

# HUMAN RIGHTS IMPACTS OF OCEAN PLASTICS

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From an international human rights law perspective, it is important to underscore that “the whole cycle of plastics, at its various stages [extraction of raw materials, which for over 99% of all plastics is produced from fossil fuels, production, transport, use, waste – has become a global threat to human rights.”<sup>1</sup>

With specific regard to ocean plastics, the UN Special Rapporteur on Toxics, Marcos Orellana, concluded that:

- “There is currently no commercially available waste management method capable of solving the global plastic pollution crisis. Toxics additives and micro-plastics contained in oceans cannot be eliminated by recycling, landfilling or incineration”;
- “only legally binding limits on global plastic production for essential uses can make a difference”.<sup>2</sup>

In addition, harm to marine biodiversity from ocean plastic pollution and the negative interaction between plastics and climate change (see INFO-SHEET No 1) threaten the enjoyment of several human rights in a variety of ways.

## THIS INFORMATION-SHEET INTRODUCES:

- The negative impacts of ocean plastics on everyone’s human rights
- The substantive and procedural obligations of States to protect human rights in the context
- The responsibility of business to respect human rights in this context

<sup>1</sup> UN Doc A/76/207, para 1.

<sup>2</sup> Ibid, para 21-22.



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## NEGATIVE IMPACTS ON HUMAN RIGHTS

### Human right to a healthy environment

Ocean plastics negatively affect various substantive dimensions of the human right to a healthy environment:

- **toxic-free environment:** ocean plastic pollution is a sub-set of marine pollution that is persistent and accumulates. Plastic makes up as much as 95% of total marine litter,<sup>3</sup> and emissions of plastic waste into aquatic ecosystems are projected to nearly triple by 2040 without meaningful action.<sup>4</sup>
- **healthy and sustainable food:** as ocean plastics lead to a reduction in marine biomass, there are fewer resources available to meet human needs as a food source. In addition, the ingestion of plastics by marine species presents a food safety risk for humans when contaminated seafood enters the human food chain.<sup>5</sup>

<sup>3</sup> Thevenon, F., Carroll C., Sousa J. (Eds). (2014). Plastic Debris in the Ocean: The Characterization of Marine Plastics and their Environmental Impacts, Situation Analysis Report. Gland, Switzerland: IUCN.

<sup>4</sup> UNEP, 2021. From Pollution to Solution – A global assessment of marine litter and plastic pollution. Synthesis.

<sup>5</sup> Madeleine Smith and others, 'Microplastics in Seafood and the Implications for Human Health' (2018) 5 Curr Envir Health Rpt

While the exact nature and scale of the risks posed to humans by consumption of contaminated seafood is still uncertain,<sup>6</sup> evidence suggests that such consumption may be particularly harmful to women's reproductive health as a source of endocrine disrupting chemical.<sup>7</sup>

- **healthy biosphere:** ocean plastics negatively affect marine life, causing "lethal and sub-lethal effects in whales, seals, turtles, birds and fish, as well as invertebrates" such as corals. Microplastics act as vectors for pathogenic organisms harmful to fish; they can alter the reproductive success and survival of marine organisms, and they can cause changes in gene and protein expression, inflammation, disruption of feeding behaviour, decrease in growth, changes in brain development, and reduced filtration and respiration rates.<sup>8</sup>
- **safe climate:** ocean plastics "aggravate the climate emergency, [by] limit[ing] the ability of oceans to remove greenhouse gases from the atmosphere."<sup>9</sup>

## Human right to health

Ocean plastics constrain the ability of individuals to enjoy the highest attainable standard of health, as it negatively impacts marine biodiversity, upon which human health is dependent for a variety of essential ecosystem services, including:

- provisioning services, such as a source of biomedical discovery,<sup>10</sup> in addition to an essential source of food and nutrition (including a rich source of omega 3 fatty acids, selenium, iron and vitamin D),<sup>11</sup> and

375, pp. 380 – 382.

<sup>6</sup> Ibid.

<sup>7</sup> Elizabeth Royte, 'We Know Plastic Is Harming Marine Life. What About Us?' (2018) National Geographic, available at: <https://www.nationalgeographic.com/magazine/article/plastic-planet-health-pollution-waste-microplastics>.

<sup>8</sup> UNEP (2021), From Pollution to Solution – A global assessment of marine litter and plastic pollution. *Synthesis*.

<sup>9</sup> UN Doc A/76/207, para 10.

<sup>10</sup> Josep Lloret, 'Human health benefits supplied by Mediterranean marine biodiversity' (2010) 60 Marine Pollution Bulletin 1640, p. 1642.

<sup>11</sup> Hauke Kite-Powell and others, 'Linking the oceans to public health: current efforts and future directions' (2008) 7

inputs for traditional medicines;<sup>12</sup>

- supporting services, such as atmospheric oxygen production.<sup>13</sup> There is emerging evidence to suggest that marine plastics may reduce atmospheric oxygen production by inhibiting the growth and functioning of *Prochlorococcus* — a photosynthetic microorganism that produces around ten percent of atmospheric oxygen;<sup>14</sup>
- regulating services, such as the regulation of atmospheric greenhouse gases through carbon sequestration; and
- cultural services, such as the role that marine biodiversity and access to clean beaches plays in supporting mental health.<sup>15</sup>

Thus, harm to marine biodiversity vis-à-vis ocean plastics in turn results in negative outcomes for human health and wellbeing by depriving us of essential ecosystem services and, ultimately, restricting our ability to live in a healthy environment, which is explicitly recognised as an underlying determinant of the right to health.<sup>16</sup>

## Human right to food

Microplastics are now appearing in food consumed by humans; however, the impact on human health is uncertain.<sup>17</sup> Plastic particles have been found in the intestines of fish from

Environmental Health 56, p.9; Michael N. Moore and others, Linking Oceans and Human Health: A Strategic Research Priority for Europe. European Marine Board Position Paper 19 (European Marine Board, 2013), p. 49; Josep Lloret and others, 'Challenging the links between seafood and human health in the context of global change' (2016) 96 Journal of the Marine Biological Association of the United Kingdom 29.

<sup>12</sup> Rômulo Romeu Nóbrega Alves and others, Marine Invertebrates in Traditional Medicines (Berlin, Heidelberg: Springer Berlin Heidelberg 2012).

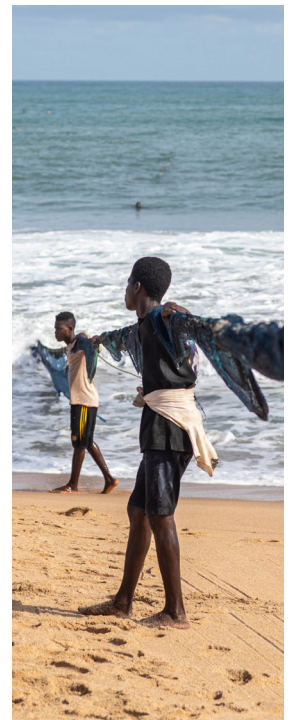
<sup>13</sup> Yadigar Sekerci and Sergei Petrovskii, 'Mathematical Modelling of Plankton-- Oxygen Dynamics Under the Climate Change.(Report)' (2015) 77 Bulletin of Mathematical Biology 2325, p. 2326.

<sup>14</sup> Lina Zeldovich, 'Is Plastic Pollution Depriving Us of Oxygen?' (JSTOR Daily, 4 June 2019) <<https://daily.jstor.org/is-plastic-pollution-depriving-us-of-oxygen/>> Accessed 1 December 2014.

<sup>15</sup> UNEP (2021), From Pollution to Solution – A global assessment of marine litter and plastic pollution. *Synthesis*; Maximilian Nawrath, Helen Elsey and Martin Dallimer, 'Why cultural ecosystem services matter most: Exploring the pathways linking greenspaces and mental health in a low-income country' (2022) 806 Sci Total Environ 150551.

<sup>16</sup> CESCR, 'General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)' (11 August 2000) UN Doc E/C.12/2000/4, para. 4

<sup>17</sup> GESAMP 2015; Halden 2015.



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Illustration: Margherita Brunori



all oceans and in products such as sea salt.<sup>18</sup> There are currently no standard methods for assessing the health risks of ingesting plastic particles. For fish at least, people do not generally consume their digestive tract where plastic accumulates, so intake is probably limited. In instances where people consume whole organisms, such as mussels and oysters, ingestion rates could be higher.<sup>19</sup>

### Human rights and poverty

Ocean plastics can reduce the profitability or viability of economic activities for people depend on the ocean as a source of **income** (such as reduction in harvestable marine resources, or a reduced market for marine ecotourism due to the aesthetic and ecological impacts of plastic pollution). The economic and social costs of marine litter include indirect effects such as interfering with small-scale fishing opportunities, tourism and recreation (Watkins et al. 2017). These costs are generally unquantified but may fall disproportionately on those with livelihoods most closely tied to coastal activities. Some direct economic costs include the cost of beach clean-up and accidents related to navigation hazards or fouling (UNEP 2016).



### Right to culture

Ocean plastics can also impact on the human rights to culture, by reducing the availability, accessibility or acceptability of coastal and marine spaces and marine resources that are essential for cultural activities (belief systems, rites and ceremonies, sports and games, customs and traditions, and arts), including indigenous peoples' cultural activities on which their identity, well-being and development depend on. Recycled ocean plastic can also become an object of material culture and may displace 'traditional' (and more eco-friendly) heritage artifacts.<sup>20</sup>



### Non-discrimination (indigenous peoples, poor coastal communities, women)

The impacts of plastic pollution on the marine

environment and the knock-on implications for human health are not felt equally. This is resulting in discriminatory outcomes for various groups of society, constituting a breach of the state obligation of non-discrimination.<sup>21</sup>

- "Microplastic transported by oceanic currents from lower altitudes accumulate in the Arctic threatening health and food security of indigenous peoples and coastal communities, who register some of the highest levels of persistent pollutants of any population on Earth"<sup>22</sup>
- For Low- and Middle-Income Countries — particularly coastal countries — that depend heavily on the ocean as a food source, significant loss of marine species could trigger food security concerns due to a potential lack of viable alternatives.<sup>23</sup> Moreover, in both developed and developing nations, the greatest burden will likely be borne by already vulnerable groups, including women, children, the elderly, indigenous peoples and local communities, and economically challenged coastal communities.
- Plastic use is part of a gendered global economy, with women being the main consumers of plastic goods (textiles, cosmetics), while being particularly vulnerable to exposure to toxins as they tend to carry more body fat, in which such toxins proliferate.<sup>24</sup>



Illustration: Margherita Brunori

<sup>18</sup> Yang et al. 2015; Güven et al. 2017.

<sup>19</sup> Van Cauwenbergh and Janssen 2014; Li et al., 2018.

<sup>20</sup> Boswell, forth

<sup>21</sup> Ibid, para. 30, 34 and 43(a); CESCR, 'General Comment No.12: The right to adequate food (Art.11)' (12 May 1999) UN Doc E/C.12/1999/5, para. 18; ICESCR, Article 2(2).

<sup>22</sup> A/76/207, para 49.

<sup>23</sup> Lloret and others, 'Challenging the links between seafood and human health in the context of global change' 31

<sup>24</sup> Braun and Traore, 2016; Boswell, forth.

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## STATE OBLIGATIONS

Based on the above-described negative impacts, States are obliged to:

- take measures to protect marine biodiversity from marine plastics,<sup>25</sup> as part of states' obligation to prevent others from diminishing the natural resources available to people who depend on them for the protection of their basic human rights;<sup>26</sup>
- prevent human exposure to ocean plastics through urgent and immediate actions on the production, use and disposal of plastics, on the basis of the best scientific evidence available, with scientific breakthroughs leading to the adoption of effective and timely measures to protect the population<sup>27</sup>
- establish controls and bans on non-essential plastic production, as action or inaction by states that enable the continuation of harmful practices may constitute a breach of the obligation of non-retrogression,<sup>28</sup>
- avoid any storage or disposal of plastic in coastal and marine areas traditionally used by indigenous peoples without their free, prior informed consent;<sup>29</sup>
- use "maximum available resources,"<sup>30</sup> including not only financial resources, but also human, technological, organisational, natural and information resources to prevent the negative human rights impacts of ocean plastics.

<sup>25</sup> Graham Hamley, "An overview of State obligations towards Marine Biodiversity under the Right to Health", One Ocean Hub blog post, 27 January 2021, <https://oneoceanhub.org/an-overview-of-state-obligations-towards-marine-biodiversity-under-the-right-to-health/>.

<sup>26</sup> E. Robertson Robert, 'Measuring State Compliance with the Obligation to Devote the "Maximum Available Resources" to Realizing Economic, Social, and Cultural Rights' (1994) 16 Human Rights Quarterly 693, p. 708

<sup>27</sup> UN Doc A/HRC/48/61, para 10.

<sup>28</sup> CESCR, 'General Comment No. 3: The Nature of States Parties' Obligations (Art.2, Para. 1, of the Covenant)' (14 December 1990) UN Doc E/1991/23, para. 9; CESCR, General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12), para. 32 – see Hamley (n 25).

<sup>29</sup> UN Declaration on Rights of Indigenous Peoples, art. 29(2); A/76/207, para 85.

<sup>30</sup> ICESCR, Article 2(1).

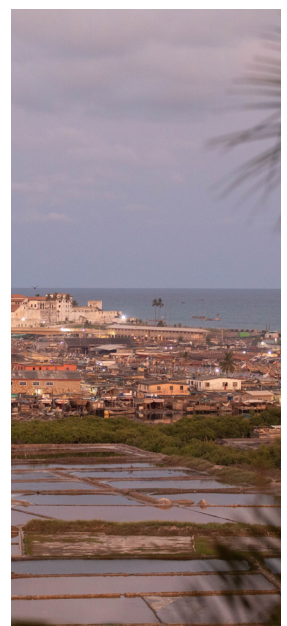
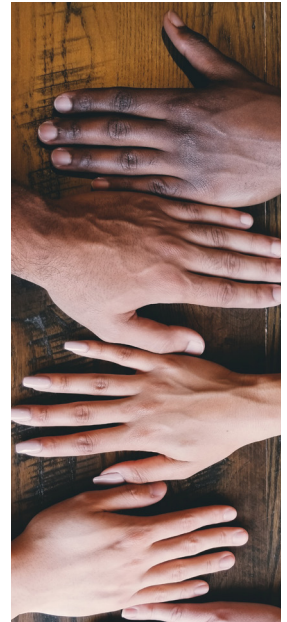
From a **procedural perspective**, States must:

- Ensure access to information along the plastics lifecycle, such as the information on environmental and health hazards posed by toxic chemicals in plastics, by:
  - disseminating scientific findings on ocean plastics in a language understandable to the general public and actionable, supporting public engagement in decision-making
  - making it common knowledge that recycling is not a solution to (ocean) plastics
  - requiring companies to reveal all they know about toxic effects of their products, and confidentiality cannot be used as an excuse for not sharing information on risks and harms<sup>31</sup>
- Ensure meaningful and effective participation of all, including indigenous peoples, in decision-making processes on the use and management of ocean plastics<sup>32</sup>
- Assess potential impacts on human rights of plastic solutions to prevent unintended consequences (e.g. impacts on persons with disabilities of the bans on single-use plastics)
- Ensure access to justice and remedies for negative impacts on human rights of ocean plastics

Considering the key knowledge gaps about the impacts of ocean plastics, the following obligations can also be derived from **the human right to science** (right to benefit from scientific advancements):

<sup>31</sup> UN Doc A/HRC/48/61, para 42 and 66 and A/76/207, para 80-82.

<sup>32</sup> UN Doc E/2021/43-E/C.19/2021/10, para 65; UN Doc A/76/207, para 85.



Photos: 1 - Clay Banks  
2,3 & 4 Nessim Stevenson

- Support international research cooperation particularly because of environmental injustices arising from insufficient institutional capacities and resources across countries;
- Support financially and otherwise the integration of local and indigenous knowledge in research and decision-making on ocean plastics;
- Support, including through direct funding, scientific research on ocean plastics that creates public benefits, such as on human health and environmental risks of ocean plastics.<sup>33</sup>

At an **international level**, the UNEA resolution (see INFO-SHEET No 1) on an international legally binding instrument on plastics pollution calls for negotiators to consider the, 'possibility of a mechanism to provide policy relevant scientific and socio-economic information and assessment related to plastic pollution.' In line with the right to science, it is vital to encompass different knowledge systems within any such mechanism, such as indigenous and local knowledge, which could also contribute to support the meaningful participation of indigenous peoples and local communities in decisions on plastics down the line.

### Business responsibility to respect human rights

Based on previous reports of the Special Rapporteur on Toxics, the following areas of business responsibility for human rights can be identified in relation to ocean plastics. These apply to; 1) petro-chemical companies producing plastics; 2) packaging manufacturers and 3) manufactures of consumer-products containing plastics that are dumped into the ocean (cosmetics, fishing gears):

- Ensure access to accurate and accessible information along the plastics lifecycle, including specific information on environmental and health hazards posed by ocean plastics that they may be contributing to, so that is sufficient to

evaluate the adequacy of an enterprise response to the human rights impacts of ocean plastics;

- Assess real and potential impacts of business activities on ocean plastic pollution and related human rights impacts, including adult and children's health and livelihoods of coastal communities, with a view to integrating the findings into their due diligence processes;
- Elaborate a plan for the 1) sound management (phasing out of plastic production and products; product design) and 2) sound and safe disposal of plastics to avoid ocean plastic pollution, on the basis of best available scientific evidence, for workers, regulators and the public;
- Develop protections for environmental human rights defenders, including a prohibition on retaliation, and regular review of effectiveness;<sup>34</sup>
- Co-develop with affected communities a sustainable and safe clean-up plan of existing ocean plastic pollution and fund it, together with monitoring programme
- Routinely monitor for potential contamination of the ocean from toxic substances
- Secure effective reparations for harm from plastics<sup>35</sup>
- Fund research to fill gaps in understanding of the impacts between ocean plastics and human rights, with a view to 1) updating due diligence processes and 2) sharing with authorities and the public.

Business action to ensure respect of human rights in the context of ocean plastic is essential while States develop necessary national regulation (e.g. extended producer responsibility).

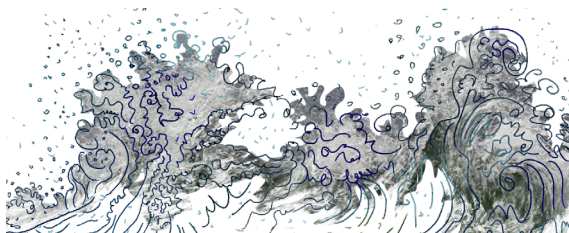


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<sup>34</sup> Ibid, para 96, 109.

<sup>35</sup> Report of the Special Rapporteur on the human rights obligations related to environmentally sound management and disposal of hazardous substances and waste, Calin Georgescu (2012) UN Doc. A/HRC/21/48, paras 50 and 70.

<sup>33</sup> UN Doc A/HRC/48/61, para 48, 66, 108(k).

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