmann, 2020, Microplastic in terrestrial ecosystems, *Science*: Vol. 368, Issue 6498, pp. 1430-1431, DOI: 10.1126/science.abb5979, <https://science.sciencemag.org/content/368/6498/1430>

on capacities and services in the area of work that entities have available ongoing collaboration and areas in which they already work (in black) and *what they in the future and/or indicated possible areas of engagement by agencies in the future (in green)*. Purely marine-focused entities are highlighted in blue.

				PRESSURES AND IMPACTS			
Retailing, Consuming	Waste	Recycling	Trade	Environment	Biodiversity	Health	Human Rights
UNEP	BRS, IMO, RSP	UNEP	WTO	IMO, UNCLOS, RSP, Water Convention, UN-Habitat	CBD, CMS, UNCLOS, DOALOS, RSP	WHO	OHCHR
UNEP, UN Global Compact	BRS, IMO, RSP, UN-Habitat, RC, UNDP, ESCWA, OECD	BRS, UNIDO, UNEP, RSP, RC, UNDP, UN-Habitat, ILO	UNCTAD, WTO, ITC	UNEP, RSP, DOALOS, IMO, UN-Ocean, Water Convention, UN-Water, UN-Habitat, UNIDO, UNODC	CBD, CMS, UNEP, RSP, IUCN, Ramsar	WHO, FAO	OHCHR, UNICEF
UNEP, UN Global Compact	BRS, IMO, UNECLAC, UNWTO, RC	UNEP, UNIDO, BRS, UNWTO, RC	UNCTAD	IMO, UN Global Compact, UN-Habitat, UNIDO			
UNEP, UN Global Compact	BRS, IMO, ITC, UNEP, RSP, RC, UNDP, UN-Habitat, UNWTO	ITC, BRS, RSP, UNEP, UN-Habitat, UNWTO	ITC	UN Global Compact, UN-Habitat, UNIDO			
UNEP, UN Global Compact	BRS, IMO, RSP, UNDP, RC, UN-Habitat, OECD	BRS, UNIDO, UNEP, UNDP, UN-Habitat, RSP	UNCTAD, WTO, ITC	UNEP, IMO, DOALOS, UN Global Compact, UNDP, UN-Habitat, UNIDO, CBD, UNFCCC	CBD, CMS, DOALOS, UNEP, RSP, IUCN	FAO, UNICEF, WHO	OHCHR, UNICEF
UNEP	BRS, IMO, UN-Habitat, RSP, RC, OECD, UNWTO	BRS, UNIDO, UNEP, UNDP, UN-Habitat, RSP	WTO, UNCTAD, ITC	UNEP, CBD, IMO, IOC, UN Global Compact, DOALOS, FAO, UN-Habitat, UNIDO, UNFCCC, UNODC	CBD, CMS, DOALOS, UNEP, RSP, IUCN, Ramsar	WHO, FAO	OHCHR, UNICEF
UNEP	UN-Habitat, BRS, ESCAP, ECLAC, RSP, OECD, UNWTO	UNIDO, RSP, UNWTO, RC, UNEP, UN-Habitat	UNCTAD, ITC	UNEP, UNIDO, IOC, GESAMP, IAEA, FAO, IUCN, UN-Habitat, CBD, WMO, UNODC	CBD, CMS, UNEP, RSP, IUCN	WHO	
	UNIDO, UNCTAD, UN-Habitat	UNIDO, UNCTAD	UNCTAD, ITC	UNEP, UNIDO, IAEA, UN-Habitat, UNOOSA			
GEF, World Bank	GEF, World Bank	GEF, World Bank		GEF, World Bank			
UNOPS, UNDP	UNDP, World Bank, UNOPS, UN-Habitat	UNDP, World Bank, UNESCAP, UN-Habitat, UNIDO	ITC	UNDP, RSP, World Bank, UN-Habitat, UNIDO, IUCN, UNODC	IUCN, RSP	UNICEF	UNICEF, OHCHR
UNDP	UNDP, RSP, UN-Habitat	UNEP, UNDP, RSP, World Bank, ESCAP, UN-Habitat, UNIDO	ITC	RSP, UNDP, World Bank, UN-Habitat, UNIDO	RSP		
UNDP	UNDP, World Bank, UN-Habitat	UNDP, World Bank, ESCAP, UN-Habitat, UNIDO	ITC	RSP, UNDP, UN-Habitat, UNIDO, World Bank	RSP		
UNOPS, UNDP	UNDP, RSP, World Bank, UNOPS, UN-Habitat, UNIDO, ITC	UNEP, UNDP, RSP, World Bank, UNOPS, UN-Habitat ITC	ITC	UNDP, UNIDO, World Bank, UN-Habitat, RSP, IUCN	RSP, IUCN	UNICEF	UNICEF

Boosting exchanges of knowledge and experience

The consultation revealed that information sharing on marine litter and microplastics could be strengthened in the UN System in terms of the inclusion of relevant entities and their expertise across material cycles. An internal system-wide mechanism for the purposes of regular communication on marine litter and microplastics, sharing information on ongoing and past projects and initiatives, and the possibility of holding internal discussions and presenting strategies through in-depth exchanges within the UN System was called for. Such a mechanism could also support the coordination of workshops and capacity building exercises of UN entities, with the aim of avoiding duplication and oversupply. Other suggestions by entities include:

- *An online platform* could serve as a web portal of initiatives on marine litter and microplastics. The purpose of the platform would be for sharing information across the material cycle. Entities suggested using existing platforms and facilitating their further development. UNEP is in the process of creating an online platform for marine litter in collaboration with IBM.¹⁴⁸
- *A regular online newsletter* could be prepared by and circulated among all entities, highlighting key developments and new projects.
- *Regular webinars/"deep-dive" calls* would facilitate information sharing and exchange.
- *A working group* consisting of UN and related entities could be established, with the purpose of coordinating internal information sharing on marine litter efforts. The existing GPML was referred to for this purpose. However, it was stressed that if existing initiatives are to be utilized, these would need to be expanded to include additional entities with expertise across the entire material cycle.

Use of existing frameworks and mechanisms to address marine litter and microplastics

Considering existing multisectoral, global and regional frameworks and mechanisms in the UN System that could be used to facilitate further collaboration and improved coordination on marine litter and microplastics, the majority of entities suggested leveraging the SDGs as a framework for action on marine litter. For achieving the SDGs, the UNSDCF under the Secretariat of the UN Development Coordination Office (DCO), addresses the collaboration between Member States and the UN System that could integrate and advance enhancing collaboration on marine litter and microplastics among UN entities across different levels: national, regional and global. This cooperation framework is a compact among UN development entities - the UN Resident Coordinator (RC) and UN Country Teams (UNCTs) that plan, finance, deliver and evaluate their support to countries in achieving SDGs over a five-year cycle.

Other suggestions included consideration of the UN Decades (2021-2030), including the UN Decade of Ocean Science for Sustainable Development; the Post-2020 Global Biodiversity Framework, NDCs, opportunities related to the UN Ocean Conference, the Protocol on Water and Health to the Water Convention, partnerships such as the GPML and the PWP under the Basel Convention, as well as mechanisms for bilateral cooperation and opportunities with business and industry. Existing frameworks and mechanisms for further collaboration on marine litter and microplastics across the UN System are listed in Table 4.

¹⁴⁸ UNEP and IBM are creating a marine litter digital platform with a goal to store information on marine litter in one place, to provide access to information about efforts, projects and initiatives of various stakeholders (governments, industry, academia, civil society and others) concerned about marine litter through a single interactive virtual forum. <https://un-spbf.org/big-data/ibm-digital-platform-marine-litter/>

Table 4: Existing frameworks and mechanisms with opportunities for UN collaboration on marine litter and microplastics across sectors, in thematic areas, and at the national/regional level (based on consultations with entities during the interviews and the webinar in July 2020; this list is non-exhaustive).

<p>Existing general frameworks and mechanisms for collaboration in the UN System</p> <ul style="list-style-type: none"> • Framework of Sustainable Development Goals (SDGs) / the 2030 Agenda • UN Development System Reform • UN Sustainability Strategy Phase II • One UN Programme • UN Decade of Action (2021-2030)
<p>Existing frameworks and mechanisms for collaboration by the UN System in thematic areas</p> <ul style="list-style-type: none"> • Specific SDGs including goals 6, 8, 9, 11, 12, 13, 14, 15 • Post-2020 Global Biodiversity Framework - a UN System Commitment for Action to assist Member States delivering on the post-2020 Global Biodiversity Framework • Ad Hoc Open-Ended Experts Group (AHEG): opportunities with the stocktaking of the AHEG • Framework of the UN Ocean Conference: a Partnership Dialogue on interlinkages between SDGs • UN Common Approach and Commitment to Biodiversity and nature-based solutions • Global Partnership for Marine Litter (GPML) • Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) • Basel Convention Plastic Waste Partnership/Small Inter-sessional Working Group on the technical guidelines on plastic waste • Protocol on Water and Health to the Water Convention • UNECE Water Convention: source to sea • UN-Oceans (working group on specific issues) • UN-Water • UN Decade of Ocean Science for Sustainable Development (2021-2030) • The GEF International Waters Learning Exchange and Resource Network (IW:LEARN) • Nationally Determined Contributions (NDCs) • Waste Wise Cities and Waste Wise Partnership • G20 and G7
<p>Existing frameworks and mechanisms for collaboration by the UN System at the regional and national level</p> <ul style="list-style-type: none"> • Member State reporting under SDGs • Regional Forums of the Regional Commissions (regional level) • Issue-based coalitions (regional level) • Regional Seas Conventions and Action Plans (regional level) • Regional Nodes for Marine Litter (regional level) • Waste Wise Cities and Waste Wise Partnership • UN Country Teams

Some existing mechanisms on marine litter, such as the AHEG, GESAMP, GloLitter Partnership, GPML and the PWP are presented in Chapters 2 and 3. These mechanisms involve Member States and various stakeholders, including the scientific community and private sector, in the prevention and reduction of marine litter, while serving specific purposes:

- the AHEG, established by UNEA, has worked with Member States' Officials on examining the barriers to and options for combating marine plastic litter and microplastics (SDGs 12 and 14);
- the GPML is a multi-stakeholder partnership for knowledge and experience-sharing on marine litter, contributing to the achievement of SDG target 14.1;
- the GESAMP is a group of independent scientific experts, providing advice to UN agencies on scientific aspects of marine environmental protection (SDG 14);
- the GloLitter Partnerships is a project led by IMO executed in collaboration with FAO, assisting developing countries in preventing and reducing marine litter, particularly plastics, within the maritime transport and fisheries sectors (SDG 14); and
- the PWP is a partnership under the Basel Convention, mobilizing governments, businesses, academia and civil society in addressing trade in plastic waste (SDG 12).

These mechanisms serve the purpose of advancing efforts to tackle marine litter and microplastics at the global scale by providing technical assistance and capacity building and by strengthening private sector engagement. Some of these mechanisms are open to UN and other entities (for example, the GPML and PWP), through which they may receive advice, for example, on marine scientific issues in the case of GESAMP. However, as much as these mechanisms provide opportunities for various stakeholders to work jointly on the prevention and reduction of marine litter through knowledge-sharing between civil society, academia, public and private sectors, in their current form they could not serve as **an appropriate and fully capable UN**

interagency mechanism for marine litter and microplastics. This is because they do not adopt a full life-cycle approach in tackling plastic pollution, nor do they operate under the same format/specifications as other interagency mechanisms do in the UN.

During the consultation, entities expressed the need for a UN systemic framework to achieve strengthened collaboration and coordination on marine litter and microplastics. In the opinion of numerous entities, strengthened collaboration and coordination on marine litter and microplastics are needed in order to “put the pieces together” and to better take advantage of the comparative advantages of different agencies across the material cycle. Some examples of views expressed include:

- “The UN System could have a high-level forum on marine litter and microplastics that would be an opportunity for synergies and bringing together UN agencies to identify opportunities and coalitions.”
- “It would be very interesting to have more joint programming within UN agencies on the issue of marine litter and microplastics to leverage the strengths of different agencies.”
- “It would be good to formalize relationships on marine litter and microplastics within the UN System. A more formal structure would be needed for this purpose.”
- “On the evidence side, it would be relevant to have a common overarching database on marine litter and microplastics.”
- “If there were global aspirations to be achieved that could be broken down at the regional level, it would be possible to establish partnerships and to implement actions at the national level. Targets could be established at the global level, with the implementation of relevant activities taking place at the regional and national level.”

Existing frameworks and mechanisms that provide opportunities for UN collaboration on marine litter and microplastics across sectors, in thematic areas, and at the national/regional level are summarized below under four broad types of approaches:

- A. Opportunities for a nexus approach to combating marine litter and microplastics
- B. Opportunities for increasing collaboration from freshwater areas to ocean basins
- C. Opportunities for tackling marine litter by applying a life cycle approach
- D. Opportunities for highlighting economic incentives related to marine litter and microplastics.

A. Opportunities for a nexus approach to combating marine litter and microplastics

Given that UN entities and international organizations are guided by the **Sustainable Development Goals**, the SDGs were the most frequent suggestion of interviewees as a possible multisectoral framework to improve collaboration on marine litter and microplastics within the UN System. Cooperation is recognized as key for the successful implementation of the SDGs. Their broad scope provides many opportunities for cooperation on marine litter and microplastics, including at the nexus of SDGs 2, 3, 6, 8, 9, 10, 11, 12, 13, 14 and 15 (see Figure 3 on the SDGs and Marine Litter and Microplastics). It was highlighted in the interviews that by achieving other goals such as SDGs 6 and 12, implementation of SDG 14 would automatically follow.¹⁴⁹ SDG targets and indicators guide the efforts of custodian agencies and should stimulate joint workflows and synergies across the UN System.

Besides offering high-level direction for combating marine litter and microplastics, the SDGs provide indications on how to support Member States. Strengthened cooperation of entities in a cross-sectoral and horizontal manner on marine litter and microplastics under the SDGs will benefit Member States and help to operationalize the SDGs at the national level. The **SDG forums**, such as the one for Regional Commissions, offer a way to create

synergies and coordination, bringing UN agencies, civil society and other stakeholders together. The **UN Decade of Action for the SDGs** to accelerate sustainable solutions to the world's greatest challenges was cited as an opportunity to step up the work on marine litter and microplastics collectively. It was also suggested that the visibility of the marine litter and microplastics issue and the coordination of related activities can be improved through linking it with **Nationally Determined Contributions (NDCs)**. NDCs are a critical part of ensuring the follow-up on this issue, since they are constantly measured, reviewed and discussed by Member States. A key feature of the NDCs is recording emissions from waste management. For global coordination on marine litter, entities also suggested to look into other existing platforms and initiatives; for example, the **Secretary-General's Call to Action for Human Rights**, the **G7 Action Plan to Combat Marine Litter** and the **G20 Action Plan on Marine Litter** with the **Osaka Blue Ocean Vision G20 Implementation Framework for Actions on Marine Plastic Litter**. At the local level, strengthened collaboration can be achieved by mandating **UN Country Teams** to ensure that environmental management is better coordinated among agencies to optimize resources and achieve better results. In this regard, it was also suggested to engage the **UN Resident Coordinator system** more, given that it is meant to have a core role in coordinating UN agencies and their operations and programming at a country level.

B. Opportunities for increasing collaboration from freshwater areas to ocean basins

Connecting efforts to implement SDGs 6 and 14 and strengthening collaboration among their custodian agencies could provide opportunities for addressing marine litter and microplastics more holistically, from freshwater areas to ocean basins. Downstream, for instance, UNEP serves as the custodian agency for target **14.1** on monitoring marine litter, whereas

¹⁴⁹ The specific thematic considerations are addressed in the next areas of opportunities (B-D).

DOALOS is the custodian agency for target **14c**.¹⁵⁰ The interagency mechanism **UN-Oceans** is engaged in the implementation of SDG 14, providing opportunities for coordination and consultations in the UN System, whereas scientific aspects of marine litter as part of marine environmental protection are covered by GESAMP. In terms of upstream freshwater areas, the role of transboundary cooperation including agreements, arrangements and joint bodies for cooperation is recognized by **SDG target 6.5**, where UNECE is one of the two custodian agencies for indicator SDG 6.5.2 together with UNESCO-IHP. The source-to-sea approach is expected to become more important in the future under the UNECE/Water Convention. UNEP is the custodian agency for targets 6.3 and 6.6, for which the implementation of data collection and country-level coordination is shared with other custodian agencies of SDG 6, as part of the **UN-Water Integrated Monitoring Initiative**. Both UN-Water and UN-Oceans provide platforms where agencies have the possibility to highlight issues, discuss what can be done and disseminate information, as well as become involved in supporting coordination processes. UN-Water, for instance, has provided coordinated input and support to the preparatory process for the Post-2020 Global Biodiversity Framework led by the CBD Secretariat.

Furthermore, SDGs 6 and 14 encourage the use of already existing integrated approaches, such as Integrated Water Resources Management (IWRM), Integrated Coastal Zone Management (ICZM) and Marine Spatial Planning (MSP). These approaches can advance marine litter work from upstream to downstream, since they create an opportunity to address the problem in a more holistic way and advance programming on marine litter and microplastics at the national level. In addition, the **Protocol on Water and Health to the Water Convention** was indicated as a relevant and effective mechanism when taking a source-to-sea approach. It is jointly serviced by UNECE and WHO and

organizes its work based on the SDGs. The Protocol encompasses freshwater, coastal and marine areas, hence linking SDG 6 with SDG 14, and provides a practical framework to translate the human rights to clean water and sanitation and the implementation of SDG 6 into practice. The Protocol is linked to the treatment of water quality, including aspects such as the presence of microplastics, and has direct relevance to the issue of marine litter by addressing water and sanitation services (safety, quality and access) in, for instance, the context of improved water supply.

The Post-2020 Global Biodiversity Framework

will address pollution issues and as such was seen as an opportunity to scale up global political commitments on plastics and to set relevant indicators and monitoring systems with respect to the same. The Framework will strategically map what actions are needed on marine litter and microplastics. The **UN Ocean Conference** was cited as an opportunity to enhance synergies on marine litter and microplastics, including through its communities of ocean action/voluntary commitments and Partnership Dialogue on interlinkages between SDGs, since it is a global process in which healthy oceans are a key outcome. As part of its implementation of the UN-Oceans voluntary commitment launched at the 2017 Ocean Conference in relation to SDG 14, DOALOS has organized side events at the CoPs by CBD and UNFCCC. Similar opportunities under voluntary commitments may be used in the upcoming UN Ocean Conference. It was further noted that strong cooperation on marine litter could be linked to the **UN Decade of Ocean Science for Sustainable Development**, coordinated by UNESCO-IOC and DOALOS, involving all UN entities, other international organizations and additional stakeholders including from the private sector. It provides a framework for achieving a number of high-level scientific outcomes, including a quantitative understanding of ocean ecosystems and their functioning, to be used as the basis for their management and adaptation. One of the flagship initiatives during the Decade will be focused on multiple ocean stressors. Furthermore, the **UN Decade for Ecosystem Restoration** provides an opportunity for collaboration among marine, freshwater and land bodies, aiming to prevent, halt

¹⁵⁰ Through the collection of data under the indicator 14c1, It will be possible to get a clearer idea of the number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in UNCLOS, for the conservation and sustainable use of the oceans and their resources.

and reverse the degradation of ecosystems on land and in the ocean, and generating tangible benefits for food and water security. **UNFCCC** provides dialogues addressing multidisciplinary areas, including land, biodiversity, freshwater systems and oceans, including the Subsidiary Body for Scientific and Technological Advice (SBSTA) Dialogue on the ocean during the UN Climate Change Dialogues. The UNFCCC **Nairobi Work Programme** Expert Group on Oceans, Coastal Areas and Ecosystems aims to enhance the engagement of relevant and diverse organizations and experts and information-sharing for collaboration among experts from the marine, climate and other thematic realms. The objective for 2022 and beyond is to further enhance partnerships with the multi-disciplinary expert groups and wider communities, while supporting actions at all governance levels. Finally, a cooperation mechanism at the freshwater and marine water interface project level is “The GEF International Waters Learning Exchange and Resource Network (**IW:LEARN**)”¹⁵¹ run by UNDP and UNEP. The project facilitates a community of practice and a knowledge platform that promotes experience sharing and learning globally among GEF-financed international waters projects, country officials, implementing agencies and other partners. This project encourages communities to discuss at the interface of freshwater and marine ecosystems issues, with related capacity building activities. Marine litter could become a workstream addressed under these frameworks by both the freshwater and marine communities.

C. Opportunities for tackling marine litter by applying a life cycle approach

The **SDGs** provide a framework for addressing marine litter and microplastics at all stages of the life cycle. An opportunity exists to form a multi- and cross-sectoral collaborative UN framework to mainstream marine litter and microplastics across the life cycle, by connecting efforts on responsible consumption and production and waste management, engaging various UN entities. SDG targets related to solid waste management include **SDG 11.6** on municipal

solid waste, **SDG 12.3** on food waste, **SDG 12.4** on hazardous waste and **SDG 12.5** on recycling and **SDG 12.6** on sustainable business practices. Custodian agencies UNEP and UN-Habitat worked together to establish monitoring methodologies compatible with existing waste statistics systems, and developed the *Waste Wise Cities Tool* that provides a platform for achieving sustainable waste management. It also offers a monitoring methodology for SDG 11.6.1 on the proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by cities. Applying the Waste Wise Cities Tool also provides input for SDG 12.3.1 on the food waste index and 12.5.1 on the recycling rate and amount of material recycled. This is valuable since there is currently no data on 12.5.1 globally. The data collection methodology for SDG 12.5.1 on the amount of material recycled will inform EPR policy for plastics by providing a mapping of regions globally and their recycling capacity for different materials. Furthermore, this should encourage decision-makers to invest in the development of recycling facilities to boost a country’s or city’s capacity for recycling, while creating additional job opportunities.

Significant work on SDG 12 on consumption and production systems is coordinated by UNEP. The **One Planet Network**, an implementation mechanism of SDG 12, provides a multi-stakeholder partnership on SCP and a platform for collaborative support on technical aspects, tools and solutions. It also supports the creation of a circular economy for plastics and provides guidance such as guidelines on plastic use and production to inform consumers, incentivize businesses and support governments. The network works through six thematic programmes.¹⁵² The UN and related entities can be involved in these. UNWTO, for instance, leads the One Planet Sustainable Tourism Programme that provides support to the implementation of Global Tourism Plastics Initiative. In addition, many existing initiatives address the life cycle of plastics; these were mentioned during the consultation: the GPAP, the Plastic Pollution Coalition,

¹⁵¹ <https://www.thegef.org/topics/gef-international-waters-learning-exchange-and-resource-network-iwlearn>

¹⁵² Sustainable Food Systems, Sustainable Buildings and Construction, Sustainable Lifestyles and Education, Consumer information, Sustainable Tourism and Sustainable Public Procurement

Break-Free from Plastic, New Plastic Economy and the Trash-Free Seas Alliance. These initiatives provide multi-stakeholder platforms dedicated to translating commitments to reduce plastic pollution into concrete action, including a life-cycle approach. It was suggested that these platforms and initiatives be looked into as options for further global coordination.

Furthermore, **the Strategic Approach to International Chemicals Management (SAICM)**, hosted by UNEP, is a voluntary multi-stakeholder multi-sectoral global policy framework. Since its inception in 2006, SAICM has aimed to achieve the sound management of chemicals throughout their life cycle so that chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health (aligned with SDG target 12.4). The ongoing discussions on the new framework for the strategic approach and sound management of chemicals and waste beyond 2020 provide an opportunity to set a focused target for reducing chemicals of concern in consumer products. This allows for a continued space for dialogue and action, so that multiple stakeholders can define coordinated approaches and actions to implement solutions, promote innovation, improve information transparency and promote awareness-raising on plastic pollution and chemical additives.

Cooperation among entities on mitigation measures would be enabled by (i) collaboration mechanisms on SCP that have a combined focus on reducing the amount of new materials that are fed into the economy; (ii) promotion of a circular economy for plastics; (iii) enhanced transparency across the value chain to inform business practices and consumers; and (iv) measures to address solid waste management. This would contribute to the reuse of products and material resources instead of letting them end up in the environment as litter.

D. Opportunities for highlighting economic incentives related to marine litter and microplastics

Promoting an economic narrative would create an opportunity for mainstreaming marine litter and

microplastics and engaging additional UN entities with marine litter activities. The SDG framework, the 'One UN' programme, issue-based coalitions and UN Country Teams were referred to during the consultations as possible fora where the broader economic aspects of marine litter could be considered. **SDGs 8, 9 and 10**, among others, were identified as possible contexts within which the economic and social case for marine litter and microplastics could be built.¹⁵³ Another opportunity lies in encouraging decent work and circularity through the promotion of the ILO's **Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All**.¹⁵⁴

Solid waste management is considered a key sector to reduce plastic pollution by the creation of green jobs and the protection of human health and the environment. In the context of marine litter and microplastics, there is also a possibility to create jobs in recycling industries in the management of plastic litter and microplastic hazards. Tackling the issue of marine litter and microplastics with a systemic approach offers an opportunity to foster economic growth and create jobs in design, materials preparation, manufacturing, collecting and processing waste, reusing and remanufacturing. There exist further opportunities under SDG 8 (linked to SDGs 9 and 12) on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. Opportunities under **SDG 9**¹⁵⁵ include constructing new, greener infrastructure that includes waste management solutions, circular

¹⁵³ Relevant targets include 8.2 on achieving higher levels of economic productivity; 8.3 on promoting development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation; 8.4 on improving global resource efficiency in consumption and production; and 8.9 on devising and implementing policies to promote sustainable tourism that creates jobs.

¹⁵⁴ https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf

¹⁵⁵ Relevant targets include 9.1 on developing quality, reliable, sustainable and resilient infrastructure; 9.4 on upgrading infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes; 9.5 on enhancing scientific research, upgrade the technological capabilities of industrial sectors in all countries; and 9.b on supporting domestic technology development, research and innovation.

economy practices, and exploiting the potential of smart technologies to combat marine litter and microplastic pollution.

These summarized frameworks and mechanisms provide opportunities for UN collaboration on marine litter and microplastics across terrestrial to marine areas as well as adopting the life cycle approach. They also highlight economic incentives related to marine litter and microplastics, along with a nexus approach where joint actions among agencies would be beneficial. In these thematic areas, collaboration on combating marine litter and microplastics can be strengthened within the UN System to improve coherence and avoid duplication at multiple levels: global, regional and local. These opportunities are both thematic and sectoral, and could be used to target gaps in collaboration identified in Section 4.2 (Figure 14 on Gaps/Collaborations) where cooperation between UN entities across the 'drivers-responses-impacts' and the functional areas would contribute to combating marine litter and microplastics. These joint actions among entities would be beneficial considering already existing collaboration (Table 2) and in identifying further areas for collaboration where new UN alliances would be useful (Section 4.2 on Gaps and Needs), such as technology and innovation in production (*'reduce'*) including product design, for example, alternatives to plastics or green chemistry.

For enhancing this collaboration in the longer-term to support Member States, a UN system-wide vision and strategy could be developed by the entities concerned, elaborating on the next steps for such an improved collaboration through the interagency mechanism on marine litter and microplastics. To integrate sectoral/thematic opportunities for collaboration in order to address issues related to marine litter from a holistic perspective within the 'life cycle' approach, the 'Circular Economy 9Rs' approach and the 'sources-to-sea' approach, a unifying framework could be identified (Figure 16 and Table 5).

For example, the UNSDCF could be used to enhance collaboration on marine litter and microplastics at the country level, as well as at the regional and global levels. The Cooperation Framework adopts an integrated programming approach that could be used to advance multi-scale collaboration on the topic of marine litter, considering areas of comparative advantage for the UN System to make its best collective contribution to support Member States. Through the UNSDCF, collaborations at the global level could be enhanced to integrate marine litter and microplastics into the global agendas of MEAs and others, with regional bodies such as the Regional Commissions, Regional Seas Programme and RFMOs contributing in a coordinated way to addressing the issue of marine litter on land- and sea-based sources, while promoting cohesion for the achievement of the 2030 Agenda. UNSDCF is a compact among UN development entities, including the UN Resident Coordinator (RC), and it provides the overarching framework for development results delivered collectively and by individual entities.¹⁵⁶

While other coordination frameworks could also be explored to advance collaboration on the marine litter and microplastics issue, the advantage of the UNSDCF is that it considers the country context with its internal complexity. This would help to keep the UN System response relevant to evolving development priorities in Member States, ultimately leading Governments to find solutions and synergies to tackle marine litter and microplastics at the national level with the support of the UN interagency mechanism on marine litter. Importantly, the UNSDCF provides specific guidance on reframing economic policies and practices around sustainability for inclusive, diversified and job-intensive economic transformation that "leaves no one behind, protects the planet and strengthens the ecological foundations of economies".¹⁵⁷

¹⁵⁶ https://unsdg.un.org/sites/default/files/2019-10/UN-Cooperation-Framework-Internal-Guidance-Final-June-2019_1.pdf

¹⁵⁷ <https://unsdg.un.org/resources/united-nations-sustainable-development-cooperation-framework-guidance>

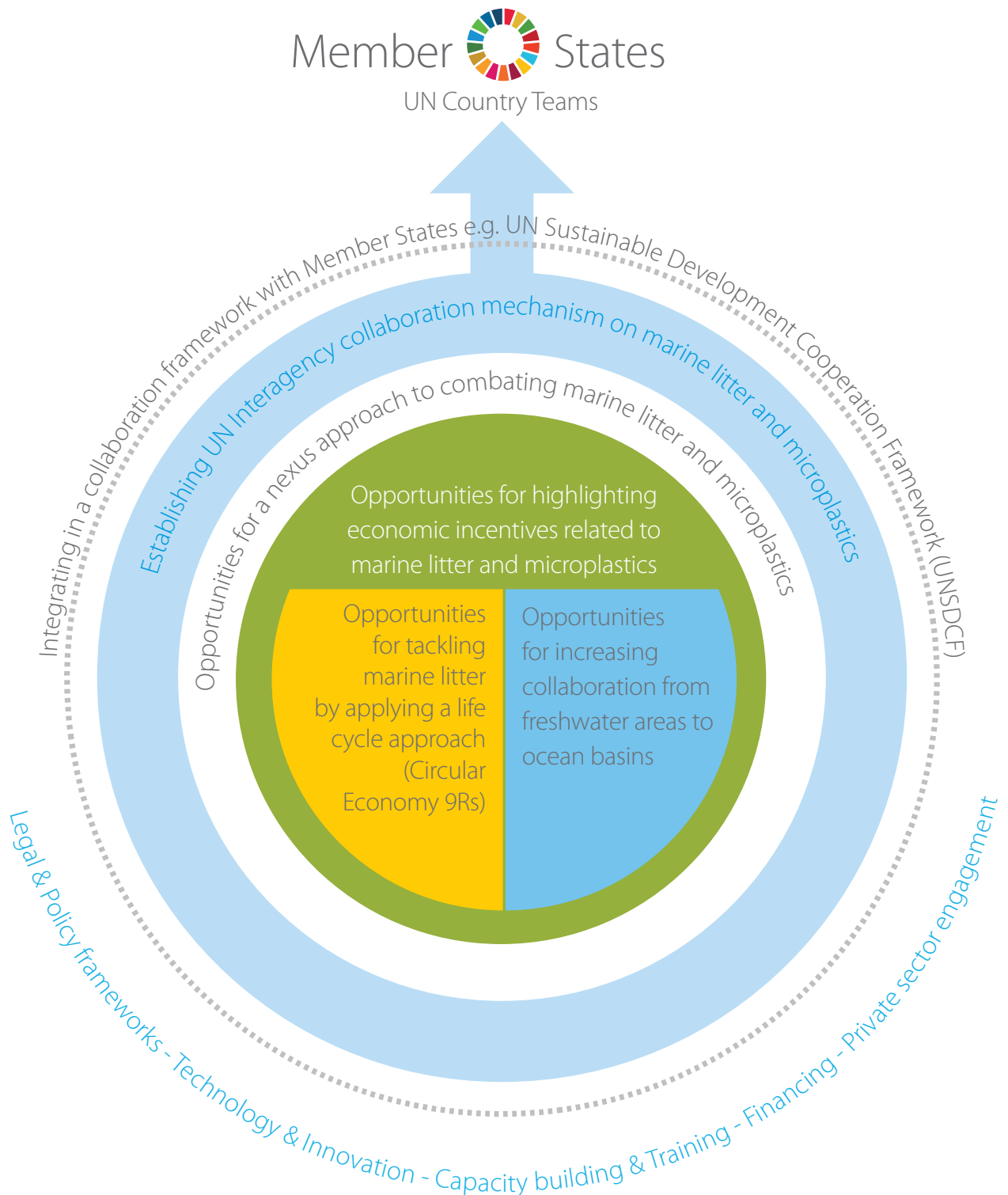


Figure 16: Opportunities for strengthening collaborations on marine litter and microplastics in the UN System containing existing frameworks and mechanisms across sectors and thematic areas (inside blue rings) that could be supported by UN interagency mechanism on marine litter and microplastics, and integrated in a collaboration framework with Member States (outer rings).

Table 5: The existing opportunities cross-mapped with the functional areas, providing examples of possible threads for long-term collaborations in the UN System to support Member States.

Category	Opportunities for Collaboration in the UN System			
	Drivers	Responses	Pressures & Impacts	Examples of possible threads
Legal and policy frameworks	<ul style="list-style-type: none"> NDCs 	<ul style="list-style-type: none"> Plastic waste under the Basel Convention Work of RFB and the Code of Conduct for Responsible Fisheries Regional Seas Programmes NDCs 	<ul style="list-style-type: none"> Action Plans of Regional Seas Programmes RFMOs Protocol on Water and Health to the Water Convention UNCLOS UNECE Water Convention: source to sea NDCs 	<ul style="list-style-type: none"> Integrating into UNSDCF One UN Programme UN Development System Reform UN Decade of Action
Technology and Innovation	<ul style="list-style-type: none"> One Planet Network on Sustainable Consumption and Production (SCP) Global Tourism Plastics Initiative A Just Transition 	<ul style="list-style-type: none"> Basel Convention Plastic Waste Partnership One Planet Network on SCP Global Tourism Plastics Initiative A Just Transition Regional Seas Programmes Waste Wise Cities and Waste Wise Partnership UN Global Compact Sustainable Ocean Business Action Platform 	<ul style="list-style-type: none"> UN Decade of Ocean Science for Sustainable Development A Just Transition 	<ul style="list-style-type: none"> Integrating into UNSDCF One UN Programme UN Development System Reform UN Decade of Action Issue-based coalitions
Capacity building and training	<ul style="list-style-type: none"> AHEG A Just Transition Regional Forums of the Regional Commissions One Planet Network on SCP Global Tourism Plastics Initiative UN Global Compact Sustainable Ocean Business Action Platform 	<ul style="list-style-type: none"> AHEG A Just Transition Basel Convention Plastic Waste Partnership GPML Regional Seas Programmes One Planet Network on SCP Global Tourism Plastics Initiative UNCTAD's Ocean Forum UN Global Compact Sustainable Ocean Business Action Platform Regional Forums of the Regional Commissions Waste Wise Cities and Waste Wise Partnership UNFCCC Nairobi Work Programme 	<ul style="list-style-type: none"> AHEG GPML GESAMP GEF IW:LEARN Post-2020 Global Biodiversity Framework UN Regular Process and World Ocean Assessment framework Framework of the UN Ocean Conference: a Partnership Dialogue on interlinkages between SDGs UN-Oceans UN-Water UN-Water Integrated Monitoring Initiative UN Decade of Ocean Science for Sustainable Development Regional Forums of the Regional Commissions Waste Wise Cities and Waste Wise Partnership One Planet Network on SCP Global Tourism Plastics Initiative UN Global Compact Sustainable Ocean Business Action Platform A Just Transition Secretary-General's Call to Action for Human Rights UNFCCC Nairobi Work Programme 	<ul style="list-style-type: none"> Integrating into UNSDCF One UN Programme UN Development System Reform UN Decade of Action Issue-based coalitions

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The background of the slide is a photograph of a natural, rocky terrain. In the upper portion, several large, reddish-brown palm fronds are visible, extending from the left towards the center. The ground is covered with a dense layer of small, light-colored rocks and pebbles. Scattered across this rocky surface is a significant amount of litter, including small pieces of plastic, bits of wood, and other debris. A small, white, rectangular object, possibly a piece of trash or a small container, is prominent in the middle-right area. The overall scene suggests a natural environment that has been impacted by human waste.

5. Conclusions

This chapter summarizes the key findings of the report and highlights the opportunities for further strengthening UN system-wide collaboration across the life cycle of marine litter and microplastics. Opportunities are summarized with a view of supporting activities at different levels (normative and operational), taking into consideration the comparative advantages of UN entities. Areas of UN-wide collaboration are highlighted, including on marine and plastic pollution and waste management in the context of the COVID-19 pandemic.

The uneven concentration of efforts across the life cycle of products, and the disconnect between upstream and downstream concerns and management, need much greater attention.

This study has revealed an unbalanced distribution of UN efforts across the life cycle and value chain in terms of addressing drivers (such as product design, consumption and industrial production and pollution); impacts in marine areas and along rivers and on land; and responses (such as waste management and recycling).

5.1 Key findings

A life-cycle approach to combating marine litter and microplastics is crucial for success.

The importance of a life-cycle approach to addressing marine litter and microplastics – one that considers efforts both upstream and downstream – has been highlighted throughout this report. The UN entities consulted in this study demonstrate relevant expertise and unique qualities for addressing marine litter and microplastics across the life cycle. Individually and together, they cover a broad range of topics, including environmental protection, the blue economy, food production processes, agricultural practices, food loss, the circular economy, the green economy and related job transitioning. The majority of them also carry out initiatives, programmes and projects on marine litter and microplastics, from source to sea. **Given the ever-increasing production of plastic products and other materials, and the related threat of increased pollution and impacts on the environment, looking at the entire life cycle is of particular value.**

Efforts at the source to promote sustainable production and consumption practices are crucial for tackling marine litter and microplastics in line with SDG 12. However, this issue has not received adequate attention, and priority is often given to addressing existing impacts of waste downstream and waste management in general. Current efforts to reduce materials production upstream ('closing the tap') are limited; areas such as Extended Producer Responsibility are in their early stages and involve a limited number of entities. The mainstreaming of solutions that enable a circular economy for plastic has been identified as a gap because limited action is taking place on the ground; the UN System needs to enhance its efforts. Efforts that focus on product design and alternative materials are few, even though this is considered to be one of the more impactful solutions that would make it possible to address plastic pollution at its source.

Most efforts in the UN System to address marine litter and microplastic take place downstream and are focused on sea-based sources of litter and the environment in line with SDG 14. Currently, the linkages between upstream and downstream efforts to tackle marine litter and microplastics are absent. There remains a tendency to consider marine litter as a purely marine problem. Ocean-related entities have not identified the issue of marine litter and microplastics as being relevant to freshwater bodies, and thus they do not necessarily address it through

the source-to-sea approach. Although UNCLOS and the UNECE/Water Convention, the two conventions that provide the frameworks for ocean and freshwater systems and for water-pollution management, recognize the interconnectedness of freshwater and marine issues, institutional links and collaboration remain inadequate. Overall, there is a lack of mechanisms in the UN System at the institutional level for undertaking effective actions to tackle marine litter and microplastics across the full life cycle of products.

In summary, the limited adoption of a life cycle approach to addressing plastic pollution reduces the impact of current efforts.

Marine litter and microplastics require holistic management and the involvement of entities from across a range of thematic areas. In that regard, UN System entities provide a wide range of expertise that can be better mobilized in support of Member States.

Many entities that have mandates and activities related to SDGs other than SDG 14 (for example, SDGs 11 and 12) also work on marine litter-related topics across product life cycles. It will be useful to engage these entities in future efforts in order to address the issue of plastic pollution in a holistic manner. In particular, collaborations with entities that focus on economic issues are currently limited, whereas there is a strong need for considering the socioeconomic impacts of marine litter.

Equally important would be benefiting from the national and local presence of UN entities in order to tackle marine litter and microplastics, as this study has revealed that their expertise is far from being fully put to use. Entities recognized that **due to their multisectoral and cross-cutting character, marine litter and microplastics require holistic management across the life cycle and the involvement of entities from across a range of thematic areas.**

A provision of a global vision for marine litter and plastic pollution can give a common trajectory and perspective for action and collaboration for all actors, including the UN System. Such a global vision can be provided by the UN General Assembly to ensure the highest political profile and follow-up and to increase ownership and commitment to bring all stakeholders together.

To support holistic management amongst the many UN-system entities to mobilize effective action on marine litter and plastic pollution, a system-wide vision should be established. The vision can build on paragraph 1 of UNEA resolution 3/7 stressing the importance of long-term elimination of litter and microplastics discharge to the oceans and of avoiding detriment to marine ecosystems and the human activities dependent on them from marine litter and microplastics. Furthermore, the vision should build on the relevant aspects of SDGs 6, 12 and 14 to mobilize the wide range of expertise across the UN System in support of Member States.

5.2 Opportunities for collaboration

This report is a first step towards strengthening collaboration across the entire UN System on addressing the global problem of marine litter and microplastics by attempting to raise awareness of relevant UN initiatives, programmes and projects. An enhanced understanding of these efforts across entities, and increased information sharing on existing initiatives and partnerships, can help to pave the way for a more synchronized approach to this issue by the UN System.

ENHANCE INFORMATION SHARING, Exchange of Knowledge, Best Practices and Experience regarding Marine Litter and Microplastics

As we continue to learn more about marine litter and microplastics and their impacts in numerous realms, the need for greater synergies between agencies working on different aspects of the issue becomes clearer. Information sharing on plastic pollution, marine litter and microplastics activities and expertise across the UN System already takes place through such mechanisms as the GPML, but it could be further strengthened by enhancing coordinated information sharing – or a mechanism to do so – among UN entities. Relevant information is not always centralized, which can make it challenging for some entities to access information on current projects and can also increase the risk of duplication of efforts. **A need for more communication on marine litter and microplastics initiatives and activities in the UN System has been expressed by entities.**

Both the UN and Member States will benefit in various ways from strengthened information sharing across the UN System. For some entities, increased information sharing could help to identify entry points for considering plastic pollution, marine litter and microplastics as relevant issues.

In order to include relevant entities and their expertise across the value chain and the life cycle of products, an internal mechanism for regular communication is recommended. The mechanism could be used for sharing information on ongoing and past projects administered by various UN entities (for example, via an online bulletin) and could offer the possibility of holding internal discussions and presenting strategies. Improved information sharing on marine litter and microplastics across the life cycle can be seen as the first step towards enhancing synergies and identifying opportunities for further collaboration across the UN System.

ENHANCE COLLABORATION across the entire life cycle to address marine litter in a systematic way

Nearly all entities recognized a need for **enhanced collaboration on marine litter and microplastics within the UN System**. Fragmentation and individual strategies have a limited impact, while strengthened coordination would enhance the impact of the UN System in providing support to Member States and other stakeholders in addressing marine litter and microplastics. All relevant UN entities with mandates across the life cycle, and that are active, should be working together to tackle the issue. This is the essential – and primary – way in which collaboration should be strengthened across the UN System.

Enhance collaboration on marine litter and microplastics across the UN System by engaging entities that are active across the entire life cycle of plastic and other products to address the issue in a systematic way by applying a circular economy approach. Such collaboration should include cross-sectoral, sectoral and bilateral cooperation, on-the-ground collaboration and scientific knowledge-sharing. When designing possible frameworks and mechanisms for collaboration, the UN should fully consider the economic, social and environmental aspects of marine litter and all elements of the Circular Plastic Economy 9Rs. The interconnections among processes and systems in sustainable manufacturing are critical for promoting sustainable economic growth that features environmental protection and societal benefits. Various opportunities can be explored for addressing marine litter and microplastics in thematic sectors and at the country level, including leveraging existing frameworks and mechanisms for collaboration, and in international fora such as the UN Oceans Conference. Leveraging the SDGs for action within the UN System and globally also calls for expanding existing partnerships (see Section 4.3.2). Two main areas for cooperation that should be enhanced include reducing the upstream flow of plastics (that is, focusing on sustainable consumption and production and addressing sources of waste) and linking land/freshwater and ocean areas, including multiple non-marine aspects in the terrestrial areas.

ENHANCE VISIBILITY of the marine litter and plastic pollution issue

There is a great deal of room for **improving the visibility** of the marine litter and microplastics issue and how it relates to the various mandates of UN entities. The purpose of doing so would be to encourage their governing bodies to provide mandates for action in a coordinated manner aligned to a global vision (to avoid fragmentation or duplication of efforts), while making the case for this issue internally within UN entities and with governments. Greater visibility of plastic pollution, marine litter and microplastics at the country level should encourage mainstreaming and lead to a higher national prioritization of the issue. By sensitizing Member States to the problem and facilitating communication within and between countries, greater coherence at the global level is likely to follow.

Strengthened communication and outreach on the issue of marine litter and microplastics would enhance the visibility of this issue within and beyond the UN System. Greater external visibility of the marine litter issue for Member States through mainstreaming would help to improve coherence across the varied thematic realms dealt with by Governments, with the aim being to facilitate action on this complex issue. Greater outreach to Member States should help them to prioritize marine litter regulatory processes through policies and programmes. Unbiased assessments of the hazards and fate of microplastics, agricultural plastics and other litter would be useful for providing actionable evidence for activities of multiple UN agencies. In addition, this would offer Member States a broader range of capacities and services; for example, to enhance the role of certain sectors such as trade¹⁵⁸ in combating marine litter and microplastics.

¹⁵⁸ WTO discussions have led many members to recognize that efforts to embrace circularity are deeply intertwined with global trade and to call for additional work to improve their understanding of the implications for global value chains of shifting towards a circular economy.

ENHANCE THE INTEGRATION AND MAINSTREAMING OF PROVISIONS IN POLICY MAKING, PROGRAMMING AND MANAGEMENT BUILDING on EXISTING UN-WIDE SUSTAINABILITY STRATEGIES, by using a source-to-sea approach

The efforts of UN entities to address marine litter and microplastics typically face time and resource limitations, and they therefore often only take place at the project level. **More long-term, programmatic and strategic approaches anchored in a system-wide vision** are recommended. Coordinated efforts among all actors are required to urgently tackle the issue of marine litter and microplastics in the foreseeable future.

Enhance the integration and mainstreaming of provisions relating to the elimination of marine litter and microplastics provided in this report in policy making, programming or management, building on existing entity or system-wide strategies and applying the source-to-sea and material life cycle and circular economy approaches. The UN provides the unifying frameworks for integrating opportunities for collaborating on issues related to marine litter from a holistic perspective. The UNSDCF is an example of such a cooperation framework that enhances holistic collaboration at the global, regional and country levels.

Finally with the AHEG completing its mandate in November 2020, the UNEA 5.2 in February 2022 provides a great opportunity for the continuation of work on marine litter and microplastics in moving forward, including on the source of the problem and actions across the life cycle. In its work, the AHEG identified a non-exhaustive list of eight potential options for continued work for consideration by UNEA5.2 including: (i) a global common vision; (ii) national action plans and their implementation; (iii) regional and international cooperation to facilitate national actions; (iv) scientific basis; (v) multi-stakeholder engagement; (vi) strengthening existing instruments; (vii) a new global instrument; and (viii) enhanced coordination among instruments.

The development of this report is timely for considering these potential options in the context of the UN System and for further informing the decision-making of Member States at UNEA 5.2 on this important topic.

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In summary, this report is a first step towards expanding UN system-wide collaboration and expertise through a more integrated inter-agency approach. Through a collective inventory of UN System efforts, it raises awareness on current and near-future initiatives, projects and activities on marine litter and microplastics, and highlights existing synergies that might provide opportunities to link entities' agendas and ambitions. Overall the report highlights three key actions that are required for a collective way forward within the UN System: (i) enhancing the understanding of current activities of UN entities; (ii) increasing the transparency of the initiatives being carried out; and (iii) describing what synergies and collaboration exist (or could exist) to tackle the problem. These three key actions are strategic opportunities for consideration in the next steps towards collaborative actions in the UN System that address the full life cycle of plastic and covers the issue from source to sea.

Annex 1: Scientific Knowledge Gaps relating to Microplastics

Examples of scientific knowledge gaps are listed below (this list is non-exhaustive):*

General:	Microplastics research is still in the early stages with underrated impacts and extent of microplastics – concerning its estimates in the environment, terrestrial and marine distribution, and its impact on ecosystem and human health. There is especially very limited information about very small microplastics, i.e., smaller than 0.3mm/300 µm. There are gaps in knowledge of the actual sources and entry pathways in quantitative terms. Currently, no reliable method exists for tracing and tracking the origin, source, transport or manufacturer of microplastics found in the environment.
Marine and Coastal Environment:	It is unknown how much microplastic is neutrally buoyant and thus resides just below the ocean surface. It is unknown whether there are processes by which plastic on the seafloor can resurface. It is unknown what the inputs are of microplastics from both terrestrial and marine to coastlines and which processes deposit microplastics. Even less is known about how much microplastics are recaptured in the ocean from coastlines.
Freshwater Environment:	In terms of microplastics pollution accumulation, terrestrial systems have received far less scientific attention than their aquatic counterparts, with microplastic contamination on land suggested to be larger than in the ocean. The knowledge gap relates to the geographic representation of sampling locations. Although large Asian rivers are considered the major contributors to the microplastics pollution in the oceans, only 16% of the monitoring studies were conducted in Asia. Likewise, Africa (4% of available studies) and South America (12%) are neglected regions.
Wastewater:	Various sampling, sample preparation and plastic identification methods are used without standardization for wastewaters. Therefore, the results of studies on wastewaters are often inconsistent and difficult to compare. The pathway of microplastics that enter natural aquatic systems via sewage storm water overflows, which release untreated wastewater in cases of extreme precipitation is insufficiently investigated.
Soils:	Sources of microplastics found in terrestrial ecosystems are not well known. However, it is very likely that sewage sludge and animal manure, used as fertilisers in agriculture, introduces an important amount of microplastic into soils. Agricultural plastic sources are insufficiently studied and represent a big knowledge gap. Many gaps exist with respect to coverage of microplastics in terrestrial ecosystem types, especially forests, and in terms of continents, for example, Africa. Transport mechanisms and mass flows in and from soil is unknown.
Air:	There have been no estimates yet of the global extent of airborne microplastic pollution. There is no continuous monitoring of microplastics in the air and in terms of emissions from the burnt plastic. We know virtually nothing about transport mechanisms and mass flows in and from atmosphere. The origins of microplastics in the atmosphere are not well understood; neither are the processes that may influence how airborne microplastics can move and behave, e.g. interactions with wind or rain.

Biota:	<p>The role of ingestion-migration-egestion in the plastic debris budget is unknown. It is unknown what fraction of the total mass budget of microplastics reside in biota and how this compares to other the water column or the seabed.</p> <p>The number of studies reporting trophic transfer remains limited. For many species that are known to ingest and egest microplastics, the gut retention time is either not known, or is poorly known. Limited data is available on the actual exposure in the field of freshwater species to microplastics. The long-term ecological impacts of microplastics in freshwaters remain unknown. The lack of data on terrestrial species is much larger than that for aquatic food chains.</p> <p>In terms of ecotoxicology, little is known about the effects of microplastics across a wider range of organisms (other than the model species commonly used in ecotoxicological studies, such as fish and mollusks), and little from all trophic levels within food webs. Most laboratory experiments have exposed organisms to relatively short-term acute exposures and little is known about chronic effects. Little is known about the long-term effects of particles that are retained by organisms.</p>
Drinking water & Food:	<p>We have no full and balanced view about the occurrence of microplastics in food and drinking water. The number of human diet components covered in the literature, as well as the number of studies per diet component, is very limited. The quality of studies that detected microplastics in biota or drinking water is limited, which makes it difficult to draw conclusions. Currently, there is insufficient data to assess exposure for humans, let alone to assess the human health risks of microplastics in drinking water and food. It is not well known to what level the materials used in drinking water production and distribution processes contribute to the occurrence of microplastics in drinking water, and to what extent materials used in food production and packaging contribute to the occurrence of microplastics in food.</p>
Human Health:	<p>With a sparse evidence base for both dietary and airborne microplastics exposures, it is unclear what the human daily intake of microplastics is, yet this knowledge is essential for estimating health effects. Little to nothing is known about the kinetics and biodistribution of microplastics post-exposure. The in vivo persistence of microplastics in different physiological environments is also unknown. It is not known how translational to a low-dose exposure over a life course the evidence on inflammatory effects of occupational exposure to plastic fibres is. Chemical effects in the lung or gut could occur following the desorption or leaching of chemicals, but there is a lack of information on the remaining burden of chemicals or monomers in environmental microplastics. The role of shape – fibrous and nonfibrous – in toxicity is also unknown for microplastics. There is a concern that, if small enough, fibres may cause effects similar to those of asbestos.</p>
Risks:	<p>Little is known with respect to the ecological and human health risks of microplastics, and what is known is surrounded by considerable uncertainty. For microplastics, quantitative assessments are currently lacking for other environmental compartments than water, and in relation to risks for human health. Human health risk assessment for microplastics has therefore not yet been done. In many academic papers and reports, the concentration-dependency of risks has received little attention. The scarce data from academia on dose-response relationships have allowed for provisional examples of characterisations of risks only for the aquatic compartment. There are very limited dose-effect data for benthic organisms and terrestrial organisms, however insufficient for systematic risk characterisations based on single species test effect thresholds, let alone for the construction of species-sensitivity distributions. The same holds for exposure data, where the data gap is huge, especially for soils. This implies that the information is fragmentary and that a systematic risk assessment based on dose-response relationships for species across compartments is not yet possible.</p>

Methods:	The absence of adequate monitoring, assessment and scientific research is a big gap. For all compartments there is a lack of globally standardized data on the amount of microplastics. Over the past decade, there has been a multitude of methodological approaches applied when sampling, extracting and identifying microplastics, with samples taken from different ecological compartments each providing their own unique challenges.
Technologies:	There is a gap in terms of new technologies and methods to detect and remove accumulations of litter and microplastics.
Concluding:	It is not known how the occurrence of microplastics in the atmosphere, soil, fresh- and marine waters and biota will evolve in the future, as a result of the current and future plastic emissions, product development and use and ongoing plastic fragmentation. More research is needed to clarify the fate and effects of microplastics, in both ocean, aquatic and terrestrial environments. It is expected to see the bigger effects of a much broader scale. Scientifically sound information on the fate and effects of microplastics is essential for the strategic management of microplastic pollution and its threats to marine, aquatic and terrestrial ecosystems. More research is urgently needed on the potential contamination of the food web by toxic chemicals and POPs, and on its consequences on human consumption. Although nanoplastics ¹⁵⁹ are not the focus of this report, it is important to mention that currently there are no methods available for the detection and quantification of nanoplastics in the aquatic and terrestrial systems, in the atmosphere and within organisms. Consequently, there is no information on the occurrence of nanoplastics in the environment.

*Table was compiled based on: SAPEA (2019),¹⁶⁰ UNEP (2020),¹⁶¹ Ocean Panel (2020),¹⁶² GESAMP¹⁶³ and recent publications. Furthermore, the report by WHO on *Microplastics in drinking-water* (2019) includes a section on knowledge gaps and research needs

An additional uncertainty includes the recent impact of the coronavirus pandemic, with large amounts of used sanitary equipment being disposed of after single use due to the risk of infection and imposed sanitary rules. Sanitary gloves and masks have already been found at the bottom of sea basins in coastal areas, as well as being discarded and deliberately disposed of in urban open spaces (litter transported to terrestrial and aquatic areas e.g. by wind).¹⁶⁴ Due to a high risk of infection, sanitary plastic and rubber waste are directly incinerated, leading to emissions of toxic pollutants in the air.

¹⁵⁹ Nanoplastics are particles that comprise various polymers; they are less than 1 µm or less than 100 nm in size. "Nanoplastic should be better understood." Nat. Nanotechnology. 14, 299 (2019). <https://doi.org/10.1038/s41565-019-0437-7>

¹⁶⁰ SAPEA, Science Advice for Policy by European Academies. (2019). A Scientific Perspective on Microplastics in Nature and Society. Berlin: SAPEA. <https://doi.org/10.26356/microplastics>

¹⁶¹ UNEP (2020) Preparatory Paper to Ocean Conference.

¹⁶² Jambeck, J., E. Moss, B. Dubey et al. (2020) *Leveraging Multi-Target Strategies to Address Plastic Pollution in the Context of an Already Stressed Ocean*. Washington DC: World Resources Institute. <https://oceanpanel.org/blue-papers/pollution-and-regenerative-economy-municipal-industrialagricultural-and-maritime-waste>

¹⁶³ GESAMP Group of Experts on the Scientific Aspects of Marine Environmental Protection <http://www.gesamp.org/work/groups/40>

¹⁶⁴ Canning-Clode, João & Sepúlveda, Pedro & Almeida, Silvia & Monteiro, Joao. (2020). Will COVID-19 Containment and Treatment Measures Drive Shifts in Marine Litter Pollution?. *Frontiers in Marine Science*. 7. 1-4. 10.3389/fmars.2020.00691.

Annex 2:

Annex 2a: List of Interviewed Entities

- The Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS)
- The Secretariat of the Convention for Biological Diversity (CBD)
- The Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- The Division for Ocean Affairs and the Law of the Sea (DOALOS) of the UN Office of Legal Affairs: the Secretariat of the United Nations Convention on the Law of the Sea (UNCLOS) and the Focal point for the United Nations inter-agency coordination and cooperation mechanism on oceans and coastal issues (UN-Oceans)
- The Secretariat of the [Convention on the Protection and Use of Transboundary Watercourses and International Lakes](#) (UNECE/Water Convention)
- The Food and Agriculture Organization of the United Nations (FAO)
- The Global Environment Facility (GEF)
- The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)
- The International Atomic Energy Agency (IAEA)
- The International Fund for Agricultural Development (IFAD)
- The International Labour Organization (ILO)
- The International Maritime Organization (IMO)
- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
- The International Trade Center (ITC)
- The International Union for Conservation of Nature (IUCN)
- The Organisation for Economic Co-operation and Development (OECD)
- The Office of the United Nations High Commissioner for Human Rights (OHCHR)
- The Secretariat of the Ramsar Convention on Wetlands of International Importance (Ramsar)
- The Secretariat of the Pacific Regional Environment Programme (SPREP)
- The United Nations Conference on Trade and Development (UNCTAD)
- The United Nations Development Programme (UNDP)
- The United Nations Economic Commission for Africa (UNECA)

- The United Nations Economic Commission for Europe (UNECE)
- The United Nations Economic Commission for Latin America and the Caribbean (UNECLAC)
- The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- The United Nations Economic and Social Commission for West Asia (UNESCWA)
- The United Nations Environment Programme (UNEP)
- The Secretariat of the Regional Seas Programme (UNEP/RSP)
- The Secretariat of the UNEP Caribbean Environment Programme (UNEP/CEP)
- The Secretariat of the UNEP Mediterranean Environment Programme (UNEP/MED)
- The United Nations Environment Programme Sustainable Consumption and Production (UNEP/SCP)
- The Intergovernmental Oceanographic Commission of UNESCO (UNESCO/IOC)
- The Secretariat of the United Nations Framework Convention for Climate Change (UNFCCC)
- The United Nations Global Compact (UN Global Compact)
- The United Nations Human Settlements Programme (UN-HABITAT)
- The United Nations International Children's Fund (UNICEF)
- The United Nations Industrial Development Organization (UNIDO)
- The United Nations Office for Drugs and Crime (UNODC)
- The United Nations Office for Outer Space Affairs (UNOOSA)
- The United Nations Office for Project Services (UNOPS)
- The United Nations-Water (UN-Water)
- The United Nations World Tourism Organization (UNWTO)
- The World Food Programme (WFP)
- The World Health Organization (WHO)
- The World Meteorological Organization (WMO)
- The World Bank
- The World Trade Organization (WTO)

Annex 2b: Questions used for the in-depth Consultation

1. Your organization and the topic of Marine Litter and Microplastics

- a) How would you categorize your organisations' involvement in marine litter and microplastics? (multiple answers possible):
 - Direct (e.g. organisation has a direct mandate and has significant activities)
 - Partial (e.g. organisation has some activities within a broader role)
 - Related (e.g. organisation has activities in areas that may be linked to marine litter and microplastics)
 - None
- b) Which action is your organization targeting (e.g. reducing/reusing/recycling plastics), what type of contaminant (e.g. plastic bags, shipping gear), and to which sector/field does it relate to (e.g. marine ecosystem services, human health and well-being, food chain, economics and trade)?
- c) Which specific part of the lifecycle/e.g. plastic supply chain is your action targeting?
- d) What type of action does your organization address in terms of Marine Litter and Microplastics – e.g. governance, participation, protection, technology/innovation, monitoring, funding, capacity building and education?
- e) What is the geographical focus of the action of your organization (e.g. global, regional) and which specific area is your action targeting in the Source-to Sea system (e.g. upland area, agricultural land, river catchment, cities, coastal and marine areas)?
- f) How are you organized internally in addressing the topic of Marine Litter and Microplastics? (i.e. which departments/offices work with it? A specific team?)
- g) What do you recognize as the main highlights/challenges/state-of-art of the current Marine Litter and Microplastics efforts of your organization?
- h) How high a priority is marine litter and microplastics for your organization?

2. Marine Litter and Microplastics projects, programmes and initiatives of your organization

- a) What are key Marine Litter and Microplastics projects, programmes and initiatives carried out/funded by your organization?
- b) Which geographical regions are addressed by these projects and initiatives (e.g. sea basins, countries), which specific area are they targeting in Source to Sea system, which action, sector/field, and which specific part of the lifecycle?
- c) Is there information available on funding that your organization allocates to programmes, initiatives and projects in the topic of Marine Litter and Microplastics?
- d) How is information on the Marine Litter and Microplastics projects, programmes and initiatives of your organization disseminated (e.g. websites, reports, conferences)?
- e) Is your organization evaluating the outcomes of the projects, programmes and initiatives in terms of environmental, social and economic impacts? Do you disseminate this information and how often?

3. Linking efforts on Marine Litter and Microplastics

- a) What is the contribution/involvement of your organization in the international projects, programmes and initiatives on Marine Litter and Microplastics currently ongoing?
- b) What is the relevance of the international projects, programmes and initiatives on Marine Litter and Microplastics to your organization's programming?
- c) Do you think your organization is sufficiently involved in international dialogue on Marine Litter and Microplastics?
- d) Generally, do you think that information on Marine Litter and Microplastics projects and initiatives carried out by others is sufficiently available?
- e) In your opinion, please rate the visibility of marine litter issues in the UN system on a scale from 1 to 5 (1 = low, 5 = high):
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ do not know
 What can be done to increase the visibility and commitment to marine litter in the UN System?
- f) Are you involved in partnership(s) with other organizations on this topic? Please specify UN and non-UN agencies with which you partner.
- g) What are (further) opportunities for collaboration of your organization with other UN organizations on the topic of Marine Litter and Microplastics?
- h) Do you identify any gaps in the current Marine Litter and Microplastics projects or programmes which could potentially be addressed by your organization? Do you see scope/added value for linking Marine Litter and Microplastics more directly to international and/or national policy requirements?
- i) Marine Litter and Microplastics contributes to other environmental and social challenges such as climate change, degradation and loss of biodiversity (terrestrial and marine), human health and well-being, livelihood and jobs, gender equality. Does your organization take an integrated approach? In your view, how could the interlinked topics be addressed effectively by your and other organizations in the UN System?
- j) How could the uptake of new information and knowledge by UN organizations be improved on Marine Litter and Microplastics (if the improvement is needed)?

4. Ambition/Emerging Actions

- a) How would you describe the future ambition of your organization regarding the topic of Marine Litter and Microplastics?
- b) Given your current focus, do you think your organization should/could expand its scope?
- c) Given the current involvement of your organization, what should be the main focus of your contribution to Marine Litter and Microplastics projects and programs from a strategic point of view and opportunities for collaboration? (What is your comparative advantage?) Is there a specific partner that you wish you work with in the future?
- d) Do you see a need for coordination on marine litter and microplastics in the UN System? How could this be organized?
- e) Please provide any other information or views regarding how to achieve additional synergies between different agencies, funds and programmes of the UN System with activities and initiatives.

5. Any other important aspects to consider / add?

Annex 3: The UN System - a list of reports, webpages and other sources of information on marine litter and microplastics

UN entities	A list of webpages with reports and other sources of information on marine litter and microplastics
BRS http://www.brsmeas.org/	<ul style="list-style-type: none"> • The dedicated webpage on plastic waste: http://www.basel.int/Implementation/Plasticwaste/Overview/tabid/8347/Default.aspx • http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad2/SGPonplasticwaste/tabid/8402/Default.aspx • http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad1/tabid/8343/Default.aspx • http://www.brsmeas.org/?tabid=8005 • The Plastic Waste Partnership: http://www.basel.int/Implementation/Plasticwaste/PlasticWastePartnership/tabid/8096/Default.aspx • Guidance materials relevant for the environmentally sound management of plastic waste: http://www.basel.int/Implementation/Plasticwaste/Guidanceandawarenessraising/tabid/8333/Default.aspx • Technical guidelines: http://www.basel.int/Implementation/Plasticwaste/Technicalguidelines/Overview/tabid/7992/Default.aspx • Basel Convention Plastic Waste Amendment: http://www.basel.int/Implementation/Plasticwaste/Amendments/tabid/8339/Default.aspx • http://www.basel.int/Implementation/Plasticwaste/Cooperationwithothers/tabid/8335/Default.aspx • http://www.basel.int/Implementation/Plasticwaste/Overview/tabid/8347/Default.aspx • BRS-Norad-1: http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad1/tabid/8343/Default.aspx • BRS-Norad-2: http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad2/tabid/8344/Default.aspx • Regional Centre Small Grants Programme (SGP): http://www.basel.int/Implementation/Plasticwaste/Technicalassistance/Projects/BRSNorad2/SGPonplasticwaste/tabid/8402/Default.aspx • http://www.brsmeas.org/Partners/BusinessandIndustry/tabid/4099/language/en-US/Default.aspx
CBD https://www.cbd.int/cop/	<ul style="list-style-type: none"> • CBD Technical Series No 83. (2016) MARINE DEBRIS: UNDERSTANDING, PREVENTING AND MITIGATING THE SIGNIFICANT ADVERSE IMPACTS ON MARINE AND COASTAL BIODIVERSITY (https://www.cbd.int/doc/publications/cbd-ts-83-en.pdf) • CBD COP Decision 14/3. Mainstreaming of biodiversity in the energy and mining, infrastructure, manufacturing and processing sector https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-03-en.pdf • CBD COP Decision XIII/10—Voluntary guidance contained in annex https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-10-en.pdf • CBD COP Decision XIII/11. Voluntary specific workplan on biodiversity in cold-water areas within the jurisdictional scope of the Convention https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-11-en.pdf • CBD COP Decision XIII/3. Strategic actions to enhance the implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievement of the Aichi Biodiversity Targets, including with respect to mainstreaming and the integration of biodiversity within and across sectors https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-03-en.pdf • CBD COP Decision XII/23 (Target 10 Priority Actions included in annex) https://www.cbd.int/decision/cop/?id=13386

	<ul style="list-style-type: none"> • CBD Expert Workshop to Prepare Practical Guidance on Preventing and Mitigating the Significant Adverse Impacts of Marine Debris on Marine and Coastal Biodiversity https://www.cbd.int/meetings/MCBEM-2014-03 • The Post-2020 Biodiversity Framework: https://www.cbd.int/conferences/post2020 • The UN Decade on Ecosystem Restoration: https://www.decadeonrestoration.org/
CMS https://www.cms.int/en/convention-bodies/secretariat-convention	<ul style="list-style-type: none"> • https://www.cms.int/en/document/management-marine-debris-4 • Three-part study (2014): • COP11/Inf.27 Report I: Migratory Species, Marine Debris and its Management: https://www.cms.int/en/document/report-i-migratory-species-marine-debris-and-its-management-0 • COP11/Inf.28 Report II: Marine Debris and Commercial Marine Vessel Best Practice: https://www.cms.int/en/document/report-ii-marine-debris-and-commercial-marine-vessel-best-practice-0 • COP11/Inf.29 Report III: Marine Debris: Public Awareness and Education Campaigns: https://www.cms.int/en/document/report-iii-marine-debris-public-awareness-and-education-campaigns-0
DOALOS www.un.org/Depts/los	<ul style="list-style-type: none"> • https://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm • The UN Open-ended Informal Consultative Process (ICP) on Oceans and the Law of the Sea addressing issues relating to specific sources of pollution: https://www.un.org/Depts/los/consultative_process/consultative_process.htm • ICP Seventeenth meeting: Discussion Panel on "Marine debris, plastics and micro-plastics" - Report: https://undocs.org/A/71/204 • World Ocean Assessment I (2015): https://www.un.org/regularprocess/content/first-world-ocean-assessment • WOA I Technical Abstracts - https://www.un.org/regularprocess/content/technical-abstracts • World Ocean Assessment II (2021): https://www.un.org/regularprocess/content/second-cycle-regular-process • UN World Oceans Day: https://unworldoceansday.org/ 2021: Life & Livelihoods; 2020: "Innovation for a Sustainable Ocean"; 2018: "Clean Our Ocean" • Article 194 Measures to prevent, reduce and control pollution of the marine environment <ol style="list-style-type: none"> 1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection. 2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention 3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent: (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping; (b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels; (c) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;

	<p>(d) pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.</p> <p>4. In taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.</p> <p>5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life</p> <ul style="list-style-type: none"> Article 207 Pollution from land-based sources: <ol style="list-style-type: none"> States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures. States shall take other measures as may be necessary to prevent, reduce and control such pollution. States shall endeavour to harmonize their policies in this connection at the appropriate regional level. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.
UNECA https://www.uneca.org/	<ul style="list-style-type: none"> https://www.uneca.org/green-economy-and-blue-economy https://repository.uneca.org/handle/10855/21052?locale-attribute=fr&
UNECE https://unece.org/	<ul style="list-style-type: none"> Food Loss and Waste: https://unece.org/trade/wp7/food-loss-and-waste Water Convention: https://www.unece.org/env/water.html The Water Convention: https://www.unece.org/env/water/text/text.html The Protocol on Water and Health: https://www.unece.org/env/water/pwh_text/text_protocol.html Assessment of the water-food-energy-ecosystem nexus and benefits of transboundary cooperation in the Drina River Basin: https://unece.org/environment-policy/publications/assessment-water-food-energy-ecosystem-nexus-and-benefits http://www.unece.org/index.php?id=47750Air http://www.unece.org/fileadmin/DAM/env/Irtap/welcome.html
UNECLAC https://www.cepal.org/en	<ul style="list-style-type: none"> https://www.cepal.org/en/publications/46280-economic-implications-ban-single-use-plastics-caribbean-case-study-trinidad-and Economic implications of the ban on single-use plastics in the Caribbean: https://www.cepal.org/sites/default/files/publication/files/46280/S2000658_en.pdf https://foroalc2030.cepal.org/2018/en/programme/beat-plastic-pollution-innovative-solutions-lac

UNESCAP https://www.unescap.org/	<ul style="list-style-type: none"> • Closing the Loop: https://www.unescap.org/projects/closing-the-loop/ • https://www.unescap.org/projects/closing-the-loop/resources • https://www.unescap.org/sites/default/files/ESCAP_SDG14_Policy%20Brief_Final.pdf • http://sdghelpdesk.unescap.org/knowledge-hub/thematic-area/healthy-ocean • SDG14 Accelerator methodology and a policy brief: https://www.unescap.org/sites/default/files/ESCAP_SDG14_Policy%20Brief_Final.pdf
UNESCWA https://www.unescwa.org/	<ul style="list-style-type: none"> • PROGRESS ON SUSTAINABLE CONSUMPTION AND PRODUCTION IN THE ARAB REGION (2017): https://www.unescwa.org/sites/www.unescwa.org/files/page_attachments/technical_paper_10-_scp.pdf • Assessment of Sustainable Consumption and Production in the Arab Region 2020 • https://www.unescwa.org/sites/www.unescwa.org/files/events/files/progress_scp_arab-region.pdf
FAO http://www.fao.org/home/en/	<ul style="list-style-type: none"> • Responsible practices for sustainable fisheries and reduction of impacts of fishing operations Programme: http://www.fao.org/responsible-fishing/en/ • Abandoned, lost or otherwise discarded fishing gear FAO FISHERIES AND AQUACULTURE TECHNICAL PAPER No. 523: http://www.fao.org/3/i0620e/i0620e00.htm • Sea-based Sources of Marine Litter – A Review of Current Knowledge and Assessment of Data Gaps: http://www.fao.org/responsible-fishing/resources/detail/fr/c/1317016/ • FAO Food Loss and Waste: http://www.fao.org/food-loss-and-food-waste/flw-data • Global assessment of soil pollution Report (2021): http://www.fao.org/documents/card/en/c/cb4894en
GEF https://www.thegef.org/	<ul style="list-style-type: none"> • https://www.thegef.org/blog/local-global-action-saving-ocean-requires-re-thinking-our-relationship-single-use-plastic • IWR-LEARN: https://www.thegef.org/topics/gef-international-waters-learning-exchange-and-resource-network-iwlearn • Global Water Partnership: https://www.gwp.org/en/GWP-Mediterranean/ • https://www.thegef.org/project/integrated-pops-management-project-dioxins-and-furans-pcb-and-contaminated-sites-management • https://www.thegef.org/project/reducing-releases-pbdes-and-upops-originating-unsound-waste-management-and-recycling • https://www.thegef.org/project/development-and-implementation-sustainable-management-mechanism-pops-caribbean • https://www.thegef.org/project/guidance-development-and-case-study-documentation-green-chemistry-and-technologies • https://www.thegef.org/project/addressing-marine-plastics-systemic-approach • https://www.thegef.org/project/circular-economy-regional-programme-initiative-near-zero-waste • https://www.thegef.org/sites/default/files/publications/PLASTICS%20for%20posting.pdf • https://globalplasticaction.org/
UN-Habitat https://unhabitat.org/	<ul style="list-style-type: none"> • Waste Wise Cities: https://unhabitat.org/waste-wise-cities • Waste Wise Cities Tool: https://unhabitat.org/waste-wise-data • Waste Wise Partnership: https://unhabitat.org/waste-wise-partnerships • https://unhabitat.org/un-habitat-aims-to-use-plastic-waste-to-support-housing-for-all • Collaboration with UNEP: https://www.gpmarinelitter.org/what-we-do/marine-litter-hotspots • https://www.panda.org/wwf_news/press_releases/7359490/WWF-UN-Habitat-end-plastic-pollution • https://www.nspackaging.com/news/alliance-un-habitat-plastic-waste/

IAEA https://www.iaea.org/	<ul style="list-style-type: none"> Plastics: https://www.iaea.org/topics/coastal-and-marine/plastics https://www.iaea.org/topics/coastal-and-marine/coastal-pollution-trends PUI: https://www.iaea.org/services/key-programmes/peaceful-uses-initiative WG 39 Global Trends in Pollution of Coastal Ecosystems: Retrospective Ecosystem Assessment: http://www.gesamp.org/work/groups/39
IFAD https://www.ifad.org/en/	<ul style="list-style-type: none"> Fisheries and aquaculture: https://www.ifad.int/en/web/guest/fisheries https://www.seafoodsource.com/news/aquaculture/tanzania-adding-fingerling-production-capacity-with-ifad-deal
ILO https://www.ilo.org/global/lang-en/index.htm	<ul style="list-style-type: none"> Chemicals Convention, 1990 (No. 170): https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C170 Chemicals Recommendation, 1990 (No. 177) https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312515:NO Maritime Labour Convention, 2006 (MLC, 2006) https://www.ilo.org/global/standards/maritime-labour-convention/text/lang-en/index.htm Work in Fishing Convention, 2007 (No. 188) https://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100_ILO_CODE:C188 Work in Fishing Recommendation, 2007 (No. 199) https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:R199 Guidelines for a just transition towards environmentally sustainable economies and societies for all: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf Skills for a greener future: A global view: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_732214.pdf Greening with jobs, World Employment Social Outlook 2018: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_628654.pdf Sectoral Policies Department (SECTOR): https://www.ilo.org/sector/lang-en/index.htm
IMO http://www.imo.org/en/Pages/Default.aspx	<ul style="list-style-type: none"> http://www.imo.org/en/MediaCentre/PressBriefings/Pages/32-GloLitter-signing.aspx http://www.imo.org/en/MediaCentre/HotTopics/marinelitter/Pages/default.aspx http://londonprotocol.imo.org https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx http://www.imo.org/en/MediaCentre/HotTopics/Pages/SustainableDevelopmentGoals.aspx Report Marine Litter in Wastes Dumped at Sea under the London Convention and Protocol (2016): https://www.wcdn.imo.org/localresources/en/OurWork/Environment/Documents/Marine%20litter%20review%20for%20publication%20April%202016_final_ebook_version.pdf https://www.wcdn.imo.org/localresources/en/OurWork/Environment/Documents/Fibre%20Reinforced%20Plastics%20final%20report.pdf
ITC http://www.intracen.org/	<ul style="list-style-type: none"> Solid Waste Management Initiatives: https://www.itcportal.com/sustainability/solid-waste-management.aspx WOW initiative: https://www.itcportal.com/sustainability/sustainability-report-2013/solid-waste-recycling.aspx Trade for Sustainable Development (T4SD): https://www.intracen.org/t4sd/

OHCHR https://www.ohchr.org/EN/pages/home.aspx	<ul style="list-style-type: none"> • OHCHR work on climate change and human rights: https://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimatChangeIndex.aspx • UN Special Rapporteur on human rights and environment: https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SREnvironmentIndex.aspx • UN Special Rapporteur on human rights and toxics: https://www.ohchr.org/EN/Issues/Environment/ToxicWastes/Pages/SRToxicWastesIndex.aspx • https://www.cepal.org/en/escazuagreement • The Special Procedures of the Human Rights Council: https://www.ohchr.org/EN/HRBodies/SP/Pages/Welcomepage.aspx
Ramsar https://www.ramsar.org/	<ul style="list-style-type: none"> • https://www.ramsar.org/sites/default/files/documents/pdf/lib/rtr6-health.pdf • https://www.ramsar.org/resources/publications
SPREP https://www.sprep.org/	<ul style="list-style-type: none"> • https://www.sprep.org/sites/default/files/documents/publications/MAP-Digital-small.pdf • https://pipap.sprep.org/content/pacific-regional-action-plan-marine-litter-2018-2025 • https://www.sprep.org/attachments/Publications/WMPCC/cleaner-pacific-strategy-imp-plan-2025.pdf • https://www.iucn.org/news/protected-areas/201906/a-partnership-improved-reporting-pacific-protected-and-conserved-areas • https://www.sprep.org/news/make-your-voice-count-the-greening-of-the-samoa-2019-pacific-games • https://www.unenvironment.org/news-and-stories/story/samoa-makes-history-first-green-pacific-games
UNEP https://www.unep.org/	<ul style="list-style-type: none"> • GPML: https://www.gpmlitter.org/ • GPML Regional Nodes: https://marinelitternetwork.engr.uga.edu/regional-nodes/ • GPML Digital Platform: https://digital.gpmlitter.org/ • AHEG: https://www.unep.org/environmentassembly/expert-group-on-marine-litter • GPA: https://www.unep.org/resources/toolkits-manuals-and-guides/global-programme-action-protection-marine-environment-land • IETS: https://www.unep.org/ietc/ • UNEP Regional Seas: https://www.unep.org/explore-topics/oceans-seas/what-we-do/regional-seas-programme • Report Regional Seas and Marine Litter: https://www.unep.org/resources/report/regional-seas-and-marine-litter • https://www.unenvironment.org/explore-topics/resource-efficiency/what-we-do/sustainable-consumption-and-production-policies
UNEP/MAP https://web.unep.org/unepmap/	<ul style="list-style-type: none"> • https://www.medqsr.org/ • http://gpmlmednode.org/ • http://gpmlmednode.org/service/eu-funded-marine-litter-med-project • https://www.unep.org/unepmap/fr/node/19702 • https://www.unep.org/unepmap/what-we-do/projects/MarineLitterMED • https://www.unep.org/unepmap/what-we-do/projects/ENI-SEIS-II-South-Support-Mechanism • https://www.unep.org/unepmap/what-we-do/projects/SIMWESTMED-SUPREME • https://www.unep.org/unepmap/what-we-do/projects/ECAP-MED-II

UNEP/CEP https://www.unenvironment.org/cep/	<ul style="list-style-type: none"> • UNEP Editorial : https://www.unenvironment.org/cep/news/editorial/caribbean-addresses-scourge-plastic-pollution-help-cartagena-convention-secretariat • UNEP International Environment Technology Centre: https://www.unenvironment.org/ietc/ • GPML Caribbean Node: https://gpml-caribe.org/ • Trash Free Waters Initiative in the Caribbean: https://www.unep.org/cep/trash-free-waters-initiative-caribbean • Trash Free – Enhancing the Whitehouse and Blue fields Solid Waste Project: https://www.youtube.com/watch?v=rORWuvyZHTs • Compendium of case studies on solid waste management: https://gefcrew.org/carrcu/LBSSTAC5/Info-Docs/WG.41INF.18-en.pdf • Regional marine litter management strategy: http://gefcrew.org/carrcu/LBSSTAC5/Info-Docs/WG.41-INF.19%20Rev.1-en.pdf • Interactive map on single use plastic bans: https://www.unep.org/cep/news/blogpost/styrofoam-and-plastic-bag-bans-caribbean-interactive-map
UN Global Compact https://www.unglobalcompact.org/	<ul style="list-style-type: none"> • Sustainable Ocean Business Action Platform: https://www.unglobalcompact.org/take-action/action-platforms/ocean • Mapping Ocean Governance and Regulation: https://www.unglobalcompact.org/library/5710 • https://www.unglobalcompact.org/take-action/ocean
UN Oceans http://www.unoceans.org/	<ul style="list-style-type: none"> • https://www.un.org/Depts/los/coop_coor/un_oceans.htm • http://www.unoceans.org/inventory/en/
UN Water https://www.unwater.org/	<ul style="list-style-type: none"> • UN World Water Development Reports: https://www.unwater.org/publication_categories/world-water-development-report/ • SDG 6 Indicator Reports: https://www.unwater.org/publication_categories/sdg6-indicator-reports/ • Water Policy and Analytical Briefs: https://www.unwater.org/publication_categories/policy-and-analytical-briefs/ • The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS): https://www.unwater.org/publication_categories/glaas/ • SDG 6 Knowledge Hub: http://sdg.iisd.org/sdgs/goal-6-clean-water-sanitation/ • WHO/UNICEF Joint Monitoring Programme for Water Supply Sanitation and Hygiene (JMP): https://www.unwater.org/publication_categories/whounicef-joint-monitoring-programme-for-water-supply-sanitation-hygiene-jmp/ • UN-Water input on Freshwater-Biodiversity Linkages: Response to the Zero-Draft Document from the Open-Ended Working Group on the Post-2020 Global Biodiversity Framework: https://www.unwater.org/publications/un-water-input-on-freshwater-biodiversity-linkages-response-to-the-zero-draft-document-from-the-open-ended-working-group-on-the-post-2020-global-biodiversity-framework/
UNCTAD https://unctad.org/en/Pages/Home.aspx	<ul style="list-style-type: none"> • Sustainable Manufacturing and Environmental Pollution (SMEP) programme: https://unctad.org/meeting/dfid-unctad-sustainable-manufacturing-and-environmental-pollution-smep-programme-early • Trade and environment: https://unctad.org/topic/trade-and-environment • Trade and oceans: The Oceans Forum https://unctad.org/meeting/oceans-forum-trade-related-aspects-sustainable-development-goal-14

UNDP www.undp.org	<ul style="list-style-type: none"> • https://www.undp.org/content/undp/en/home/librarypage/environment-energy/sgp/plastics-and-circular-economy--community-solutions.html • https://sdgintegration.undp.org/driving-systems-change-stop-plastic-pollution • https://www.undp.org/content/undp/en/home/blog/2017/7/14/Costa-Rica-abre-el-camino-hacia-el-fin-de-los-plasticos-de-un-solo-uso.html • https://www.undp.org/content/undp/en/home/blog/2018/Container-deposit-laws-A-winner-for-preventing-ocean-plastics-pollution.html • https://www.asiapacific.undp.org/content/rbap/en/home/presscenter/pressreleases/2019/undp-unveils-nationwide-campaign-to-combat-single-use-plastics-.html • www.oceaninnovationchallenge.org
IOC/UNESCO http://ioc-unesco.org/	<ul style="list-style-type: none"> • http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/ • http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/facts-and-figures-on-marine-pollution/ • World Water Assessment Programme (UNESCO WWAP): http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/ • UNESCO Water: https://en.unesco.org/themes/water-security/about-us • UN Decade of Ocean Science: https://www.oceandecade.org/
UNFCCC https://unfccc.int/	<ul style="list-style-type: none"> • Oceans, coastal areas and ecosystems: https://www4.unfccc.int/sites/NWPStaging/Pages/oceans-page.aspx • Ocean Climate Dialogue: https://unfccc.int/event/ocean-and-climate-change-dialogue-to-consider-how-to-strengthen-adaptation-and-mitigation-action
UNICEF https://www.unicef.org/	<ul style="list-style-type: none"> • WHO/UNICEF Joint Monitoring Programme for Water Supply Sanitation and Hygiene (JMP): https://www.unwater.org/publication_categories/whounicef-joint-monitoring-programme-for-water-supply-sanitation-hygiene-jmp/
UNIDO https://www.unido.org/	<ul style="list-style-type: none"> • Addressing the challenge of Marine Plastic Litter using Circular Economy methods: https://www.unido.org/sites/default/files/files/2019-06/UNIDO_Addressing_the_challenge_of_Marine_Plastic_Litter_Using_Circular_Economy_0.pdf • IRE and Circular Economy: https://www.unido.org/sites/default/files/files/2020-02/IRE%20and%20Circular%20Economy_0.pdf • List of projects: • Bangladesh: https://open.unido.org/projects/BD/projects/190230 (funded by Norway) • Egypt: https://open.unido.org/projects/EG/projects/190152 (funded by Japan) • Ghana: https://open.unido.org/projects/GH/projects/190244 (funded by GEF) • South Africa: https://open.unido.org/projects/ZA/projects/190110 (funded by Japan) • Africa Region: https://open.unido.org/projects/M2/projects/190137 (funded by Japan) • Global: https://open.unido.org/projects/M0/projects/190161 (funded by EU)
UNODC https://www.unodc.org/	<ul style="list-style-type: none"> • https://www.unodc.org/unodc/fr/scientists/index.html • https://www.unodc.org/pdf/convention_1961_en.pdf • https://www.unodc.org/pdf/convention_1971_en.pdf • https://www.unodc.org/pdf/convention_1988_en.pdf • https://www.incb.org/

UNOOSA https://www.unoosa.org/	<ul style="list-style-type: none"> • https://www.unoosa.org/oosa/en/ourwork/topics/spacesolutions4thepacific/index.html • https://www.unoosa.org/oosa/en/ourwork/topics/space-for-water.html • https://www.unoosa.org/oosa/en/ourwork/psa/hsti/kibocube.html • https://www.unoosa.org/oosa/en/ourwork/space4health/index.html • https://www.aircentre.org/linking-data-to-actions-on-marine-debris-for-the-ocean-decade/ • http://www.earthobservations.org/index.php • https://www.unoosa.org/oosa/en/aboutus/structure.html • http://www.un-spider.org/ • https://www.unoosa.org/oosa/en/ourwork/un-spider/index.html • https://www.unoosa.org/oosa/en/ourwork/access2space4all/index.html • https://www.aircentre.org/ • https://geoblueplanet.org/ • http://ceos.org/
UNOPS https://www.unops.org/	<ul style="list-style-type: none"> • https://www.unops.org/news-and-stories/stories/cleaning-up-for-good • https://www.unops.org/news-and-stories/news/unops-joins-efforts-to-beat-plastic-pollution-for-good
UNWTO https://www.unwto.org/	<ul style="list-style-type: none"> • https://www.unwto.org/sustainable-development/global-tourism-plastics-initiative • https://www.oneplanetnetwork.org/sustainable-tourism/global-tourism-plastics-initiative
WFP https://www.wfp.org/	<ul style="list-style-type: none"> • Bio-plastics WFP's position paper: (www pages not found) • https://www.wfp.org/stories/rethinking-packaging-reducing-waste • https://www.usaid.gov/sites/default/files/documents/Packaging_Waste_Management_Scoping_Statement_508_-_update_9.9.pdf
WHO https://www.who.int/	<ul style="list-style-type: none"> • The drinking water report + information sheet: https://www.who.int/water_sanitation_health/publications/microplastics-in-drinking-water/en/ • Microplastics in freshwaters and drinking water: critical review and assessment of data quality: https://www.sciencedirect.com/science/article/pii/S0043135419301794 • WHO/UNICEF Joint Monitoring Programme for Water Supply Sanitation and Hygiene (JMP): https://www.unwater.org/publication_categories/whounicef-joint-monitoring-programme-for-water-supply-sanitation-hygiene-jmp/ • World Health Organization. 2019. Microplastics in drinking-water: https://www.who.int/publications/i/item/9789241516198 • World Health Organization. 2021. Guidelines on recreational water quality. Volume 1: coastal and fresh waters: https://www.who.int/publications/i/item/9789240031302
WMO https://public.wmo.int/en	<ul style="list-style-type: none"> • WG 38 Atmospheric Input of Chemicals to the Ocean: http://www.gesamp.org/work/groups/38 • https://public.wmo.int/en/programmes/global-atmosphere-watch-programme
World Bank https://www.worldbank.org/	<ul style="list-style-type: none"> • https://www.worldbank.org/en/programs/problue • https://www.worldbank.org/en/topic/how-the-world-bank-group-is-addressing-marine-plastic-pollution • https://www.worldbank.org/en/topic/urbandevelopment/brief/solid-waste-management • https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Climate+Business/Priorities/Blue_Finance_SA/
WTO https://www.wto.org/	<ul style="list-style-type: none"> • Making trade work for the environment, prosperity and resilience: https://www.wto.org/english/res_e/publications_e/unereport2018_e.htm • https://www.wto-ilibrary.org/fr/trade-facilitation-and-customs-valuation/trade-policies-for-a-circular-economy_2ced559e-en • Informal Dialogue on Plastics Pollution (2021): https://www.wto.org/english/news_e/news21_e/tessd_29mar21_e.htm

EMG Observers and other contributors	A list of reports, webpages and other sources of information on marine litter and microplastics
IUCN https://www.iucn.org/	<ul style="list-style-type: none"> • https://www.iucn.org/resources/issues-briefs/marine-plastics • Guidelines target plastic pollution hotspots: https://www.iucn.org/news/marine-and-polar/202008/guidelines-target-plastic-pollution-hotspots • National Guidance for Plastic Pollution Hotspotting and Shaping Action (2020): https://wedocs.unep.org/bitstream/handle/20.500.11822/33166/NGP.pdf?sequence=1&isAllowed=y • Plastic Waste Free Islands: https://www.iucn.org/regions/oceania/our-work/blue-green-economy/climate-change-mitigation-and-risk-reduction-programme/our-projects/plastic-waste-free-islands • Marine Plastics and Coastal Communities – MARPLASTICCs: https://www.iucn.org/regions/eastern-and-southern-africa/our-work/coastal-and-ocean-resilience/marine-plastics-and-coastal-communities-marplasticcs
OECD https://www.oecd.org/	<ul style="list-style-type: none"> • https://www.oecd.org/environment/waste/policy-highlights-improving-plastics-management.pdf • https://www.oecd.org/env/waste/ • https://www.oecd.org/environment/waste/recircle.htm • https://oecd-environment-focus.blog/2021/01/07/the-price-of-plastic-waste-and-solutions-to-turn-the-tide/ • https://www.oecd.org/ocean/
GESAMP http://www.gesamp.org/	<ul style="list-style-type: none"> • WG 40 Sources, Fate and Effects of plastics and micro-plastics in the marine environment: http://www.gesamp.org/work/groups/40 • WG 43 Sea-based sources of marine litter: http://www.gesamp.org/work/groups/wg-43-on-sea-based-sources-of-marine-litter • Sea-based Sources of Marine Litter – A Review of Current Knowledge and Assessment of Data Gaps (2021): http://www.fao.org/3/cb0724en/cb0724en.pdf • Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean (2019): http://www.gesamp.org/publications/guidelines-for-the-monitoring-and-assessment-of-plastic-litter-in-the-ocean • The first global assessment report (2015): http://www.gesamp.org/site/assets/files/1720/rs90e.pdf • SOURCES, FATE AND EFFECTS OF MICROPLASTICS IN THE MARINE ENVIRONMENT: PART TWO OF A GLOBAL ASSESSMENT: http://www.gesamp.org/site/assets/files/1720/rs93e.pdf • WG 39 Global Trends in Pollution of Coastal Ecosystems: Retrospective Ecosystem Assessment: http://www.gesamp.org/work/groups/39
IPBES https://www.ipbes.net/	<ul style="list-style-type: none"> • https://ipbes.net/global-assessment
Other sources	A list of reports, webpages and other sources of information on marine litter and microplastics
G7	<ul style="list-style-type: none"> • https://www.g7germany.de/Content/EN/Artikel/2015/06_en/g7-gipfel-dokumente_en.html • https://www.consilium.europa.eu/media/40516/charlevoix_oceans_plastic_charter_en.pdf
G20	<ul style="list-style-type: none"> • https://www.mofa.go.jp/mofaj/files/000272290.pdf
GACERE	<ul style="list-style-type: none"> • Global Alliance on Circular Economy and Resource Efficiency (GACERE) https://ec.europa.eu/environment/international_issues/gacere.html

Annex 4: UNEP-administered Regional Seas Programmes

The Regional Seas Programmes¹⁶⁵ address the accelerating degradation of the marine and coastal areas through the sustainable management and use of the marine and coastal environment, by engaging neighbouring countries in comprehensive and specific action to protect their shared marine environment. Under the umbrella of Regional Seas Programmes, sound environmental management of marine areas is coordinated and implemented by countries sharing a common body of marine water. The Regional Seas Programmes function through Action Plans,¹⁶⁶ which in most cases are underpinned by a strong legal framework in the form of a Regional Convention and associated Protocols. The regional action plans take into account the environmental, social and economic situation of each regional sea and they vary in detail and extent of actions recommended to member states. Eighteen Regional Seas Programmes have been established, including 14 Programmes under the auspices of UNEP with seven of these directly administered by UNEP. Furthermore, four partner programmes for the Antarctic, Arctic, Baltic Sea and North-East Atlantic Regions are members of the Regional Seas family.

UNEP-administered Regional Seas Programmes:

- Caribbean Region: The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (1983); (also referred as the “Cartagena Convention”) and The Caribbean Regional Action Plan for Marine Litter (“RAPMaLI”) (2010);
<https://www.unenvironment.org/cep/>
- East Asian Seas: The Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Seas Region (1981);
<https://www.unenvironment.org/cobsea/>
- Eastern Africa Region: The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern Africa Region (1985);
<https://www.unenvironment.org/nairobiconvention/>
- Mediterranean Region: The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (1976); (also referred as the “Barcelona Convention”);
<https://www.unenvironment.org/unepmap/>
- North-West Pacific Region: The Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) (1994);
<https://www.unenvironment.org/nowpap/>
- Western Africa Region: The Convention for Co-operation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region (1981) (also referred as the “Abidjan Convention”);
<https://abidjanconvention.org/>
- Caspian Sea: The Framework Convention for the Protection of the Marine Environment of the Caspian Sea (also referred as the “Tehran Convention”) and Action Plan for the Caspian Sea;
<http://www.tehranconvention.org/spip.php?article4>

¹⁶⁵ <https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/working-regional-seas>

¹⁶⁶ <http://marinelitternetwork.com/global-projects/action-plans/>

Non-UNEP-administered Regional Seas Programmes:

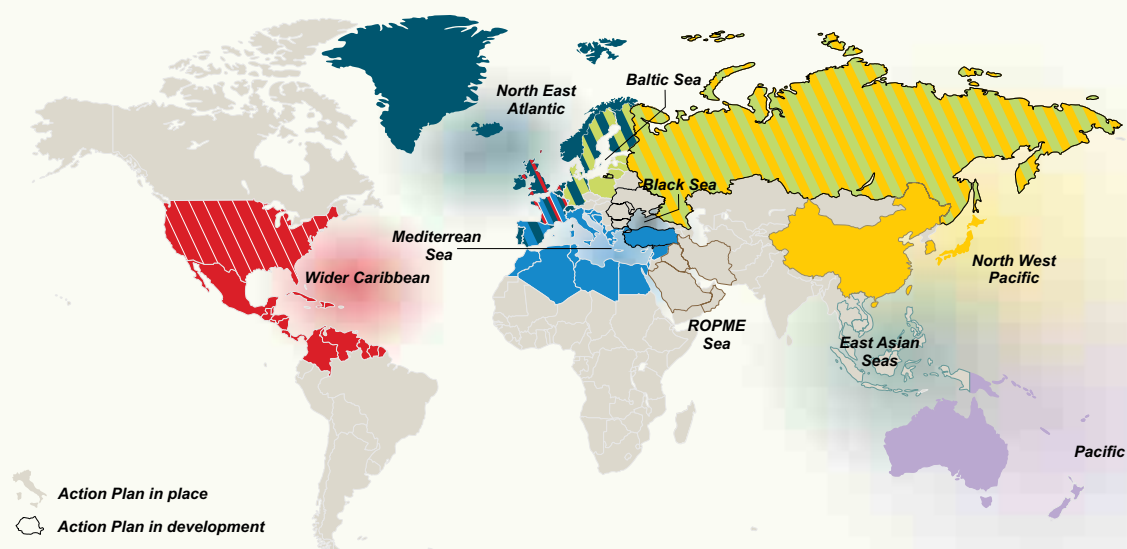
- Black Sea Region: The Convention on the Protection of the Black Sea Against Pollution (1992) (also referred as the “Bucharest Convention”) ;
http://www.blacksea-commission.org/_convention.asp
- North-East Pacific Region: The Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the North-East Pacific (also referred as “The Antigua Convention”) (2002) and the North-East Pacific Action Plan ;
<https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/regional-seas-programmes/north-east-0>
- Red Sea and Gulf of Aden: The Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (1982) (also referred as the “Jeddah Convention”) and The Action Plan for the Red Sea and Gulf of Aden (1982);
<http://www.persga.org/inner.php?id=62>
- ROPME Sea Area: Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution (1978) and the Kuwait Action Plan for the Protection and Development of the Marine Environment and the Coastal Areas, (1978);
<http://ropme.org/Home.clx>
- South Asian Seas: The South Asian Seas Action Plan (1995);
<http://www.sacep.org/>
- South-East Pacific Region: The Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (1981); (also referred as the “Lima Convention”) and the The South-East Pacific Action Plan (1981);
<http://www.cpps-int.org/index.php/principal>
- Pacific Region: The Convention for the Protection of Natural Resources and Environment of the South Pacific Region (1986); (also referred as the “Noumea Convention” or “SPREP Convention”);
<https://www.sprep.org/convention-secretariat/noumea-convention>

Independent Regional Seas Programmes:

- Arctic Region: Arctic Council for the Protection of the Arctic Marine Environment (1992) - the Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities (Arctic RPA) in 1998 and updated it in 2009¹⁶⁷;
<https://arctic-council.org/en/about/working-groups/pame/>
- Antarctic Region: Antarctic Treaty System: Convention for the Conservation of Antarctic Marine Living Resources (1982) and Protocol on Environmental Protection to the Antarctic Treaty (1991) (also referred as the Madrid Protocol);
<https://www.ccamlr.org/en> and <https://www.ats.aq/e/protocol.html>
- Baltic Sea: The Convention on the Protection of the Marine Environment of the Baltic Sea Area (1974) (); (also referred as the “Helsinki Convention” or HELCOM);
<https://helcom.fi/about-us/convention/>
- North-East Atlantic Region: The Convention for the Protection of the Marine Environment of the North-East Atlantic (also referred as the “OSPAR Convention”) (Oslo and Paris conventions, adopted 1974, revised and combined 1992);
<https://www.ospar.org/convention>

¹⁶⁷ <https://pame.is/index.php/projects/arctic-marine-pollution>

Regional action plans on marine litter



Source: UNEP Marine Plastic Debris And Microplastic, document in preparation

<https://www.grida.no/resources/6928>

Annex 5: Overview of Marine Litter and Microplastics Expertise, Initiatives and Projects in the UN System

A summary table with an overview of marine litter and microplastics expertise in the UN System: direct/indirect remits of the entities to the topic of marine litter and microplastics.¹⁶⁸

Entity	Sea-based	Land-based	Drivers	Responses	Pressures & Impacts	Environment	Development	Governance	Technical assistance	Primary SDGs	Specifications
International Instruments											
BRS	+	+		+	+	+	+	+	+	12	waste management, environment, protection
UNCLOS	+	+	+	+	+	+	+	+	+	14	oceans, law, sustainable use, environment, protection
Water Con.	+	+			+	+		+	+	6	freshwater, environment, protection
CBD	+	+			+	+		+	+	14,15	biodiversity, environment, protection
CMS	+	+			+	+		+	+	15	biodiversity, environment, protection
Ramsar	+	+			+	+		+		6	ecosystems, environment, protection
UNFCCC	+	+			+	+		+	+	13,14	ocean-climate, environment, protection
DOALOS	+				+	+			+	14	oceans, law, sustainable use, environment, protection
UN-Oceans	+				+	+			+	14	oceans, environment, protection
UN-Water		+			+	+			+	6	freshwater, environment, protection
Environment and Development											
UNEP	+	+	+	+	+	+	+		+	14,12	oceans, sustainable consumption and production, environment
RSP	+	+			+	+		+	+	14,12	oceans, environment, protection
UNEP/MED	+	+		+	+	+		+	+	14,12	oceans, environment, protection
UNEP/CEP	+	+		+	+	+		+	+	14,12	oceans, environment, protection
SPREP	+	+		+	+	+		+	+	14,12	oceans, environment, protection
IMO	+				+	+			+	14	oceans, environment, protection
UNDP	+	+	+	+	+	+	+		+	12,14	sustainable consumption and production, oceans, local development
OHCHR	+	+			+	+			+	10,3	human rights, including the right to a healthy environment, health & protection
UNECA	+	+		+	+		+		+	2,9,14	green growth, circular economy, development
UNECE	+	+		+	+		+		+	2,6,12	food loss, waste management, development
UNECLAC	+	+	+	+	+		+		+	12,8,14	sustainable consumption and production, development
UNESCAP	+	+	+	+	+		+		+	11,12,14	waste management, circular economy, development

¹⁶⁸ Abbreviations: Water Con. – UNECE/Water Convention; UNGC – UN Global Compact.

*Entity from outside the UN System

An overview of marine litter and microplastics projects, initiatives and expertise in the UN System, covering direct/indirect remits of the entities to the topic of marine litter and microplastics.

Entity	Sea-based	Land-based	Drivers	Responses	Pressures & Impacts	Primary SDGs	# projects / initiatives	Thematic scope of entities' projects, initiatives, programmes (key-words)
International Instruments								
BRS		+		+		12	<5	plastic waste management projects/program
CBD	+				+	14,15	N/A	technical reports on marine litter for parties
CMS	+	+			+	15	N/A	technical reports on marine litter for parties
Environment and Development								
UNEP	+	+	+	+	+	14,12	>5	marine litter, plastics, waste, SCP
UNEP/MED	+	+		+	+	14,12	<5	marine litter, plastics, waste, Mediterranean
UNEP/CEP	+	+		+	+	14,12	<5	marine litter, plastics, waste, Caribbean
SPREP	+	+		+	+	14,12	<5	marine litter, plastics, waste, Pacific
IMO	+			+	+	14	<5	GloLitter, sea-based sources of pollution
UNDP	+	+		+	+	12,14	>5	waste, Extended Producer Responsibility
OHCHR	+	+			+	10,3	N/A	human rights, including the right to a healthy environment
UNECA	+	+		+		2,9,14	<5	industrialization, agricultural value chains,BE
UNECE	+	+		+	+	2,12	<5	food loss, waste, water quality
UNECLAC		+		+		12, 8	<5	plastic trace, socio-economic case for litter
UNESCAP	+	+		+	+	11,12	<5	waste, circularity, cities
UNESCWA		+		+		12,2	<5	waste, circularity, agriculture, SCP
IUCN*	+	+		+	+	14,12	<5	ecosystems, biodiversity, waste, circularity
OECD*		+	+	+		12,9	<5	waste, circularity, industries
Agriculture and Labour								
FAO	+	+	+		+	14,2	<5	GloLitter, food, fisheries, agriculture
ILO		+		+		8	<5	labour, rural economy, green jobs, waste, just transition
WFP		+	+	+		2,12	<5	food, packaging, waste, humanitarian aid
Business, Trade, Life cycle								
UN-Habitat		+		+	+	1, 6, 11,12	<5	waste, sustainable cities
UNIDO		+		+		12,9	<5	industries, circularity, technologies-waste
WTO	+	+	+	+		8,12	N/A	trade, waste, fisheries, businesses
UNCTAD		+	+			12,9	<5	trade,development, technologies-prevention
ITC		+		+		8,12	<5	trade, waste, SMEs, value chain, agriculture
UNGC	+		+			17,14	<5	GloLitter, Ocean Platform, BE, businesses
UNWTO		+		+		12	<5	tourism, plastic waste, SCP patterns
UNOPS		+		+		12	<5	waste
Health and Sanitation								
WHO	+	+			+	3,6	N/A	report on drinking water with microplastics
UNICEF		+			+	10,3	<5	children's right to a healthy environment

Entity	Sea-based	Land-based	Drivers	Responses	Pressures & Impacts	Primary SDGs	# projects / initiatives	Thematic scope of entities' projects, initiatives, programmes (key-words)
Research and Training								
IAEA	+	+			+	14	>5	research, assessments
IOC	+				+	14	<5	training
UNOOSA	+	+			+	9,6,14	<5	training, assessments
Funding Mechanisms								
GEF	+	+	+	+	+	17,12	>5	waste, circularity
IFAD	+	+		+		14,2	>5	fisheries, agriculture, value chain, waste
World Bank	+	+	+	+	+	12,14	>5	waste, circularity, cities, SCP, BE, ProBlue

*Entity from outside the UN System

Annex 6: Overview of Collaborations and Partnerships on the topic of Marine Litter and Microplastics in the UN System

An overview of collaborations and partnerships on the topic of Marine Litter and Microplastics in the UN System, covering direct/indirect remits of the entities to the topic of marine litter and microplastics. Drivers, responses and impacts, including elements of the circular plastic economy themes, are included for five categories of UN functional areas.

Entity	Drivers (Reduce)	Responses (Recover, Recycle)	Impacts	Legal & policy frameworks	Technology & innovation	Capacity building & training	Financing	Private sector engagement	Collaboration/ No collaboration
BRS	D	R	I	LPF	T&I	CB	F	PS	C-ML
CBD	D	R	I	LPF	T&I	CB	F	PS	C-ML
CMS	D	R	I	LPF	T&I	CB	F	PS	C-ML
DOALOS	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNECA	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNECE	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNECE/WCo	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNECLAC	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNESCAP	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNESCWA	D	R	I	LPF	T&I	CB	F	PS	NC-ML
FAO	D	R	I	LPF	T&I	CB	F	PS	C-ML
GEF	D	R	I	LPF	T&I	CB	F	PS	C-ML
GESAMP	D	R	I	LPF	T&I	CB	F	PS	C-ML
UN-Habitat	D	R	I	LPF	T&I	CB	F	PS	C-ML
IAEA	D	R	I	LPF	T&I	CB	F	PS	C-ML
IFAD	D	R	I	LPF	T&I	CB	F	PS	NC-ML
ILO	D	R	I	LPF	T&I	CB	F	PS	NC-ML
IMO	D	R	I	LPF	T&I	CB	F	PS	C-ML
IOC	D	R	I	LPF	T&I	CB	F	PS	C-ML
ITC	D	R	I	LPF	T&I	CB	F	PS	NC-ML
IUCN	D	R	I	LPF	T&I	CB	F	PS	C-ML
OECD	D	R	I	LPF	T&I	CB	F	PS	C-ML
OHCHR	D	R	I	LPF	T&I	CB	F	PS	NC-ML
Ramsar	D	R	I	LPF	T&I	CB	F	PS	NCW-ML
SPREP	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNCTAD	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNDP	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNEP	D	R	I	LPF	T&I	CB	F	PS	C-ML
RSP	D	R	I	LPF	T&I	CB	F	PS	C-ML

Entity	Drivers (Reduce)	Responses (Recover, Recycle)	Impacts	Legal & policy frameworks	Technology & innovation	Capacity building & training	Financing	Private sector engagement	Collaboration/ No collaboration
UNEP/MED	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNEP/CEP	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNFCCC	D	R	I	LPF	T&I	CB	F	PS	NCW-ML
UNGC	D	R	I	LPF	T&I	CB	F	PS	C-ML
UNICEF	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNIDO	D	R	I	LPF	T&I	CB	F	PS	C-ML
UN-Oceans	D	R	I	LPF	T&I	CB	F	PS	NCW-ML
UNODC	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UNOOSA	D	R	I	LPF	T&I	CB	F	PS	NCW-ML
UNOPS	D	R	I	LPF	T&I	CB	F	PS	NC-ML
UN-Water	D	R	I	LPF	T&I	CB	F	PS	NCW-ML
UNWTO	D	R	I	LPF	T&I	CB	F	PS	C-ML
WFP	D	R	I	LPF	T&I	CB	F	PS	NC-ML
WHO	D	R	I	LPF	T&I	CB	F	PS	C-ML
WMO	D	R	I	LPF	T&I	CB	F	PS	C-ML
World Bank	D	R	I	LPF	T&I	CB	F	PS	C-ML
WTO	D	R	I	LPF	T&I	CB	F	PS	NC-ML

C-ML: Collaboration on marine litter and microplastics

NC-ML: No Collaboration on marine litter and microplastics

NCW-ML: No Collaboration or Work on marine litter and microplastics

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List of Acronyms

AHEG	Ad hoc Open-ended Expert Group on Marine Litter and Microplastics
ALDFG	Abandoned, lost or otherwise discarded fishing gear
BRS	Secretariat of the Basel, Rotterdam and Stockholm Conventions
CBD	Convention on Biological Diversity
CCAC	Climate & Clean Air Coalition
CCP	UNODC-WCO Container Control Programme
CEP	Caribbean Environment Programme (of UNEP)
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COBSEA	Coordinating Body on the Seas of East Asia (of UNEP)
CoP	Conference of the Parties
DOALOS	Division for Ocean Affairs and the Law of the Sea (of the UN Office of Legal Affairs)
EMG	UN Environment Management Group
EPR	Extended Producer Responsibility
ESM	Environmentally sound management
EU	European Union
FAO	Food and Agriculture Organization
FI	Finance Initiative (of UNEP)
GBF	Global Biodiversity Framework
GEF	Global Environment Fund
GFCM	General Fisheries Commission for the Mediterranean (of FAO)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Pollution
GIZ	Gesellschaft für Internationale Zusammenarbeit (German development agency)
GMCP	Global Maritime Crime Programme (of UNODC)
GPA	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (of UNEP)
GPAP	Global Plastic Action Partnership
GPML	Global Partnership for Marine Litter
GWP-Med	Global Water Partnership Mediterranean branch

HSSE	Health, Safety, Social and Environmental policy (of UNOPS)
IAEA	International Atomic Energy Agency
IETC	International Environmental Technology Centre
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
ICP	Informal Consultative Process (on Oceans and the Law of the Sea)
ICZM	Integrated Coastal Zone Management
IHP	International Hydrological Programme (of UNESCO)
ILO	International Labour Organization
IMO	International Maritime Organization
IOC	International Oceanographic Commission (of UNESCO)
IPCC	Intergovernmental Panel on Climate Change
ISID	Inclusive and Sustainable Industrial Development (of UNIDO)
ITC	International Trade Centre
IUCN	International Union for Conservation of Nature
IW:Learn	International Waters Learning Exchange and Resource Network (of the GEF)
IWRM	Integrated Water Resources Management
LME	Large Marine Ecosystem
LSS	Laboratory and Scientific Section (of UNODC)
MAP	Mediterranean Action Plan (of UNEP)
MARPOL	International Convention for the Prevention of Pollution from Ships (of IMO)
MED POL	Programme for the Assessment and Control of Marine Pollution in the Mediterranean (of UNEP/MAP)
MEPC	Marine Environment Protection Committee (of IMO)
MLAP	Marine Litter Action Plan (of SPREP)
MOOC	Massive open online course
MoP	Meeting of the Parties
MPA	Marine protected area
MSP	Marine Spatial Planning
NAP	National Action Plan

NDC	Nationally Determined Contribution
NGO	Non-governmental organization
NOWPAP	Northwest Pacific Action Plan (of UNEP)
NWP	Nairobi Work Programme (of UNFCCC)
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the UN High Commissioner for Human Rights
POLP	Pacific Ocean Litter Project (of SPREP)
POPs	Persistent organic pollutants
PWP	Plastic Waste Partnership
RAPMaLi	Regional Action Plan for Marine Litter (in the Caribbean region)
RFB	Regional Fisheries Body(ies)
RFMO/As	Regional Fisheries Management Organizations/ Arrangements
RSP	Regional Seas Programme(s)
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCP	Sustainable consumption and production
SDGs	Sustainable Development Goals
SGP	Small Grants Programme (of the Basel and Stockholm Conventions Regional Centre)
SIDS	Small Island Developing States
SME	Small- and Medium-sized Enterprise(s)
SMEP	Sustainable Manufacturing and Environmental Pollution (of UNCTAD)
SPREP	Secretariat for the Pacific Regional Environment Programme (of UNEP)
SROCC	Special Report on the Ocean and Cryosphere in a Changing Climate (of IPCC)
STAP	Science and Technical Advisory Panel (of the GEF)
10YFP	10-Year Framework Programme (on Sustainable Consumption and Production)
T4SD	Trade for Sustainable Development programme (of ITC)
TWAP	Transboundary Waters Assessment Programme
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNCLOS	UN Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNEA	United Nations Environment Assembly

UNECA	United Nations Economic Commission for Africa
UNECE	United Nations Economic Commission for Europe
UNECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCWA	United Nations Economic and Social Commission for Western Asia
UNESCO	United Nations Educational, Social and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UN-Habitat	United Nations Human Settlement Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UNODC	United Nations Office on Drugs and Crime
UNOOSA	United Nations Office for Outer Space Affairs
UNOPS	United Nations Office for Project Services
UNSDCF	United Nations Sustainable Development Cooperation Framework
UNWTO	United Nations World Tourism Organization
VGMFG	Voluntary Guidelines for the Marking of Fishing Gear
VME	Vulnerable Marine Ecosystem
WFP	World Food Programme
WHO	World Health Organization
WMO	World Meteorological Organization
WOA	World Ocean Assessment
WPRPW	Working Party on Resource Productivity and Waste (of OECD)
WTO	World Trade Organization

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