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The Impact of Plastic Pollution-Driven Marine Biodiversity Loss on Indigenous Peoples' Nutrition and Rights

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List of abbreviations

ACHPR – African Commission on Human and Peoples’ Rights

ACHR – American Convention on Human Rights

Adv. Op. – Advisory Opinion

AfCHPR – African Court on Human and Peoples’ Rights

ArCHR – Arab Charter on Human Rights

Art. – Article

Arts. – Articles

Banjul Charter – African Charter on Human and Peoples’ Rights

CERD – Committee on the Elimination of Racial Discrimination

CESR – Center for Economic and Social Rights

CESCR – Committee on Economic, Social and Cultural Rights

CO₂ - Carbon dioxide

ECHR – European Convention on Human Rights

ECtHR – European Court of Human Rights

GA – General Assembly

GHG – Greenhouse gas

GPT – Global Plastics Treaty

HRC – Human Rights Committee

HR – human rights

IACHR – Inter-American Commission on Human Rights

IACtHR – Inter-American Court of Human Rights

ICCPR – International Covenant on Civil and Political Rights

ICESCR – International Covenant on Economic, Social and Cultural Rights

ICJ – International Court of Justice

IEL – International Environmental Law

ILO – International Labour Organisation

OAS – Organization of American States

OAU – Organization of African Unity

SERAC – Social and Economic Rights Action Center

UN – United Nations

UNDRIP – United Nations Declaration on the Rights of Indigenous Peoples

UNEP – United Nations Environment Programme

1. Introduction

Every minute, the equivalent of one garbage truck of plastic is dumped into the ocean, contributing to ecosystem degradation with far-reaching consequences for the communities who depend on it.¹ With this as an example for how much we are consuming and polluting at an unprecedented rate, it's no surprise that six out of nine *planetary boundaries*² have already been transgressed – most notably those concerning biosphere integrity, which includes genetic diversity and planetary functioning, and novel entities such as microplastics.³ In its report *Making Peace with Nature*, the United Nations Environment Programme (UNEP) introduced the concept of the triple planetary crisis, referring to the interlinked emergencies of climate change, biodiversity loss, and pollution, including plastic pollution.⁴ Further research demonstrates that plastics contribute to all three of these crises.⁵ It becomes immediately evident that the multiple global environmental crises – among them biodiversity loss, pollution, and climate change – are profoundly interconnected through non-linear interactions and feedback loops, leading to unpredictable consequences.⁶

An increasing number of human rights (HR) courts are addressing cases related to environmental degradation and climate change. Both regional and international courts and other bodies have issued impactful decisions.⁷ Moreover, there are cases in which environmental pollution has been found to constitute a violation of HR (see chapter 6). However, despite the fact that plastic pollution and (marine) biodiversity loss are among the most pressing contemporary crises – disproportionately affecting certain populations and communities,⁸ while responsibility

¹ Ellen MacArthur Foundation, World Economic Forum, & McKinsey & Company, 'The New Plastics Economy: Rethinking the Future of Plastics.' (2016) 17.

² The concept of *planetary boundaries* outlines key Earth system processes that are essential for maintaining stability and resilience on the planet. See Katherine Richardson and others, 'Earth beyond six of nine planetary boundaries' (2023) 9 *Science Advances*, 1.

³ *ibid.*

⁴ UNEP, 'Making Peace with Nature: A Scientific Blueprint to Tackle the Climate, Biodiversity and Pollution Emergencies'.

⁵ Christian Schmidt and others, 'A multidisciplinary perspective on the role of plastic pollution in the triple planetary crisis' (2024) 193 *Environment International* 109059, 3–5; Patricia Villarrubia-Gómez and others, 'Plastics pollution exacerbates the impacts of all planetary boundaries' (2024) 7(12) *One Earth* 2119; see also chapter 3.2.

⁶ Richardson and others (n 2), 1.

⁷ ICJ (ed), *Obligations of states in respect of climate change: Advisory Opinion* (2025); IACtHR (ed), *Advisory Opinion OC-32/25: Climate Emergency and Human Rights* (2025); but see also advisory opinions and case-law guides for environmental issues in general: IACtHR (ed), *Advisory Opinion OC-23/17: The Environment and Human Rights* (2017); ECtHR (ed), *Guide on the case-law of the European Court of Human Rights: Environment* (ECtHR 2024); ACHPR (ed), *General comment no. 3 on the African Charter on Human and Peoples' Rights: The right to life (article 4)* (2015).

⁸ UNEP, 'Neglected: Environmental Justice Impacts of Marine Litter and Plastic Pollution' (2021) 11.

lies primarily with states and businesses⁹ – there are, to date, no precedents from international or regional HR bodies specifically addressing plastic pollution or marine biodiversity loss.

Indigenous Peoples are particularly vulnerable to environmental degradation due to their close connection to their territories and their dependence on natural resources.¹⁰ In light of this, and considering the earlier reflections on plastic pollution and marine biodiversity loss within international HR systems, this thesis focuses on the question of how marine biodiversity loss caused by plastic pollution affects the nutrition of Indigenous Peoples and thereby may constitute violations of their rights.

Therefore, following the explanation of the methodology, the impacts of plastic pollution on marine biodiversity is analysed. Subsequently, the dependence of Indigenous Peoples' nutrition on marine biodiversity is examined. Building on this more interdisciplinary section, the legal analysis explores the ways in which Indigenous Peoples' rights are violated as a result of marine biodiversity loss caused by plastic pollution and its impact on their nutrition. Finally, the main challenges are discussed, a conclusion is drawn and an outlook is given.

Since the focus of this thesis is on Indigenous Peoples' nutrition and the availability of marine resources for food, health risks posed by plastics to Indigenous Peoples are not addressed.

An effort has been made to approach the topic as holistically as possible. However, it is important to acknowledge the positionality of the author: as a white, non-Indigenous woman born and raised in Germany and primarily educated at Austrian universities, this background inevitably shapes the perspective and knowledge reflected in the thesis.

2. Methodology

The relation between plastic pollution and marine biodiversity loss will be researched by reviewing the most important and current academic research. Therefore, the report "From Pollution to Solution" from the UNEP and the most important journal articles are used as the main source. Since the effects of plastics on marine biodiversity are highly complex, the exact consequences are often not yet understood, and given articles' focus on very specific and detailed consequences of the impacts of plastic pollution on marine biodiversity and ecosystems, a detailed search of the primary literature would go beyond the scope of this work. Therefore, this

⁹ *ibid*; UNEP, 'FROM POLLUTION TO SOLUTION: A GLOBAL ASSESSMENT OF MARINE LITTER AND PLASTIC POLLUTION' (2021).

¹⁰ UN, 'Indigenous Peoples: Respect NOT Dehumanization' <<https://www.un.org/en/fight-racism/vulnerable-groups/indigenous-peoples>> accessed 29 April 2025.

part serves to give an overview of the most important impacts. The dependence of Indigenous Peoples on marine biodiversity for their nutrition is shown by reviewing academic research.

To show, in the second part of the thesis, the impact of marine biodiversity loss caused by plastic pollution on Indigenous Peoples' rights, doctrinal methods are used. Therefore, mainly the International Covenant on Civil and Political Rights (ICCPR), International Covenant on Economic, Social and Cultural Rights (ICESCR), European Convention on Human Rights (ECHR), American Convention on Human Rights (ACHR), and African Charter on Human and Peoples Rights (Banjul Charter), and related case-law, Adv. Op., general comments and guides on case-law are analysed.

As this thesis focuses primarily on Indigenous Peoples' nutrition and the impacts of environmental change on it, it adopts a predominantly anthropocentric approach. Nonetheless, an eco-centric perspective – putting rights of nature in the focus – may also offer significant value in strengthening the protection of Indigenous rights. In this regard, the Inter-American Court of Human Rights' (IACtHR) Adv. Op. 32/25 on climate change represents a pioneering development, as it introduces the recognition of the rights of nature as a normative standard and classifies certain environmental obligations as *jus cogens*.¹¹

In the year the thesis is written the International Court of Justice (ICJ) and IACtHR both published their Adv. Op. on climate change and the African Court on Human and Peoples' Rights (AfCHPR) will publish its Adv. Op. in the end of the year. Further, the supposedly final round of the Global Plastics Treaty (GPT) negotiations (Second Part of the Fifth Session (INC-5.2)) is ongoing at the time of submission. Thus, the interpretations of obligations are also evolving rapidly.

For formulating text and searching for grammatical mistakes AI was used.

3. The plastic crisis with a focus on marine biodiversity loss

3.1 The plastic lifecycle

Plastics represent a broad category of materials. Conventionally, plastics are primarily composed of synthetic polymers derived from fossil fuels like oil or gas with raw petroleum being

¹¹ IACtHR (ed), *Advisory Opinion OC-32/25* (n 7), the IACtHR states that the „Recognition of Nature's right to maintain its essential ecological processes contributes to the consolidation of a truly sustainable development model that respects planetary boundaries and ensures the availability of vital resources for present and future generations”, §283.

the most common source material (90.4%).¹² However, there are alternatives to fossil-fuel based plastics, called novel bio-based plastics that are made out of renewable biomass resources like carbs, starch, or vegetable fats and oils. Nevertheless, since the term *bio-based plastics* does not automatically mean that those plastics biodegrade but they may need specific industrial conditions for degrading,¹³ bio-based plastics can take a number of years to degrade in the oceans. Therefore, they can pose similar risks to marine species and ecosystem functions as conventional plastics. Furthermore, their environmental impact depends on various factors such as the source material, chemical composition, management at the end of life, and, crucially, the land-use changes required to produce the biomass, which may result in carbon storage loss.¹⁴ Because bio-based plastics make up only a small share of all plastics, and they can still have similar harms on marine biodiversity – both through their slow degradation and indirect effects like contributing to climate change by reducing carbon storage – they will not be analysed separately in this thesis.¹⁵

The development of plastics began in 1907, when chemist Leo Baekeland introduced the first truly synthetic polymer. Subsequent innovations led to the mass production of plastics in the 1940s and 1950s.¹⁶ Environmental concerns regarding plastics first emerged in the 1970s, initially focusing on their effects on wildlife. By the 1980s, potential human health risks were also being raised. These growing concerns eventually prompted the first regulatory measures in the 2000s.¹⁷ Even today, the global production and consumption of plastics grow exponentially.¹⁸ Because plastic pollution impacts marine biodiversity throughout all stages of the plastic life cycle, the entire life cycle – from production to disposal – will be considered.

In order to vary different properties like the thickness and elasticity, different additives can be added.¹⁹ Plastics are characterized by their affordability, lightweight nature, mechanical

¹² Hatem Alhazmi, Faris H Almansour and Zaid Aldhafeeri, 'Plastic Waste Management: A Review of Existing Life Cycle Assessment Studies' (2021) 13(10) Sustainability 5340, 2; Shirui Huang and others, 'Bioplastics and biodegradable plastics: A review of recent advances, feasibility and cleaner production' (2025) 969 The Science of the total environment 178911, 2.

¹³ Helen V Ford and others, 'The fundamental links between climate change and marine plastic pollution' (2022) 806(Pt 1) The Science of the total environment 150392, 4.

¹⁴ *ibid* 2–3.

¹⁵ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 16; Dannielle S Green and others, 'Effects of conventional and biodegradable microplastics on a marine ecosystem engineer (*Arenicola marina*) and sediment nutrient cycling' (2016) 208(Pt B) Environmental pollution (Barking, Essex : 1987) 426, 427.

¹⁶ Richard C Thompson and others, 'Our plastic age' (2009) 364(1526) Philosophical transactions of the Royal Society of London Series B, Biological sciences 1973, 1973.

¹⁷ *ibid* 1974.

¹⁸ Alhazmi, Almansour and Aldhafeeri (n 12), 2.

¹⁹ *ibid* 2–3.

strength, resistance to corrosion, and excellent thermal and electrical insulation. Due to their adaptability, plastics are used in a wide variety of products, thereby supporting numerous technological and societal developments.²⁰ Today, approximately 50% of plastic production is dedicated to single use.²¹

Plastics can be categorized according to various criteria, with size being one of the most common methods. In this context, macroplastics refer to plastic pieces that are large enough to be seen with the naked eye.²² However, the precise boundary between macroplastics and microplastics varies between 1-10 mm. In its most recent report, the UNEP defines microplastics as plastic parts smaller than 5 mm in diameter.²³ Nanoplastics, considered a subcategory of microplastics, are so small that they can be ingested by both unicellular and multicellular marine organisms. The exact definition of nanoplastics remains a topic of scientific debate.²⁴ The terms marine debris and marine litter are often used interchangeably. UNEP defines them as “any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment”.²⁵ This definition continues to be used in global monitoring programs, such as by the *Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection* and within the UN.

After their usage, plastic products are either recycled, used for energy recovery through incineration, or disposed. In 2015, approximately 20% of plastic waste was recycled, 25% was incinerated, and the remaining 55% either ended up in landfills or remained unmanaged.²⁶ Different alternatives of waste management bring different advantages and disadvantages. Since plastics are designed to resist biodegradation, discarded plastics tend to accumulate in terrestrial and marine environments.²⁷ The disposal of plastics in landfills or the ocean contributes to widespread environmental pollution through the release of toxic gases and chemicals. The impacts of plastic debris in the ocean will be further shown in chapter 3.2. Plastic waste at consumer sites can lead to methane emissions and pollution of land, groundwater, rivers, and seas, but may reduce fossil fuel consumption by minimizing transportation needs. While

²⁰ Thompson and others (n 16), 1973.

²¹ Plastic Ocean, ‘The Facts: Plastic Pollution’ <<https://www.plasticoceans.org/blog/the-facts>> accessed 13 July 2025.

²² UNEP, ‘FROM POLLUTION TO SOLUTION’ (n 9) 10.

²³ *ibid.*

²⁴ *ibid.* 11.

²⁵ Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities 1995, 54.

²⁶ Alhazmi, Almansour and Aldhafeeri (n 12), 5.

²⁷ *ibid.* 4.

burning is strongly advised against because of the toxic gases that are set free into the atmosphere,²⁸ controlled incineration can allow for the containment of harmful emissions and the extraction of thermal energy that can be converted into electricity, offering an alternative to conventional fossil fuel-based energy sources. However, this process also requires transportation, which in turn generates greenhouse gas (GHG) emissions.²⁹ While recycling reduces the amount of primary plastic waste, it also entails challenges, such as the need for transportation, energy consumption, and the use and emission of toxic chemicals.³⁰ Furthermore, not all types of plastics are recyclable.³¹

3.2 Impacts of plastic pollution on marine biodiversity

Biodiversity (biological diversity) encompasses not only species diversity but also genetic and ecosystem diversity.³² Diverse ecosystems are more resilient to external threats – if one species is affected, others can compensate, thereby maintaining the overall health and functioning of the ecosystem.³³ Many impacts and effects result in non-foreseeable and non-linear secondary effects and feedback loops, which can in turn trigger additional reactions. These secondary effects and feedback loops are referred to as "complexity" in the following chapters. Thus, a reduction in marine biodiversity caused by plastics may destabilize ecosystems, increasing their vulnerability to additional stressors. This raises the question of whether there is a tipping point beyond which recovery becomes unlikely. A significant loss of marine biodiversity also impairs ecosystem functions (the properties and processes of ecosystems such as nutrient cycling), ecosystem goods (e.g., food), and services (e.g., waste assimilation).³⁴

3.2.1 Marine biodiversity loss through plastic debris in the oceans

Marine organisms are increasingly exposed to plastic pollution. The main threats they face – depending on the type, size, and habitat – include entanglement, smothering, rafting of pathogenic organisms, ingestion of plastic fragments, and exposure to plastic-associated chemicals.³⁵ The UNEP differentiates between the impacts of marine debris and macroplastics, the effects

²⁸ *ibid* 5.

²⁹ *ibid* 6.

³⁰ *ibid*.

³¹ *ibid*.

³² Convention on Biological Diversity 1992 (UN) Art. 2.

³³ Shigeo Yachi and Michel Loreau, 'Biodiversity and ecosystem productivity in a fluctuating environment: The insurance hypothesis' (1999) 96 *Proc Natl Acad Sci* 1463, 1463.

³⁴ Costanza, R. d'Arge, R. de Groot, R. Farber, S. Grasso, M. Hannon, B. Limburg, K. Naeem, S. O'Neill, R. V. Paruelo, J. Raskin, R. G. Sutton, P. & van den Belt, M., 'The value of the world's ecosystem services and natural capital' (1997) 387 *Nature* 253, 253.

³⁵ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 22.

of microplastics (and nanoplastics), and the impacts on habitats, assemblages, and ecosystem functions.³⁶

The impacts of macroplastics on marine biodiversity

Physical collisions of marine mammals, fish, birds, reptiles, and plants with large pieces of plastics and their ingestion of plastics are leading to a growing number of deaths among marine organisms. In addition, an increasing amount of macroplastics is being found in the guts and tissues of various marine species.³⁷ Furthermore, the accumulation of plastics in the circulatory, lymphatic, and respiratory systems of marine organisms can cause behavioural changes, shifts in gene expression, and physiological disruptions.³⁸

Macroplastics pose a particularly serious threat to sea turtles, as they select their food based on visual cues and often mistake floating plastic for jellyfish. Plastic parts can translocate into the circulatory, lymphatic, respiratory, or other biological systems, resulting in suffocation and starvation, physiological disturbances, changes in gene expression, and alterations in behaviour.³⁹

The impacts of microplastics on marine biodiversity

Microplastics can transfer a wide range of toxic chemicals, metals, and micropollutants into oceans. Additives used to enhance the properties of plastics often remain in microplastics, resulting in co-contamination of the environment. Microplastics can be ingested and accumulated in the guts and tissues of marine organisms, potentially causing inflammation – an effect that can be exacerbated when toxic additives are present⁴⁰ – and leading to less food consumption because microplastics are eaten.⁴¹

The effects of microplastics on crustaceans, molluscs, and polychaetes are diverse, ranging from changes in gene and protein expression to inflammation and reduced reproductive success. However, some laboratory studies report no observable effects, leaving the overall impact of microplastics on these groups still unclear.⁴²

³⁶ *ibid.*

³⁷ *ibid* 23.

³⁸ *ibid.*

³⁹ *ibid.*

⁴⁰ *ibid.*

⁴¹ John S Woods and others, ‘Towards a meaningful assessment of marine ecological impacts in life cycle assessment (LCA)’ (2016) 89-90 *Environment international* 48, 57.

⁴² UNEP, ‘FROM POLLUTION TO SOLUTION’ (n 9) 25.

Despite significant scientific efforts to monitor microplastics, it remains challenging to do so both in the environment and under laboratory conditions. Collection methods often involve nets with mesh sizes too large to capture the smallest microplastics, leading to an underestimation of their quantity and impact.⁴³ More research is needed to assess the full effects of microplastics on marine biodiversity, using more “objective” indicators such as inhibition of food assimilation, internal physical damage, and external physical damage.⁴⁴ This complexity makes it difficult to develop a clear overview that could serve as a solid foundation for legal arguments before court.

Impacts on habitats, assemblages, and ecosystem function

Plastic debris can significantly alter the composition of macrofaunal, microfaunal, and bacterial assemblages in marine ecosystems and therefore influence the ecosystem functions.⁴⁵

Macroplastics can interfere with key ecosystem processes. For example, they can block gas exchange between sediment and water, reducing the flow of essential inorganic nutrients and thereby limiting biological productivity at the base of the food web.⁴⁶ Habitat-forming species like corals, cord grass, and seagrasses are particularly vulnerable to damage from discarded fishing gear and other large plastic items, which can physically harm these critical organisms.⁴⁷ Furthermore, a higher likelihood for coral disease has been shown after contact of corals with macroplastics (89%) than without contact with macroplastics (4%).⁴⁸

Changes in species assemblages can also result from the introduction of invasive species transported by floating plastics. Because plastics are lightweight and can remain buoyant for long periods, they serve as vectors for over 380 identified taxa – including microorganisms and disease-causing agents – spreading them across marine environments. The loss of native habitat-forming species, combined with the arrival of alien species, can drastically reshape community structures,⁴⁹ displace native species and introduce species.⁵⁰ However, various studies indicate that the introduction of alien species primarily occurs through ship transportation, human-made corridors that connect breeding and foraging grounds of migratory species, and

⁴³ *ibid* 25.

⁴⁴ *ibid* 23.

⁴⁵ *ibid* 26.

⁴⁶ *ibid*.

⁴⁷ *ibid*.

⁴⁸ *ibid*.

⁴⁹ *ibid* 27.

⁵⁰ Woods and others (n 41), 56.

aquaculture.⁵¹ Nevertheless, this focus might partly reflect a research imbalance: while the role of ship transport in species invasions has been widely studied, considerably less research has been conducted on the potential for plastics to serve as vectors for invasive species.⁵² Additionally, plastics provide surfaces for chemical additives and contaminants such as heavy metals and persistent organic pollutants to accumulate, further altering ecosystem health.⁵³

Also micro- and nanoplastics can serve as habitats for microorganisms, forming what is known as the *plastisphere*. This microhabitat has the potential to influence surrounding ecosystems and communities, though its full impact is still being studied.⁵⁴ Since nanoplastics have a high surface area compared to their volume, they are more likely to absorb pollutants and contaminants.⁵⁵ The presence of bacteria on microplastics highlights the complex interactions between the plastisphere and other marine habitats.⁵⁶

Microplastics are taken up and accumulated throughout all levels of the marine food chain. Organisms at the lowest trophic levels often mistake microplastics for food, leading to ingestion by fish and, ultimately, to accumulation of microplastics by species at the highest trophic levels such as whales – either directly or via contaminated prey. As plastic pollution in marine environments increases, both marine life and humans are increasingly exposed to its effects.⁵⁷

Due to their small size, microplastics have reduced buoyancy and tend to sink into various marine reservoirs, impacting benthic ecosystems. This can diminish the ability of key species to perform their ecological roles – for instance, corals' capacity to build reefs and the bioturbation activity of worms such as lugworms.⁵⁸ By decreasing the flow of inorganic nutrients such as ammonium and silicate from the sediment and by reducing the biomass of microscopic primary producers in the sediment, microplastics can disrupt ecosystem functions.⁵⁹ Invertebrate communities are also affected by microplastics, particularly depending on the characteristics of their sedimentary habitats. Effects include reduced species richness, shifts in community composition, and alterations in fungal community development.⁶⁰ Microplastics can also

⁵¹ *YOUMARES 8 – Oceans Across Boundaries: Learning from each other* 111; Woods and others (n 41), 56.

⁵² José C García-Gómez, Marta Garrigós and Javier Garrigós, 'Plastic as a Vector of Dispersion for Marine Species With Invasive Potential. A Review' (2021) 9 *Front Ecol Evol*, 3.

⁵³ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 26.

⁵⁴ *ibid* 12.

⁵⁵ *ibid* 29.

⁵⁶ *ibid*; Tamara S Galloway, Matthew Cole and Ceri Lewis, 'Interactions of microplastic debris throughout the marine ecosystem' (2017) 1(5) *Nature ecology & evolution* 116, 5.

⁵⁷ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 27.

⁵⁸ Galloway, Cole and Lewis (n 56), 5; UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 27–28.

⁵⁹ *ibid* 28.

⁶⁰ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 29.

disrupt abiotic-biotic relations – for example, by changing beach temperatures where sea turtles lay their eggs. Since the sex of hatchlings is dependent on temperature, microplastics can influence population dynamics.⁶¹

Microplastics also influence the global carbon cycle. This happens by altering metabolic rates, reproduction and the survival of zooplankton which have effects on the primary production in marine waters and therefore influences the transfer of carbon into the deep sea.⁶² This cascade of effects can reduce the carbon absorption capacity of ecosystems like reefs and seagrass beds, contributing to climate change – which, in turn, creates feedback loops that exacerbate biodiversity loss.⁶³

Conclusion

This chapter has given an overview over the ways in which plastics have impacts on marine biodiversity and ecosystems. However, the numerous different factors and feedback loops within marine ecosystems make it difficult to summarize the effects for legal usage. Therefore, it is important for jurisdiction to focus on concrete impacts in specific case studies that can be scientifically proven.

3.2.2 Marine biodiversity loss through side-effects of the production of plastic

Since the impacts of plastic pollution on marine biodiversity are not limited to the direct effects of plastic debris in the ocean, this section highlights the indirect effects associated with the entire plastic life cycle – concentrating on the production of plastics – on marine biodiversity loss.

Climate change, marine biodiversity and plastic pollution

Although climate change and plastic pollution are frequently treated as separate environmental challenges, they are in fact deeply interconnected crises with several links between the production, use, and disposal of plastics and the broader issue of climate change.⁶⁴

Plastics contribute substantially to climate change in multiple ways. Plastics are predominantly derived from fossil fuels, and their production is a major source of GHG emissions, particularly

⁶¹ *ibid.*

⁶² Galloway, Cole and Lewis (n 56), 5; UNEP, ‘FROM POLLUTION TO SOLUTION’ (n 9) 26.

⁶³ *ibid* 29.

⁶⁴ Ford and others (n 13), 2; Hamilton, L. A. Feit, S. Muffett, C. Kelso, M. Rubright, S. M. Bernhardt, C. Schaffer, E. and others, ‘Plastic & Climate: The hidden costs of a plastic planet’ (2019); UNEP, ‘Neglected: Environmental Justice Impacts of Marine Litter and Plastic Pollution’ (n 8).

carbon dioxide (CO₂). Over 3% of global CO₂ emissions stem from the primary production of plastics. These emissions include not only direct CO₂ from the manufacturing process but also indirect emissions such as methane leakage during extraction, emissions from land clearance for infrastructure, and the transportation of fossil fuels.⁶⁵ It is estimated that plastics could be responsible for approximately 19% of the global carbon budget by 2040.⁶⁶

The refinement of plastic materials is also highly energy-intensive and contributes significantly to GHG emissions.⁶⁷ Moreover, the end-of-life phase of plastics, which includes recycling, landfilling, and incineration, emits further GHG. In a life cycle assessment conducted by Zheng and Suh, it was found that 9% of the total GHG emissions across the entire plastic life cycle originate from the disposal phase.⁶⁸ However, it's not possible to generalize which disposal method results in the fewest emissions, as outcomes vary depending on factors such as incineration efficiency, energy recovery, and the quality and energy demands of recycling processes.⁶⁹ In addition to emissions during production and disposal, plastics release GHG during degradation, especially in the form of methane and ethylene. The amount and type of gases emitted depend on the type of plastic, and notably, smaller plastic parts tend to emit more GHGs as they degrade.⁷⁰ Finally, microplastics can indirectly exacerbate global warming by reducing the capacity of carbonate reefs and primary producers to absorb carbon. As these organisms ingest microplastics, their ability to sequester carbon diminishes, creating a knock-on effect that links microplastic pollution directly to the climate crisis.⁷¹

Climate change also affects plastic pollution through complex feedback loops that alter how plastics behave and where they accumulate in the environment. Shifts in ocean currents, temperature gradients, and weather systems will influence the movement, concentration, and distribution of plastics on a global scale.⁷² One significant consequence of global warming is the ongoing retreat of sea ice, which is expected to release microplastics that had been previously trapped within the ice into the marine environment.⁷³ Additionally, rising sea levels could lead

⁶⁵ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 15.

⁶⁶ *ibid.*

⁶⁷ Ford and others (n 13), 2.

⁶⁸ Jiajia Zheng and Sangwon Suh, 'Strategies to reduce the global carbon footprint of plastics' (2019) 9(5) *Nat Clim Chang* 374, 375.

⁶⁹ Ford and others (n 13), 3.

⁷⁰ *ibid.*

⁷¹ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 26.

⁷² Ford and others (n 13), 5.

⁷³ Rachel W Obbard and others, 'Global warming releases microplastic legacy frozen in Arctic Sea ice' (2014) 2(6) *Earth's Future* 315, 318.

to the disturbance and mobilization of plastics stored in coastal sediments, releasing them into surrounding waters.⁷⁴ Furthermore, climate change is driving an increase in extreme weather events, including more frequent and intense storms, heavy rainfall, and stronger winds. These events play a significant role in the dispersal of mismanaged plastic waste, spreading debris across both land and sea and accelerating its entry into marine ecosystems.⁷⁵ This reinforces many of the impacts of plastic pollution on marine ecosystems described in the chapter 3.2.1.

Global warming also leads to physical and chemical changes in the ocean. They occur on a global scale, though their intensity varies regionally depending on ocean circulation, wind patterns, and climate variability (such as El Niño).⁷⁶ One of the most prominent changes is the increase in average sea surface temperature accompanied by a rise in the frequency and intensity of sea surface temperature anomalies.⁷⁷ In addition, the global average sea level is steadily increasing.⁷⁸ The retreat of sea ice is also being observed, particularly in the Arctic and along the West Antarctic Peninsula. Moreover, a loss of dissolved oxygen in the ocean interior is projected, which will lead to changes in upper-ocean salinity.⁷⁹

Marine organisms are adapted and acclimatized to specific abiotic conditions under which they function optimally. However, each species has environmental thresholds beyond which biological performance – such as growth and reproduction – is impaired or entirely lost. These thresholds vary widely between species, depending on their ability to adapt or acclimatize.⁸⁰ Consequently, global shifts in abiotic ocean conditions can directly impact the physiological performance of marine species. For many of them, it is expected that they will not be able to adapt, acclimate, or adjust the timing of key life-history events (a trait known as phenotypic plasticity) quickly enough to keep pace with environmental changes. As a result, these abiotic changes are likely to trigger increased migration, leading to altered ecosystem assemblages and the disruption of community interactions. In cases where migration is not possible, elevated mortality rates may occur, potentially resulting in local extinctions. One of the most pronounced and well-documented consequences of climate change on the world's oceans is the significant

⁷⁴ Erik van Sebille and others, 'The physical oceanography of the transport of floating marine debris' (2020) 15(2) *Environ Res Lett* 23003, 21.

⁷⁵ Ford and others (n 13), 5.

⁷⁶ Woods and others (n 41), 49.

⁷⁷ *ibid.*

⁷⁸ *ibid* 49–50.

⁷⁹ *ibid* 50.

⁸⁰ *ibid.*

increase in mass bleaching events and mortality of habitat-forming coral reefs. This is mainly attributed to the rising frequency and intensity of oceanic thermal stress.⁸¹

In conclusion, plastic pollution and climate change are not isolated environmental issues, but deeply interwoven crises that mutually reinforce one another. Plastic production, use, and disposal contribute significantly to climate change through GHG emissions. At the same time, climate change exacerbates the scale and distribution of plastic pollution, particularly in marine environments, through mechanisms such as sea ice melt, rising sea levels, and more frequent extreme weather events. Together, these stressors have profound impacts on marine ecosystem functions and species assemblages. When acting in combination, their effects are likely to be more severe than when occurring independently – for instance, by facilitating the spread of invasive species or impairing oceanic primary production. However, further research is needed to better understand the full extent and nature of these combined impacts and the cascading consequences for marine biodiversity and ecosystem resilience.⁸²

Acidification, marine biodiversity and plastic pollution

The ocean serves as the main carbon sink and has absorbed around 40% of anthropogenic CO₂ emissions over the past two centuries.⁸³ An increase in atmospheric CO₂ leads to changes in the carbonate chemistry of seawater. This results in a lower saturation state of seawater with respect to aragonite, a form of calcium carbonate, and a decline in the pH of the ocean surface – which is referred to as ocean acidification.⁸⁴ These chemical changes in seawater are expected to negatively affect marine organisms, communities, and ecosystems. Species that rely on calcium carbonate for their shells or skeletal structures – such as corals and crustaceans – are particularly vulnerable, as ocean acidification impairs their ability to form and sustain these structures.⁸⁵ However, a comprehensive understanding of how acidification influences survival and fitness in marine life – through processes like calcification, photosynthesis, and other physiological responses – remains underdeveloped.⁸⁶ At the community and ecosystem level, potential consequences include reduced species diversity and biomass, as well as disruptions to

⁸¹ *ibid.*

⁸² Ford and others (n 13), 5–7.

⁸³ Woods and others (n 41), 52.

⁸⁴ Danling Ma, Luke Gregor and Nicolas Gruber, ‘Four Decades of Trends and Drivers of Global Surface Ocean Acidification’ (2023) 37(7) *Global Biogeochemical Cycles*, 1.

⁸⁵ Woods and others (n 41), 52.

⁸⁶ *ibid.*

food web dynamics. These may arise from altered predator-prey relations and competitive interactions among species, although the full extent of these effects is still largely unknown.⁸⁷

Most studies agree that elevated atmospheric CO₂ levels are the primary driver of decreasing ocean pH and carbonate saturation states.⁸⁸ However, Romera-Castillo et al. (2023) demonstrated in laboratory experiments that abiotic leaching from plastics can also contribute to ocean acidification, particularly when the plastics have aged and are exposed to sunlight.⁸⁹ In addition, because the production of plastics accounts for a portion of global CO₂ emissions (as outlined in the section *Climate Change and Plastic Pollution*), plastic pollution also indirectly contributes to ocean acidification. Nevertheless, it remains difficult to quantify to what extent plastic production specifically impacts marine biodiversity loss through this pathway.

Offshore hydrocarbon activities, plastic pollution and marine biodiversity

The extraction of fossil fuels – partly to produce plastics – directly affects marine biodiversity through their exploitation, extraction and transportation. While it is difficult to precisely quantify the specific causes of biodiversity loss at extraction sites due to the multitude of interacting biotic and abiotic factors and the high local variability of marine ecosystems, it is clear that fossil fuel exploration, extraction, and transportation in marine habitats pose significant threats to marine life. The best-documented impacts are outlined below.⁹⁰

During the exploration phase, marine ecosystems are affected by habitat alteration and intense underwater noise pollution. Exploratory drilling and seismic surveys produce some of the loudest human-made noises in the ocean, which can lead to physiological stress in marine organisms and disrupt their behaviour.⁹¹ In the extraction phase, marine biodiversity is harmed by habitat conversion, degradation of the seafloor, contamination from pollutants such as oil spills, the introduction of invasive species, and other physical disturbances at extraction sites.⁹² In addition to exploitation- and extraction-related activities, shipping associated with fossil fuel

⁸⁷ *ibid.*

⁸⁸ Ma, Gregor and Gruber (n 84), 1; Woods and others (n 41), 52; Hoesung Lee and others, ‘IPCC, 2023: Climate Change 2023: Synthesis Report.’ (Intergovernmental Panel on Climate Change (IPCC) 2023) 46.

⁸⁹ Cristina Romera-Castillo and others, ‘Abiotic plastic leaching contributes to ocean acidification’ (2023) 854 *The Science of the total environment* 158683, 5.

⁹⁰ Rubén Venegas-Li and others, ‘Global assessment of marine biodiversity potentially threatened by offshore hydrocarbon activities’ (2019) 25(6) *Global change biology* 2009, 2.

⁹¹ Michael B J Harfoot and others, ‘Present and future biodiversity risks from fossil fuel exploitation’ (2018) 11(4) *CONSERVATION LETTERS*, 1–2.

⁹² *ibid.* 2.

operations also negatively impacts marine life through underwater noise pollution and the potential for chemical contamination.⁹³

Although 95% of fossil fuel infrastructure is located on land, offshore activities still pose considerable risks.⁹⁴ Biodiversity tends to be particularly high in coastal regions and lower latitudes – areas that are also focal points for offshore oil and gas operations. These include estuaries, salt marshes, and mangrove habitats. Most offshore exploitation infrastructure is located near the coast,⁹⁵ and 67% of all offshore hydrocarbon activities are situated in regions ranked among the top 10% for species richness, endemism, or both.⁹⁶ Exploration and extraction often take place in marine regions ranked in the top 10% for species richness, putting around 85% of all assessed marine species at risk. Only 15% of these species remain unaffected by hydrocarbon activities.⁹⁷

Because oil and gas extraction typically occurs in relatively small areas, approximately 90% of the marine species that overlap with these activities have less than 10% of their global distribution within affected zones. But, of the 566 species listed as threatened on the IUCN Red List and included in Venegas-Li's database, 7% had more than 15% of their range overlapping with hydrocarbon activity areas which poses even more risk to threatened species.⁹⁸ Hotspots of oil and gas extraction sites are among others the Gulf of Mexico, Western Africa, and the South China Sea⁹⁹ - areas where also Indigenous Peoples live and whose nutrition could be directly impacted.

Conclusion

Marine biodiversity is experiencing considerable global declines attributed to anthropogenic activities. The most serious threats of plastics on marine biodiversity are (1) the direct pollution in the oceans, (2) the contribution of the production of plastics through the extraction of fossil fuels to climate change and ocean acidification and (3) the direct effects of the exploitation, extraction and shipping of fossil fuels as they provide the raw material for plastics production. Frequently, species that are vulnerable, rare, or play a crucial role in maintaining ecosystem functions are impacted by plastic pollution.

⁹³ Venegas-Li and others (n 90), 2.

⁹⁴ Harfoot and others (n 91), 3.

⁹⁵ Venegas-Li and others (n 90), 4; Harfoot and others (n 91), 3.

⁹⁶ Venegas-Li and others (n 90), 7.

⁹⁷ Harfoot and others (n 91), 3; Venegas-Li and others (n 90), 1.

⁹⁸ Venegas-Li and others (n 90), 4.

⁹⁹ *ibid.*

The previous section aimed to summarise the most significant causal links between plastic pollution and marine biodiversity loss identified by current research. However, the impacts of a particular threat on marine biodiversity are not uniform since marine ecosystems – including ecosystem functions, the interactions with other ecosystems and influences like global warming and ocean acidification – are complex. Due to the non-linear dynamics and unpredictable feedback loops involved, it is in practicality impossible to fully model all the impacts of plastics on marine biodiversity. In addition, threats are not homogeneously distributed around the globe.¹⁰⁰ This raises the question of how much and which kind of evidence is required in legal reasoning: are the already established effects, combined with the scientific recognition of additional, yet unknown, consequences, sufficient to demonstrate that plastic pollution plays a significant role in marine biodiversity loss? Thus, specific case studies are needed to help establish more concrete links between plastic pollution and biodiversity loss, which courts can then use as a basis for developing their jurisprudence.

4. The dependence of Indigenous Peoples' nutrition on marine biodiversity

There are more than 476 million Indigenous Peoples in 90 countries all over the world.¹⁰¹ In the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), there's no clear definition of Indigenous Peoples in order to acknowledge the high diversity of Indigenous Groups. However, Art. 33(1) of the UNDRIP makes sure that "Indigenous peoples have the right to determine their own identity or membership".¹⁰² Though according to the UN, Indigenous Peoples are characterized by their historical ties with pre-colonial or pre-settler societies and their deep connection and interdependence to territories and natural resources. Indigenous Peoples live in distinct political, social, or economic systems and they have distinct languages, cultures, beliefs, and knowledge systems.¹⁰³

Indigenous Peoples whose nutrition relies primarily on seafood are particularly dependent on marine resources for food, medicine, materials, and housing locations.¹⁰⁴ Moreover, cultural

¹⁰⁰ *ibid* 2.

¹⁰¹ UN (n 10).

¹⁰² United Nations Declaration of the Rights of Indigenous Peoples 2008, UNDRIP (UN) 12.

¹⁰³ UN (n 10).

¹⁰⁴ Jonathan Liljeblad, 'Sea Peoples & Marine Plastic Pollution in Southeast Asia: An International Human Rights Approach in Support of Indigenous Rights to Environment' (2024) 27 *UCLA Journal of International Law and Foreign Affairs*, 66.

traditions and practices are often deeply connected with the sea, its resources and nutrition.¹⁰⁵ The knowledge of coastal Indigenous Peoples is mainly centred around sustaining life at and in the sea, including fishing, ship construction, maritime navigation, and integration with marine environments.¹⁰⁶

The resources that are essential for coastal Indigenous Peoples' nutrition depend on functioning ecosystems and marine biodiversity (see chapter 3.2). Therefore, their nutrition and livelihoods are directly threatened by plastics since the direct impacts of marine plastic pollution are altering key (coastal) ecosystems, genetic, species and ecosystem diversity and thus impairs ecosystem functions and goods, which in turn undermine local food production and reduces the effectiveness of natural coastal protection.¹⁰⁷ Furthermore, reduced ecosystem resilience can lead to often unpredictable secondary societal effects such as the diminished ability of coastal communities to cope with extreme weather events and the challenges posed by climate change.¹⁰⁸ Other impacts of plastics such as their contribution to climate change and ocean acidification can further reduce access of Indigenous Peoples to their nutritional resources.¹⁰⁹ Additionally, when Indigenous Peoples are located in specifically sensitive ecosystems that are vulnerable to environmental harm like the Arctic, the impacts on their nutrition can be even bigger.¹¹⁰

The governance of plastic pollution is often carried out in a top-down manner on global, regional, or national scales. This frequently overlooks the complex needs of local communities at regional levels and excludes civil society from the process. Indigenous Peoples are often even more vulnerable to resulting harms due to their weak socio-economic and political-legal status – often lacking access to healthcare, education in state schools, and facing high unemployment rates. They are also frequently subject to discrimination by the state itself, including through non-participation and statelessness.¹¹¹

¹⁰⁵ *ibid* 65; Shokoofeh Shamsi, Michelle Williams and Yazdan Mansourian, 'An Introduction to Aboriginal Fishing Cultures and Legacies in Seafood Sustainability' (2020) 12(22) *Sustainability* 9724; Harriet V. Kuhnlein, Harriet, V. and others, 'Traditional Food Systems Research with Canadian Indigenous Peoples' (2001) 60 *International Journal of Circumpolar Health* 112.

¹⁰⁶ Liljeblad (n 104), 62.

¹⁰⁷ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9) 43.

¹⁰⁸ *ibid*; Lisa Mardikian and Sofia Galani, 'Protecting the Arctic Indigenous Peoples' Livelihoods in the Face of Climate Change: The Potential of Regional Human Rights Law and the Law of the Sea' (2023) 23(3) *Human Rights Law Review*, 1–2.

¹⁰⁹ Martha Teshome, 'Charting the systemic and cascading impacts of climate change on marine food systems and human health' (2024) 8(Suppl 3) *BMJ global health*; *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* 447–588.

¹¹⁰ Ford and others (n 13), 6.

¹¹¹ Liljeblad (n 104), 63–64.

Examples

All over the world, Indigenous Communities depend on marine resources for their livelihoods. An example are the Orang Suku Laut, an Indigenous Malay roving fishing community, who rely on maritime organisms as their primary source of nutrition,¹¹² and who “inscribe their identities into the seascape”.¹¹³ Also for Indigenous Peoples in Canada, marine resources are essential for their well-being, because “access to ocean and coastal territories is essential for cultural continuity – including traditional management and harvesting practices, inter-generational transfer of knowledge, and consumption, trade or sale of local and culturally significant species used for food, social and ceremonial (FSC) purposes”.¹¹⁴ Other affected Indigenous Peoples are located in the Arctic, Colombia, Ghana, the Pacific Islands, and Scandinavia, where various Indigenous Communities depend on fishing in marine areas for their livelihoods.¹¹⁵

5. The relevance of HR law in the context of the thesis

Plastic pollution in the marine environment is a transboundary issue, with debris drifting across national borders and affecting ecosystems far from its point of origin and with reinforcing other harms like climate change and ocean acidification. For this reason, the legal implications of marine plastic pollution extend beyond national jurisdictions and must also be understood through the lens of international law.

While several areas of both national and International Environmental Law (IEL) address aspects of plastic pollution and biodiversity loss, they do not directly cover Indigenous Peoples’ rights in this context. International environmental law includes a range of relevant agreements, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the United Nations (UN) Convention on the Law of the Sea, and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters, all of which regulate marine pollution to varying degrees. However, these frameworks do not directly engage with the specific rights and needs of Indigenous Peoples affected by marine

¹¹² Cynthia Chou, ‘The Water World of the Orang Suku Laut in Southeast Asia’ (2016) 4(2) TRaNS 265, 267.

¹¹³ *ibid* 280; Tom G Hoogervorst, ‘Ethnicity and aquatic lifestyles: exploring Southeast Asia’s past and present seascapes’ (2012) 4(3) Water Hist 245, 249–251.

¹¹⁴ Nathan J Bennett and others, ‘Coastal and Indigenous community access to marine resources and the ocean: A policy imperative for Canada’ (2018) 87 Marine Policy 186.

¹¹⁵ Ana I Márquez Pérez, “‘They Are Taking the Sea from us’ - Maritime Extractivism, Dispossession and Resistance in Rural and Ethnic Communities of the Colombian Caribbean’ (2024) 51(3) Latin American Perspectives 111, 111; Emmanuel Akyeampong, ‘Indigenous Knowledge and Maritime Fishing in West Africa: The Case of Ghana’ (2007) Special Volume No. 1 Tribes and Tribals; Paul D’Arcy, *The People of the Sea: Environment, Identity, and History in Oceania* (University of Hawai’i Press tr, 2006) 1; Mardikian and Galani (n 108).

biodiversity loss caused by plastic pollution.¹¹⁶ Although non-state actors, such as Indigenous Peoples, can bring individual claims under international law, doing so for transboundary harms like marine plastic pollution requires their home state to advocate on their behalf – a process that demands significant legal knowledge, access to technology, and political will.¹¹⁷

Aside from this, many efforts in regulating marine plastic pollution remain piecemeal – targeting specific plastic products or managing the displacement of plastic waste from one region or country to another.¹¹⁸ Such measures have so far proven inadequate in addressing the scale of the crisis. Some national policies have begun refining the scope of HR obligations in this area, but a comprehensive and binding global response is still lacking.¹¹⁹ Therefore, in 2022 the United Nations Environment Assembly took a step forward by adopting a resolution to create a legally binding instrument to regulate plastic pollution: the GPT. However, in the latest draft of the GPT, the rights of Indigenous Peoples are not specifically addressed.

HR law might play a crucial complementary role in addressing global environmental crises such as plastic pollution and biodiversity loss, as it offers a safeguard mechanism placing affected individuals and communities at the centre of legal and policy considerations and offer particular protection for vulnerable groups such as Indigenous Peoples. Importantly, international HR law also grants Indigenous Peoples, who are particularly vulnerable towards environmental harm,¹²⁰ the right to define their own status, regardless of whether they are officially recognized by a state.¹²¹ This is especially significant for transboundary issues like marine plastic pollution: extraterritorial jurisdiction under HR law may allow for the protection of Indigenous Peoples even in cases where their state does not recognize their status.¹²² Moreover, states' obligations also include taking responsibility for non-state actors, such as corporations based in their territory, when these actors cause HR violations abroad.¹²³

¹¹⁶ Liljeblad (n 104), 70.

¹¹⁷ *ibid* 71.

¹¹⁸ Samvel Varvastian, 'THE ROLE OF COURTS IN PLASTIC POLLUTION GOVERNANCE' (2023) 72(3) ICLQ 635, 636.

¹¹⁹ *ibid* 636–637.

¹²⁰ John H Knox (ed), *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment* (A/HRC/31/52, 2016) §81.

¹²¹ United Nations Declaration of the Rights of Indigenous Peoples (n 102) 12.

¹²² For further examination see chapter 6; Liljeblad (n 104), 74.

¹²³ *ibid*. This is analysed for the specific legal bodies and provisions separately in the following chapters.

Selection of the HR documents

Since affected coastal Indigenous Peoples are located all over the globe (see chapter 4), the UN and different regional HR frameworks hold jurisdiction over different Indigenous Peoples. Therefore, legally binding HR treaties from different regions, namely the ICCPR, ICESCR, ECHR, ACHR, and the Banjul Charter are analysed.

There also exist the Arab Charter on Human Rights (ArCHR)¹²⁴ and the Asian HR Charter.¹²⁵ The Arab HR Committee reviews periodic reports submitted by member states, issues concluding observations and recommendations, and engages in dialogue with states. The Asian HR Commission conducts visits, engages in campaigns, is involved in HR education and publishes opinions.¹²⁶ However, both institutions don't have power to hear contentious cases or issue legally binding judgments and are not engaged with individuals or NGOs directly.¹²⁷ Since the Arab and Asian HR systems don't incorporate mechanisms to rule on cases, these systems are not further analysed. Further important documents are the UDHR, UNDRIP, and International Labour Organisation (ILO) Convention 169, which are not legally binding. These instruments are applied when legal bodies draw on them for interpretation, but they are not explicitly analysed in this thesis. This thesis, however, cannot offer an exhaustive analysis and there might be other provisions that could be relevant as well. Further, the concrete impacts on HR and exact states' obligations have to be assessed on each case individually.¹²⁸

6. Limitations and challenges

In this chapter the most significant limitations and barriers for a violation to be found on the topic of the thesis is elaborated on.

First of all, if a country did not ratify a treaty or additional protocol to it, it cannot be held responsible before a particular treaty-body or a court or individual complaints are not accepted.¹²⁹ For instance, for being able to bring individual complaints before the Human Rights Committee (HRC) or the Committee on Economic, Social and Cultural Rights (CESCR), states

¹²⁴ Arab Charter on Human Rights 2004 (League of Arab States) Art. 5.

¹²⁵ Asian Human Rights Charter 1994 (Asian Human Rights Commission).

¹²⁶ Asian Human Rights Commission, 'About Us' <<http://www.humanrights.asia/get-involved/about-us/>> accessed 12 July 2025.

¹²⁷ Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, 'The Arab Human Rights System: Annex to the ABC of Human Rights for Development Cooperation. The Arab Human Rights System' (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH 2017).

¹²⁸ Knox (ed) (n 120) §46.

¹²⁹ UN, 'United Nations Treaty Collection: 3. a Optional Protocol to the International Covenant on Economic, Social and Cultural Rights' (18 July 2025) accessed 18 July 2025.

have to adopt the Optional Protocol to the ICCPR or the ICESCR. At the moment (08/2025) there are 116 state parties to the Optional Protocol to the ICCPR¹³⁰ and 31 state parties to the Optional Protocol to the ICESCR.¹³¹ Furthermore, declarations such as the UNDRIP are not legally binding which reduces their power. Since almost no Asian country has ratified the optional protocols to the ICESCR and ICCPR,¹³² and the Asian HR system does not provide a mechanism for individual complaints, Indigenous Peoples in Asia have relatively limited protection.

Legal personality

Actors must be recognized by the legal systems of a state in order to hold rights. Otherwise, they cannot access the law.¹³³ The right to self-identification as Indigenous is provided in the UNDRIP with Arts. 3 and 33¹³⁴ and the ILO Convention 169 with Art. 1.¹³⁵ In the legally binding HR instruments assessed in this thesis, there is no specific right to self-identification. However, a right to self-determination is found in the ICCPR,¹³⁶ ICESCR,¹³⁷ ACHPR,¹³⁸ and in the IACtHR's jurisprudence.¹³⁹ In the context of this thesis, when the legal personality of Indigenous Peoples is not recognized, and access to legal mechanisms is therefore denied, significant barriers arise to the enforcement of their rights.

Procedural rights

Procedural rights form the basis for the effective realization of substantive rights, particularly for vulnerable groups such as Indigenous Peoples, as they enable the practical implementation of those rights. The Special Rapporteur on HR and the Environment, John Knox, outlines key procedural rights in environmental cases. According to him, states are required “(a) to assess environmental impacts and make environmental information public; (b) to facilitate public participation in environmental decision-making, including by protecting the rights of expression

¹³⁰ UN, ‘United Nations Treaty Collection: 5. Optional Protocol to the International Covenant on Civil and Political Rights’ (18 July 2025) accessed 18 July 2025.

¹³¹ UN (n 129).

¹³² *ibid*; UN (n 130).

¹³³ Liljeblad (n 104), 95.

¹³⁴ United Nations Declaration of the Rights of Indigenous Peoples (n 102) Arts. 3 & 33.

¹³⁵ Indigenous and Tribal Peoples Convention, 1989 (No. 169) 5 September 1991 (General Conference of the ILO) Art. 1.

¹³⁶ ICCPR 1966 (GA resolution 2200A) Art. 1.

¹³⁷ ICESCR 1966 (GA resolution 2200A) Art. 1.

¹³⁸ African Charter on Human and Peoples' Rights (Banjul Charter) 28 June 1981 (OAU) Art. 20; AfCHPR, ‘Basic Information: The African Court on Human and Peoples’ Rights (the African Court) in brief’ <<https://www.african-court.org/wpafc/basic-information/>> accessed 13 August 2025.

¹³⁹ *Kichwa Indigenous People of Sarayaku v Ecuador* (2012) C-245 (IACtHR); *Yakye Axa Indigenous Community v Paraguay* (2005) C-125 (IACtHR).

and association; and (c) to provide access to remedies for harm”.¹⁴⁰ The UNDRIP provides a more detailed articulation of procedural rights, including, *inter alia*, the right to free, prior, and informed consent.¹⁴¹ Furthermore, the CESCR, in its General Comment No. 12 on the right to food, emphasizes, *inter alia*, the importance of “accountability, transparency, people’s participation, decentralization, legislative capacity, and the independence of the judiciary”, concluding that good governance is essential to the realization of all HR.¹⁴² However, these procedural rights are often not guaranteed in practice. While there may be an abstract recognition of Indigenous rights – for example, through voting in favour of the UNDRIP – realizing these rights often falls short. This includes a lack of concrete legal recognition, denial of Indigenous identity, the establishment of hierarchical systems, and the marginalization and othering of Indigenous Peoples.¹⁴³ If these procedural rights are not guaranteed, it might be difficult for Indigenous Peoples to bring a claim before a legal body at all in the context of the thesis.

The complexity and transboundary nature of plastic pollution and marine biodiversity loss

Chapter 3.2 shows the interrelations between the whole lifecycle of plastics and marine ecosystems. The relative impacts of plastics compared to other impacts such as climate change, ocean acidification and overfishing on marine biodiversity cannot be assessed due to the complexity, non-linearity and unpredictability of cause-effect-chains. Thus, it remains challenging to assess the relative magnitude of plastics' impact on marine biodiversity in comparison to other environmental stressors. However, although the impacts of plastics on marine ecosystems and biodiversity are complex, it is clear that plastics alter ecosystem constellations and contributes to species, genetic and ecosystem loss (see chapter 3.2). This complexity of marine ecosystems poses a challenge to prove causality. Due to the limited availability of relevant case law, this question cannot be conclusively answered. However, it will be addressed in Chapter 7 when examining the specific HR provisions relevant to the context of this thesis and parallels are drawn to climate jurisprudence which has established precedents for addressing complex environmental harms.

Further, the harm of plastics mostly stem from a multitude of actors and states. Plastic debris floats with marine currents and it is therefore hard to detect the source (see chapter 3.2.1).

¹⁴⁰ Knox (ed) (n 120) 13.

¹⁴¹ United Nations Declaration of the Rights of Indigenous Peoples (n 102).

¹⁴² CESCR (ed), *General Comment 12, The right to adequate food (art. 11): Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights* (1999) §23.

¹⁴³ Liljeblad (n 104), 101–102.

Furthermore, climate change and ocean acidification – to which plastics production contributes – are also transboundary harms (see chapter 3.2.2). Therefore, the question arises which states can be held accountable for harms stemming from plastic pollution. In the following, it is touched upon these questions.

Regarding transboundary harms, the Adv. Op. of the ICJ on climate change makes clear that states can also bear extraterritorial responsibility, meaning that obligations under HR law may apply not only within their territory but also to individuals outside their territory who fall within the state's jurisdiction.¹⁴⁴ However, the ICJ clarifies that “causation of damage is not a requirement for the determination of responsibility as such”.¹⁴⁵ Instead, there must be an “internationally wrongful act” that has a nexus to the harm in order for a state to be held responsible. The ICJ further affirms that this condition can be fulfilled in climate change cases.¹⁴⁶ It elaborates two criteria to assess state responsibility: (a) whether a climate harm is caused by anthropogenic action and (b) “to what extent damage caused by climate change can be attributed to a particular State or group of States”.¹⁴⁷ Since the ICJ applies this principle to climate change, parallels could be drawn in the causation of those harms, which might lead to a similar application of rules to climate change, plastic pollution, and marine biodiversity loss. In this context, the same criteria of anthropogenic causation and attributability to a state or group of states could be used for plastic pollution and marine biodiversity loss. However, after developing those thoughts the ICJ still leaves the question of extraterritorial responsibility in regards to climate change open.¹⁴⁸

The CESCR maintains that states have extraterritorial obligations, particularly concerning the activities of corporations registered within their territory. States are required to take all necessary steps to ensure the realization of HR beyond their borders.¹⁴⁹ The HRC also recognizes extraterritorial obligations. In *A.S. and Others v Italy*, the HRC held that states may bear such obligations towards individuals with whom they have “a special relationship of

¹⁴⁴ ICJ (ed), *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory: Advisory Opinion* (2004) §108; ICJ (ed), *Obligations of states in respect of climate change* (n 7) §396.

¹⁴⁵ ICJ (ed), *Obligations of states in respect of climate change* (n 7) §433.

¹⁴⁶ *ibid* §433 & 436.

¹⁴⁷ *ibid* §437.

¹⁴⁸ *ibid* §402.

¹⁴⁹ CESCR (ed), *General comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities* (2017) §§25-37.

dependency”.¹⁵⁰ However, it remains unclear whether this notion of a “special relationship of dependency” is applicable in the context of this thesis.

With regard to the IACtHR, states are considered to have extraterritorial obligations in cases of environmental harm when there is a “causal link between the action that occurred within its territory and the negative impact,”¹⁵¹ and when the respondent state exercises effective control over the harm.¹⁵² The IACtHR further emphasizes this position in its Adv. Op. on climate change, affirming that states bear extraterritorial obligations in the context of climate change. However, the Court has not clarified how reparations are to be handled in situations involving extraterritorial responsibility.¹⁵³

In *Duarte Agostinho v Portugal*, the ECtHR adopts a strict separation between the provisions of other international legal frameworks – such as the UNFCCC – and the ECHR. As a result, it rejects the notion of extraterritorial responsibility, instead holding that the states where the effects of climate change occur, rather than those responsible for the emissions, bear the HR obligations.¹⁵⁴ In *Klimaseniorinnen*, the ECtHR acknowledges the transboundary nature of climate change and GHG emissions.¹⁵⁵ However, in line with its traditionally strict interpretation of territoriality, it remains rather unlikely that the ECtHR would adopt an extraterritorial approach in the context of this thesis. Nonetheless, the ECtHR may acknowledge and consider the transboundary nature of plastic pollution and marine biodiversity loss when assessing a potential case. In the African HR system, the paucity of relevant case law makes it difficult to identify a clear and consistent position on extraterritorial obligations. However, the system appears to align more closely with the European HR approach, where territorial jurisdiction is the default, and extraterritoriality is treated as an exceptional circumstance.¹⁵⁶

Further challenges for litigation come through the often multi-jurisdictional status of sea peoples who are often transboundary communities living in more than one state and whose traditional, pre-colonial borders are still ignored, *inter alia* in the legal systems of HR. This can lead

¹⁵⁰ *A.S. and Others v Italy* (2021) 3042/2017 §7.8 (HRC).

¹⁵¹ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §104(h).

¹⁵² *ibid.*

¹⁵³ *ibid.*; IACtHR (ed), *Advisory Opinion OC-32/25* (n 7) §551.

¹⁵⁴ *Duarte Agostinho and Others v Portugal and 32 Others* (2024) 39371/20 §212 (ECtHR).

¹⁵⁵ *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (2024) 53600/20 §416 (ECtHR).

¹⁵⁶ Anne Oloo and Wouter Vandenhole, ‘Enforcement of extraterritorial human rights obligations in the African human rights system’, *The Routledge Handbook on Extraterritorial Human Rights Obligations* 147.

to divisions of Indigenous communities into sub-groups and can build tensions within Indigenous communities.¹⁵⁷

7. Analysis of potential HR violations in the context of the thesis

After having outlined the relevance of HR in the context of this thesis and its challenges and limitations, the following section examines potential violations of Indigenous Peoples' rights more closely. To answer the research question – in what ways does marine biodiversity loss caused by plastic pollution impact the nutrition of Indigenous Peoples and thereby violate their rights – the focus will be placed on how disruptions in food systems affect the realization of those rights.

7.1 Right to food

Since in the context of the thesis, potential HR violations are analysed in regard to the impact of marine biodiversity loss on Indigenous Peoples' nutrition, the right to food is analysed first. However, among the documents analysed, it is explicitly enshrined only in the ICESCR's right to an adequate standard of living and, at the regional level, in the Protocol of San Salvador.

Article (Art.) 11 of the ICESCR states:

“1. The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.

2. The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures, including specific programmes, which are needed:

(a) To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources”.¹⁵⁸

¹⁵⁷ Liljeblad (n 104), 98.

¹⁵⁸ ICESCR (n 137) Art. 11.

The HR to adequate food is described as “of crucial importance for the enjoyment of all rights”,¹⁵⁹ which highlights its interdependence with other HR. According to the General Comment No. 12 of the CESCR, the right to food is realized when everyone has “physical and economic access at all times to adequate food.”¹⁶⁰ This definition is intended to be interpreted both broadly and progressively.¹⁶¹

A central element in this context is the concept of adequacy, which is defined as “the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture.”¹⁶² In terms of availability, individuals must be able to feed themselves directly from “productive land or other natural resources, or [rely on] well functioning distribution, processing, and market systems”.¹⁶³ The right to food must also be sustainable, ensuring that food remains accessible for both present and future generations.¹⁶⁴ Additionally, food must be “acceptable within a given culture,” which means that non-nutrient-based values must also be taken into consideration.¹⁶⁵ Moreover, it must be assessed in light of “prevailing social, economic, cultural, climatic, ecological and other conditions”¹⁶⁶ and must not interfere with the realization of other HR.¹⁶⁷

States are obligated to “take steps to achieve progressively the full realization of the right to food”,¹⁶⁸ and must do so by taking the necessary steps “to the maximum of its available resources”.¹⁶⁹ This includes the requirement to “move as expeditiously as possible towards that goal”.¹⁷⁰ The obligation to respect existing access to adequate food prohibits states from taking actions that would interfere with such access. The obligation to protect requires states to prevent third parties from depriving individuals of their access to food. Meanwhile, the obligation to fulfil requires states to take positive steps to strengthen access to adequate food.¹⁷¹ A distinction is made between a state’s inability and unwillingness to act in order to realize the right to food. If a state is unwilling to act, a violation is more likely to be found.¹⁷² In contrast, if a state

¹⁵⁹ CESCR (ed), *General Comment 12, The right to adequate food (art. 11)* (n 142) §1.

¹⁶⁰ *ibid* §6.

¹⁶¹ *ibid*.

¹⁶² *ibid* §8.

¹⁶³ *ibid* §12.

¹⁶⁴ *ibid* §7.

¹⁶⁵ *ibid* §11.

¹⁶⁶ *ibid* §7.

¹⁶⁷ *ibid* §8.

¹⁶⁸ *ibid* §14; ICESCR (n 137) Art. 2.

¹⁶⁹ ICESCR (n 137) Art. 2(1).

¹⁷⁰ CESCR (ed), *General Comment 12, The right to adequate food (art. 11)* (n 142) §14.

¹⁷¹ *ibid* §19.

¹⁷² *ibid* §17.

claims that it is unable to realize the right to food, it must demonstrate this and is also required to seek international support.¹⁷³ Finally, states bear responsibility for regulating and preventing harm caused by third parties. This includes an explicit obligation of prevention.¹⁷⁴

Applying the CESCR's interpretation of the right to food to the context of this thesis, the CESCR's broad understanding of the right to food¹⁷⁵ may increase the likelihood of identifying a violation in relation to marine biodiversity loss caused by plastic pollution and its impact on the nutrition of Indigenous Peoples. One particularly relevant element is that adequate food must be "acceptable within a given culture",¹⁷⁶ and that prevailing cultural and ecological conditions must be taken into account.¹⁷⁷ This is especially important in the case of coastal Indigenous Peoples, whose cultural practices and nutritional systems are often closely tied to marine resources. Their specific cultural context and dependence on the sea must therefore be considered in assessing the accessibility of adequate food. Moreover, the sustainability of food systems is another essential component of the right to food.¹⁷⁸ Marine food chains are increasingly affected by plastic pollution (see chapter 3.2), raising concerns about whether food security and sovereignty can be ensured for future generations.¹⁷⁹ This undermines the sustainability requirement and strengthens the argument that a violation has occurred. In this light, key aspects of the concept of adequacy may no longer be fulfilled.

The requirement that food be "free from adverse substances" also has potential relevance, especially considering the presence of microplastics in seafood consumed by coastal communities.¹⁸⁰ However, this issue exceeds the scope of the present thesis, as it would require a separate analysis of the health impacts of microplastic ingestion and its implications for food safety.

States may claim that they are unable to take effective action to ensure access to adequate food. Especially when considering such complex and transnational harms like marine biodiversity loss caused by plastic pollution, this might be a strong argument. However, they must still demonstrate that they have taken all necessary steps (the obligation of conduct) and sought international assistance.¹⁸¹

¹⁷³ *ibid.*

¹⁷⁴ *ibid* §19-20.

¹⁷⁵ *ibid* §6.

¹⁷⁶ *ibid* §11.

¹⁷⁷ *ibid* §7.

¹⁷⁸ *ibid.*

¹⁷⁹ *ibid.*

¹⁸⁰ *ibid* §10.

¹⁸¹ *ibid* §17.

In summary, this analysis shows that a violation of the right to adequate food could potentially be found by the CESCR, particularly given the failure to meet key aspects of the concept of adequacy – namely, sustainability and the consideration of cultural and ecological conditions. However, states might argue that they are unable to guarantee this right due to the complexity of marine biodiversity loss caused by plastic pollution, especially considering the transnational nature of the harm. Moreover, the practical scope of application is significantly limited by the fact that only a small number of states have ratified the Optional Protocol to the ICESCR, which is required for individuals to submit complaints.

Within the regional HR systems, the right to food is enshrined in the Additional Protocol to the ACHR in the area of economic, social and cultural rights (Art. 12).¹⁸² To date, 18 states have ratified this Protocol.¹⁸³ However, according to Art. 19(6), only Arts. 8 and 13 are subject to individual complaints.¹⁸⁴ As a result, the right to food is not justiciable before the IACtHR and thus primarily serves as a tool for political pressure, advocacy, and state reporting.

Although the right to food is enshrined in the ICESCR and Protocol of San Salvador, its scope of application remains limited – mainly due to the small number of state parties to the relevant treaties, and the restricted justiciability of the right. Therefore, it is important to consider which other rights could be relevant when assessing potential HR violations in the context of this thesis.

7.2 Right to life

The right to life is enshrined in various binding international and regional HR instruments, including the ICCPR, Banjul Charter, ACHR, and ECHR. Its scope, however, varies across these systems: some adopt a broader interpretation that encompasses access to essential resources such as food and healthcare, while others take a more limited approach. The following sections analyse these differing approaches.

7.2.1 ICCPR

Art. 6(1) of the ICCPR states:

¹⁸² Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, Protocol of San Salvador (OAS) Art. 12.

¹⁸³ Department of International Law, OAS, ‘Signatories and Ratifications: A-52: Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights " Protocol of San Salvador”’ accessed 19 July 2025.

¹⁸⁴ Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (n 182) Art. 19(6).

“1. Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.”¹⁸⁵

The HRC emphasizes that the right to life entails not only freedom from acts or omissions that could cause unnatural or premature death, but also the right to live with dignity.¹⁸⁶ It also encompasses the necessity of “adequate conditions,” which include access to food, water, and healthcare.¹⁸⁷ States are therefore required to take “appropriate measures to address the general conditions in society that may give rise to direct threats to life or prevent individuals from enjoying their right to life with dignity”.¹⁸⁸ Among such threats, the HRC explicitly identifies “environmental degradation” and the “deprivation of Indigenous Peoples’ land, territories, and resources”.¹⁸⁹ Environmental degradation, climate change, and unsustainable development are recognized as among the most pressing threats to this right.¹⁹⁰ General comment No. 36 further underscores that the realization of the right to life depends “on measures taken by States parties to preserve the environment and protect it against harm, pollution and climate change”.¹⁹¹

The HRC also draws attention to the particular vulnerability of certain groups, explicitly naming Indigenous Peoples as a population requiring special protection¹⁹², and stresses the principles of equality and non-discrimination in this regard.¹⁹³ Regarding cross-border responsibilities, the HRC states that “States parties must take appropriate measures to protect individuals against deprivation of life by other States, international organizations and foreign corporations operating within their territory or in other areas subject to their jurisdiction”.¹⁹⁴ Importantly, the HRC clarifies that a violation of Art. 6 may occur even where threats do not result in actual loss of life.¹⁹⁵

In its General Comment No. 36 the HRC makes clear that states need to pay attention to the precautionary approach – particularly regarding environmental degradation and also “in response to reasonably foreseeable threats to life originating from private persons and entities whose conduct is not attributable to the State”.¹⁹⁶ In Billy et al., Arif Bulkan, Marcia V.J. Kran

¹⁸⁵ ICCPR (n 136) Art. 6.

¹⁸⁶ HRC (ed), *General comment No. 36: Article 6: right to life* (2018) §3.

¹⁸⁷ *ibid* §26.

¹⁸⁸ *ibid*.

¹⁸⁹ *ibid*.

¹⁹⁰ *ibid* §62.

¹⁹¹ *ibid*.

¹⁹² *ibid* §23.

¹⁹³ *ibid* §61.

¹⁹⁴ *ibid* §22.

¹⁹⁵ *ibid* §7.

¹⁹⁶ *ibid* §21.

and Vasilka Sancin stress the urgency of the precautionary approach in regards to climate change.¹⁹⁷

In the case *Portillo Cáceres et al. v Paraguay*, the applicants claimed that, *inter alia*, Art. 6 was violated due to the pollution of the environment surrounding their homes with toxic substances by agribusiness activities. This pollution led to health issues caused by pesticide poisoning – including the direct death of one person – and resulted in the contamination of waterways used for fishing as well as the ruination of crops used for food.¹⁹⁸ This situation caused both a lack of resources for food and serious health problems. The HRC found a violation of Art. 6.¹⁹⁹

In the case of *Pereira et al. v Paraguay*, private actors had contaminated the lands, waterways, roads, and settlements of Indigenous territories through fumigation activities for agribusiness, thereby breaching domestic environmental laws, while the state failed to exercise adequate oversight.²⁰⁰ *Inter alia*, the fumigation led to biodiversity loss and the destruction of natural resources, resulting in a lack of food sources for the affected communities.²⁰¹ The HRC found violations of Art. 17 (right to private and family life) and Art. 27 (rights of minorities).²⁰² However, it did not examine a potential violation of the right to life. In their joint opinion, Arif Bulkan, Vasilka Sancin, and Hélène Tigroudja expressed regret that the right to life was neither raised by the applicants nor addressed *proprio motu* by the HRC.²⁰³ They referred to General Comment No. 36, emphasizing that the right to life should not be interpreted narrowly, and that general societal conditions – such as environmental degradation – are essential considerations for its fulfilment.²⁰⁴ Accordingly, they concluded that the state had clearly violated the right to life by endangering the health of the community, destroying biodiversity and the natural resources vital to their nutrition, and exacerbating the extreme poverty in which the community lives.²⁰⁵

In the case *Billy et al. v Australia*, the applicants claimed that the State party had failed to implement adequate mitigation and adaptation measures to protect their right to life with

¹⁹⁷ Arif Bulkan, Duncan Laki Muhumuza, Marcia V.J. Kran and Vasilka Sancin in: *Billy et al v Australia* (2023) 3624/2019 Annex 4 & 5 (HRC).

¹⁹⁸ *Portillo Cáceres v Paraguay* (2019) 2751/2016 §3.5 (HRC).

¹⁹⁹ *ibid* §7.5.

²⁰⁰ *Pereira et al. v Paraguay* (2014) 2552/2015 §2.5 (HRC).

²⁰¹ *ibid* §2.8.

²⁰² *ibid*.

²⁰³ *ibid* Annex 1.

²⁰⁴ *ibid*; HRC (ed), *General comment No. 36* (n 186).

²⁰⁵ *Pereira et al. v Paraguay* (n 200) §4-8.

dignity from the negative effects of climate change.²⁰⁶ The HRC stated, that the Indigenous Peoples in this case were particularly vulnerable due to the “lack of alternatives to subsistence livelihoods”.²⁰⁷ In its analysis, the HRC referred to its General Comment No. 36, emphasizing that positive measures are required to protect the right to life and recognizing environmental degradation and climate change as pressing threats to this right.²⁰⁸ The reduction of marine life used for food and cultural purposes was also mentioned as an issue impacting the right to life. However, no violation of Art. 6 was found. Three HRC members²⁰⁹ partially dissented, arguing that the loss of (marine) food sources – being one of four contributing factors – rendered a life in dignity impossible in this case and therefore constituted a violation of Art. 6. They called for a non-restrictive interpretation of Art. 6, as outlined in General Comment No. 36.²¹⁰

Plastic pollution, as outlined in chapter 3.2, causes severe disruption to marine biodiversity and can be seen as environmental degradation, which the HRC classifies as one of the most pressing issues. As discussed in chapter 4, Indigenous Peoples are often deeply reliant on marine ecosystems for nutrition. When access to essential resources such as food and water becomes so impaired that their living conditions can no longer be considered “adequate”, a violation of the right to life may occur. If states fail to take appropriate action to prevent the deprivation of Indigenous Peoples’ land, territories, and resources – including marine environments – this may reinforce a breach of Art. 6. The HRC has emphasized that a precautionary approach must be applied in cases of environmental degradation. The loss of marine biodiversity caused by plastic pollution constitutes a foreseeable and ongoing threat to the nutrition of Indigenous Peoples. Under this approach, states could be held responsible for omissions when they fail to take measures to reduce plastic pollution. Consequently, considering the precautionary principle may increase the likelihood of finding a violation when litigating on the topic of this thesis.

Challenges in the litigation of plastic pollution and Indigenous rights may arise because of the transboundary nature of plastic pollution. Here, the HRC has made clear in its General Comment No. 36²¹¹ and 31²¹² and in its decisions²¹³ (e.g. *Delia Saldias de Lopez v Uruguay*, *Billy*

²⁰⁶ *Billy et al v Australia* (n 197) §3.4.

²⁰⁷ *ibid* §8.6.

²⁰⁸ *ibid* §8.3.

²⁰⁹ Arif Bulkan, Marcia V.J. Kran and Vasilka Sancin, in HRC (ed), *General comment No. 36* (n 186) §3, Annex 5.

²¹⁰ *Billy et al v Australia* (n 197) 25–26.

²¹¹ HRC (ed), *General comment No. 36* (n 186) §63.

²¹² HRC (ed), *General Comment No. 31 [80] - The Nature of the General Legal Obligation Imposed on States Parties to the Covenant* (2004) §10.

²¹³ *Delia Saldias de Lopez v Uruguay* 52-1979, [1984] (HRC) §12.3.

et al.) that states bear responsibility for their transboundary impacts. As the HRC stated in *Delia Saldias de Lopez*, “Art. 2(1) [...] does not imply that the State party concerned cannot be held accountable for violations of rights [...] which its agents commit upon the territory of another State”.²¹⁴ In practical terms, the HRC explained that jurisdiction under Art. 2 is defined not by location, but by “power or effective control” over an individual by State agents, even when operating abroad.²¹⁵ Moreover, although private actors are frequently the primary sources of marine plastic pollution, states cannot evade responsibility. Under the HRC’s framework, they are required to exercise due diligence in addressing foreseeable threats to life arising from such non-state actors.²¹⁶ Furthermore, as happened in *Billy et al.*, the HRC still tended to interpret the right to life restrictively – and not acknowledge the positive obligations as necessary to guarantee the right to life in dignity.²¹⁷ However, in *Portillo Cáceres* the HRC decided that the lack of resources for food combined with the applicant’s health issues caused by environmental pollution poisoning – including the direct death of one person – constituted a violation of Art. 6.²¹⁸ Additionally, in *Pereira et al.* three members of the HRC clearly demand to acknowledge the violation of the right to life, *inter alia*, through the impact of pollution-introduced biodiversity loss on Indigenous Peoples’ nutrition.²¹⁹ Thus, in the context given in the thesis a combination of impacts caused by plastic pollution on Indigenous Peoples could lead to a finding of a violation of the right to life by the HRC.

In conclusion, where states fail to take appropriate, reasonable, and proactive measures to address plastic pollution and its damaging effects on marine biodiversity – upon which coastal Indigenous Peoples depend for adequate living conditions – such omissions may amount to a violation of their right to life under Art. 6 ICCPR.

7.2.2 ECHR

Art. 2 of the ECHR states:

“1. Everyone’s right to life shall be protected by law. No one shall be deprived of his life intentionally save in the execution of a sentence of a court following his conviction of a crime for which this penalty is provided by law.

²¹⁴ *ibid.*

²¹⁵ *ibid*; HRC (ed), *General comment No. 36* (n 186) §63; HRC (ed), *General Comment No. 31 [80] - The Nature of the General Legal Obligation Imposed on States Parties to the Covenant* (n 212) §10.

²¹⁶ HRC (ed), *General comment No. 36* (n 186) §7.

²¹⁷ *Billy et al v Australia* (n 197).

²¹⁸ *Portillo Cáceres v Paraguay* (n 198).

²¹⁹ *Pereira et al. v Paraguay* (n 200) Annex 1.

2. Deprivation of life shall not be regarded as inflicted in contravention of this Art. when it results from the use of force which is no more than absolutely necessary:

(a) in defence of any person from unlawful violence;

(b) in order to effect a lawful arrest or to prevent the escape of a person lawfully detained;

(c) in action lawfully taken for the purpose of quelling a riot or insurrection.”²²⁰

The European Court of Human Rights’ (ECtHR) guide on environmental case-law primarily addresses industrial activities and foreseeable natural disasters – but the ECtHR neither found violations of the right to life in situations of pollution or biodiversity nor Indigenous Peoples’ rights.²²¹

According to the ECtHR’s guide on the right to life, this right is interpreted more narrowly in the European system compared to the ICCPR.²²² To establish a violation of Art. 2, there must be a real and imminent risk to life.²²³ As stated in the guide on the right to life, the ECtHR has found that positive obligations arise under Art. 2 in various contexts, particularly in ensuring the existence and effective implementation of relevant legislative and administrative frameworks.²²⁴ This was underscored in the case of *KlimaSeniorinnen Schweiz v Switzerland*, in which the applicants claimed that the state had failed to fulfil its positive obligations to effectively protect life in the context of climate change,²²⁵ and in the recent case of *Cannavacciuolo and Others v Italy*. In this case, the ECtHR addressed a situation of systematic, decade-long, widespread, and large-scale pollution. The pollution did not originate from one clearly identifiable polluter but rather from various illegal activities by different private parties, with differing impacts on the local population and environment.²²⁶ The ECtHR held that the state had a duty of precautionary protection – such as investigating, identifying, and assessing the nature and level of risk – and found that the state’s actions had been taken too late.²²⁷

²²⁰ ECHR 1950 (Council of Europe) Art. 2.

²²¹ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7).

²²² ECtHR (ed), *Guide on Article 2 of the Convention: Right to life* (2025).

²²³ *Kolyadenko and Others v Russia* (2012) 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05 §155 (ECtHR).

²²⁴ ECtHR (ed), *Guide on Article 2 of the Convention* (n 222) §12.

²²⁵ *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (n 155) §538 a-b.

²²⁶ *Case of Cannavacciuolo and Others v Italy* (30.04.25) 39742/14, 51567/14, 74208/14, 24215/15 §384 (ECtHR).

²²⁷ *ibid* §391.

In *Klimaseniorinnen*, the threshold of being “real and imminent”²²⁸ was met due to the “inevitability and irreversibility of the adverse effects of climate change” and the likelihood that such impacts would increase in both frequency and gravity.²²⁹ Also the topic of this thesis brings inevitable and irreversible impacts from marine biodiversity loss on Indigenous Peoples, and through the ongoing production and use of plastics the impacts could get even graver.

With regard to the exact means by which states are to fulfil their positive obligations under the right to life, the ECtHR grants them a wide margin of appreciation. However, in *Klimaseniorinnen*, the ECtHR decided to reduce this margin by considering “the scientific evidence regarding the urgency of combating the adverse effects of climate change, the severity of its consequences, including the grave risk of their reaching the point of irreversibility, and the scientific, political and judicial recognition of a link between the adverse effects of climate change and the enjoyment of (various aspects of) HR”.²³⁰ Similar conditions could be present in a case involving Indigenous Peoples whose right to life is impaired due to the impact of marine biodiversity loss on their nutrition. In *Klimaseniorinnen*, the decisive element was scientific research; therefore, for the ECtHR to find a violation in this context, it would likely require substantial scientific evidence establishing the link between plastic pollution, marine biodiversity loss, and the resulting nutritional deprivation faced by Indigenous Peoples. Chapters 3 and 4 of this thesis attempt to outline such impacts, but considerably more research would be necessary to serve as a scientific foundation.

Moreover, the ECtHR recognizes the relevance of the precautionary principle. In *Klimaseniorinnen*, it held that the “concepts of directness, inevitability and irreversibility” must be applied in assessing environmental threats.²³¹ Similarly, in *Cannavacciuolo and Others*, the ECtHR found that the state had a duty of precautionary protection, including the investigation, identification, and assessment of the nature and level of risk, and determined that the measures taken had been implemented too late.²³² While this case focused primarily on the health impacts of pollution and is not directly applicable to the present context, the ECtHR acknowledged the complexity of pollution and its various effects on local communities which could also serve as a base for establishing a violation in the context of this thesis.

²²⁸ *Kolyadenko and Others v Russia* (n 223) §155.

²²⁹ *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (n 155) §513.

²³⁰ *ibid* §542.

²³¹ *ibid* §314.

²³² *Case of Cannavacciuolo and Others v Italy* (n 226) §391.

An obstacle for the ECtHR to find a violation in this context might be, that the states' obligations arising from Art. 2 are limited to applicants who fall under the jurisdiction of the state concerned.²³³ If a state is to be found responsible for a violation, it has to be shown that a state exercises "power or effective control" over an individual.²³⁴ In the case of marine plastic pollution it might be difficult to prove which state is responsible for the harm since plastics floats uncontrolled in the oceans. Also, the plastics don't stem from one identifiable polluter. Furthermore, – as chapter 3.2 shows – the impacts from plastics on marine biodiversity are complex, and it is not yet – and perhaps never will be – possible to examine how big the impact of plastics on marine biodiversity is in comparison to other impacts such as large-scale fishing, ocean acidification, and climate change (in which plastics also play a role – see section 3.2.2). As a response to the challenges named, the case *Cannavacciuolo and Others* could serve as a base, since it also dealt with large-scale and complex pollution and the ECtHR hold Italy as the state in which's territory the pollution occurred responsible.²³⁵

In conclusion, while the ECtHR's interpretation of Art. 2 is narrower than under the ICCPR, recent case-law shows evolving openness to complex, environmental risks. A future claim based on marine biodiversity loss and its impact on Indigenous Peoples' right to life would require strong scientific evidence.

7.2.3 ACHR

Art. 4(1) of the ACHR states:

“Every person has the right to have his life respected. This right shall be protected by law and, in general, from the moment of conception. No one shall be arbitrarily deprived of his life.”²³⁶

Following a request from Colombia, the IACtHR issued Advis. Op. OC-23/17 on the environment and HR,²³⁷ clarifying the environmental obligations that states must uphold to ensure the protection of HR, and more explicitly the right to life.²³⁸ The IACtHR affirmed that the

²³³ ECtHR (ed), *Guide on Article 2 of the Convention* (n 222) 8.

²³⁴ *Delia Saldias de Lopez v Uruguay* (n 213) §12.3; HRC (ed), *General comment No. 36* (n 186) §63; HRC (ed), *General Comment No. 31 [80] - The Nature of the General Legal Obligation Imposed on States Parties to the Covenant* (n 212) §10.

²³⁵ *Case of Cannavacciuolo and Others v Italy* (n 226) §122.

²³⁶ American Convention on Human Rights "Pact of San Jose, Costa Rica" 22 November 1969.

²³⁷ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7).

²³⁸ *ibid.*

environment is closely linked to other rights – particularly the right to life.²³⁹ The IACtHR specifically emphasizes the importance of a healthy environment in Indigenous territories, since those natural resources are necessary for their very survival²⁴⁰ and for the enjoyment of other rights. It also refers to the particularly vulnerable situation of Indigenous Peoples.²⁴¹

In the case *Street Children (Villagrán Morales et al.) v Guatemala*, the IACtHR clarified that, in addition to the obligation not to arbitrarily deprive any person of life, states have positive obligations to take all appropriate measures to realize the right to life of all persons within their jurisdiction.²⁴² The right to life includes the right to a dignified existence,²⁴³ which is the basis for other judgements regarding the right to life such as *Sawhoyamaxa Indigenous Community v Paraguay*, *Yakye Axa Indigenous Community v Paraguay*, *La Oroya v Peru*, and *Xákmok Kásek Indigenous Community v Paraguay*. In these cases, the IACtHR further defines that a “dignified existence” also entails access to, and the quality of, water, food, and health.²⁴⁴ Furthermore, health – which is directly linked to adequate nutrition – is explicitly protected,²⁴⁵ and pollution is identified as a direct threat to these conditions²⁴⁶ and can be a ground for a violation of this right.²⁴⁷ Since states have the obligation to ensure the right to life, they also have the duty to prevent third parties from harming the right to life.²⁴⁸ The IACtHR analysed state obligations to regulate, supervise, and monitor third parties.²⁴⁹ In the case of *Sawhoyamaxa Indigenous Community* the IACtHR found a violation of Art. 4 with respect to the lack of prevention mechanisms.²⁵⁰ Additionally, states must observe the precautionary principle.²⁵¹ Lastly, the IACtHR affirms the obligation of cooperation, requiring states to work together in addressing environmental threats that may affect the enjoyment of HR.²⁵²

²³⁹ *ibid* §64; IACHR (ed), *Indigenous and tribal peoples' rights over their ancestral lands and natural resources: Norms and jurisprudence of the inter-american human rights system* ([OAS official records] OEA/Ser. L/V/II, doc. 56/09, 30 December 2009, original : Spanish, OAS 2010) §190.

²⁴⁰ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §48.

²⁴¹ *ibid*.

²⁴² *"Street Children" (Villagrán-Morales et al.) v Guatemala* (1999) C-63 §144 (IACtHR).

²⁴³ *ibid*.

²⁴⁴ *Yakye Axa Indigenous Community v Paraguay* (n 139) §167; *Sawhoyamaxa Indigenous Community v Paraguay* (2006) C-146 §§156-178 (IACtHR); *Xákmok Kásek Indigenous Community v Paraguay* (2010) C-214 §§197-213 (IACtHR).

²⁴⁵ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §110.

²⁴⁶ *ibid* §111.

²⁴⁷ *The Inhabitants of La Oroya v Peru* (2023) C-511 §218 & 219 (IACtHR).

²⁴⁸ *"Mapiripán Massacre" v Colombia* (2005) C-134 §111 (IACtHR); *Gonzales Lluy et al. v Ecuador* (2015) C-298 §170 (IACtHR).

²⁴⁹ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §§146-170.

²⁵⁰ *Sawhoyamaxa Indigenous Community v Paraguay* (n 244) §178.

²⁵¹ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §180.

²⁵² *ibid* §§126-241.

According to Adv. Op. 12/14, states exercise jurisdiction over “every person in the territory or who is in any way subjected to its authority, responsibility or control”.²⁵³ This includes extra-territorial obligations.²⁵⁴ Whether such obligations arise must be assessed on a case-by-case basis. If the right to life is violated, the state of origin of the harm bears responsibility.²⁵⁵ Furthermore, in its Adv. Op. 32/25 on states’ obligations regarding climate change, the IACtHR clarifies that states also have obligations towards future generations. Therefore, it emphasizes the fact that, according to scientific research, the impacts and number of deaths get more severe with increasing global warming.²⁵⁶

The loss of marine biodiversity caused by plastic pollution directly threatens the nutrition and health of Indigenous Peoples who depend on marine resources for their subsistence (see chapters 3 and 4). As the IACtHR has emphasized, access to adequate food and health is essential for a dignified existence and thus protected under Art. 4 of the ACHR.²⁵⁷ Given that the IACtHR has identified pollution as a direct threat to health and life,²⁵⁸ the state’s failure to prevent, regulate, or mitigate the actions of private actors contributing to plastic pollution could amount to a breach of its positive obligations. This aligns with the IACtHR’s reasoning in *Mapiripán Massacre* and *Gonzales Lluy*, where states were held responsible for not preventing third-party harm to life and health.²⁵⁹ The duty to regulate and supervise third-party activities²⁶⁰ is particularly relevant here, as much of the marine plastic pollution is generated by private entities.²⁶¹ Moreover, the obligation of prevention,²⁶² the precautionary principle,²⁶³ and the duty to cooperate²⁶⁴ all reinforce the need for state action. Inaction or ineffective regulation may thus lead to violations of Art. 4 of the ACHR, as the IACtHR found in *Sawhoyamaxa Indigenous Community*.²⁶⁵

²⁵³ IACtHR (ed), *Advisory Opinion OC-21/14: Rights and guarantees of children in the context of migration and/or in need of international protection* (2014) §61.

²⁵⁴ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §78; IACtHR (ed), *Advisory Opinion OC-21/14* (n 253) §61.

²⁵⁵ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §81.

²⁵⁶ IACtHR (ed), *Advisory Opinion OC-32/25* (n 7) §395.

²⁵⁷ *"Street Children" (Villagran-Morales et al.) v Guatemala* (n 242) §144; *Yakye Axa Indigenous Community v Paraguay* (n 139) §167; *Sawhoyamaxa Indigenous Community v Paraguay* (n 244) §§156-178; *Xákmok Kásek Indigenous Community v Paraguay* (n 244) §§197-213.

²⁵⁸ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §111.

²⁵⁹ *"Mapiripán Massacre" v Colombia* (n 248) §111; *Gonzales Lluy et al. v Ecuador* (n 248) §170.

²⁶⁰ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §§146-170.

²⁶¹ UNEP, ‘FROM POLLUTION TO SOLUTION’ (n 9); UNEP, ‘Neglected: Environmental Justice Impacts of Marine Litter and Plastic Pollution’ (n 8).

²⁶² IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §242.

²⁶³ *ibid* §180.

²⁶⁴ *ibid* §125.

²⁶⁵ *Sawhoyamaxa Indigenous Community v Paraguay* (n 244) §178.

Where the pollution stems from outside a particular state's borders, the IACtHR has acknowledged extraterritorial obligations under specific conditions.²⁶⁶ Having extraterritorial obligations, if the source of pollution is traceable to actors or decisions within a state's jurisdiction, that state could be held accountable for the transboundary harm to Indigenous Peoples' right to life. Furthermore, similar as with GHG and global warming, the impacts of plastics on marine biodiversity are likely to increase since plastic debris and, even more, micro- and nanoplastics are spread all over the ocean. Therefore, protection for future generations could be enforced before the IACtHR also in the context of the thesis.²⁶⁷

Nonetheless, it must be assessed whether the state met its due diligence obligations. As Adv. Op. 23/17 notes, states are not automatically liable for all acts or omissions by private actors.²⁶⁸ The question is whether the state took all appropriate and reasonable measures without imposing impossible burdens.²⁶⁹ If a state has failed to meet this threshold – particularly by not enforcing environmental laws or by permitting harmful practices – the conditions for finding a violation may be satisfied.

In conclusion, it can be said that in the Inter-American system, a lot of literature and cases can be found on the obligations of states to guarantee the right to life. In light of the IACtHR's jurisprudence, the degradation of marine ecosystems through plastic pollution can engage state responsibility where it undermines Indigenous Peoples' access to essential resources necessary for a dignified life. States are not only required to refrain from causing such harm but must also actively prevent and regulate environmental threats, including those originating from private actors. When states fail to take appropriate and reasonable measures, and Indigenous Peoples suffer nutritional consequences as a result, this may constitute a violation of the right to life.

7.2.4 Banjul Charter

Art. 4 of the Banjul Charter states:

“Human beings are inviolable. Every human being shall be entitled to respect for his life and the integrity of his person. No one may be arbitrarily deprived of this right.”²⁷⁰

²⁶⁶ IACtHR (ed), *Advisory Opinion OC-21/14* (n 253) §61; IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §78.

²⁶⁷ The protection of future generations also applies to the other rights of the ACHR analysed in this thesis.

²⁶⁸ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §119.

²⁶⁹ *ibid* §120.

²⁷⁰ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138).

In addition to the right to life in relation to environmental aspects, the Banjul Charter also incorporates a “right to a general satisfactory environment favorable to their development”.²⁷¹ However, the right to life itself is interpreted broadly and also incorporates environmental protection.²⁷² In the African HR system, the concept of a “dignified life” is also invoked to ensure the effective protection of the right to life.²⁷³ States have broadly defined obligations, as the fulfilment of the right to life depends on the fulfilment of various economic, social, and cultural rights.²⁷⁴ Consequently, violations of these rights can also amount to violations of the right to life.²⁷⁵ States are required to take “preventive steps to preserve and protect the natural environment”,²⁷⁶ and must also “address more chronic [...] threats”.²⁷⁷ This includes the obligation to protect individuals from threats to their right to life posed by private actors.²⁷⁸

In the case *Social and Economic Rights Action Center (SERAC) & the Center for Economic and Social Rights (CESR) v Nigeria*, the African Commission on Human and Peoples’ Rights (ACHPR) held that “the right to food is implicit in the Banjul Charter, in such provisions as the right to life”,²⁷⁹ as the “right to food is inseparably linked to the dignity of human beings”.²⁸⁰ Therefore, states are required to ensure access to adequate food.²⁸¹ One of the minimum duties related to the right to food is to not “allow private parties to destroy or contaminate food sources”.²⁸² As a result, the ACHPR in this case found a violation of the right to life – argued, among other things, on the basis of the lack of adequate food and the contamination of the environment.²⁸³

Applying the African approach to the right to life to the context of marine biodiversity loss caused by plastic pollution, it becomes evident that such environmental degradation may constitute a violation of Art. 4 of the Banjul Charter. The broad interpretation of the right to life – emphasizing not only protection from arbitrary deprivation of life but also the guarantee of a

²⁷¹ *ibid* Art. 24.

²⁷² ACHPR (ed), *General comment no. 3 on the African Charter on Human and Peoples’ Rights* (n 7) §38.

²⁷³ *ibid* §3.

²⁷⁴ *ibid* §6.

²⁷⁵ *ibid* §3.

²⁷⁶ *ibid*.

²⁷⁷ *ibid*.

²⁷⁸ *ibid*.

²⁷⁹ *SERAC and CESR v Nigeria* (2001) 155/96 §64 (ACHPR).

²⁸⁰ *ibid* §65.

²⁸¹ *ibid*.

²⁸² *ibid*.

²⁸³ *ibid* §67.

dignified existence – extends to the fulfilment of social and economic rights, including the right to adequate food.

Plastic pollution, by damaging marine biodiversity, threatens the ecosystems that many Indigenous Peoples rely on for their nutritional needs. As established by the ACHPR in the *SERAC and CESR* case, access to food is inseparably linked to human dignity and is implicitly protected under the right to life. Where states fail to prevent environmental harm caused by private actors – such as through inadequate regulation of plastic waste – this may amount to a failure to meet their obligations under the Charter. Furthermore, the obligation to take preventive steps to preserve the environment, and to address both immediate and chronic environmental threats, applies directly to the context of marine pollution. If the state permits the degradation of marine environments to the extent that food sources become inaccessible or unsafe, this not only violates the right to a satisfactory environment but also undermines the right to life.

Compared to the European and Inter-American systems, the African HR system has fewer precedents on environmental rights and the right to life. This can create uncertainty in legal reasoning and interpretation. The challenges for establishing a violation in this context are similar to those of the UN and the regional systems (see sections before). The Banjul Charter itself doesn't specify the territorial scope of its application.²⁸⁴ Regarding transboundary harms, the ACHPR and AfCHPR have stated that there are extraterritorial obligations of states to “protect or at least, not to violate human rights extends beyond the traditional confines of State territories”.²⁸⁵

In conclusion, the African Charter's broad interpretation of the right to life – encompassing environmental protection and access to adequate food – provides a strong basis for addressing the impacts of marine biodiversity loss on Indigenous Peoples. When plastic pollution degrades marine ecosystems essential for nutrition, it may constitute a violation of Art. 4 if states fail to take preventive action.

7.3 Right to private and family life, home and correspondence

The right to private and family life, home, and correspondence is enshrined in various binding international and regional HR instruments, including the ICCPR, the Banjul Charter, the

²⁸⁴ *Bernard Anbataqyela Mornah v Republic of Benin, Burkina Faso, Republic of Cote D'ivoire, Republic of Ghana, Republic of Mali, Republic of Malawi, United Republic of Tanzania, Republic of Tunisia* (2022) 028/2018 §146 (AfCHPR).

²⁸⁵ *ibid* §149.

ACHR, and the ECHR. The following sections examine which legal bodies are more likely to recognize a violation of this right in the context of marine biodiversity loss caused by plastic pollution – particularly when such environmental harm affects the nutrition of Indigenous Peoples – and which bodies may not interpret the right to encompass this context.

7.3.1 ICCPR

Art. 17(1) of the ICCPR states:

“No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation.”²⁸⁶

For the term “family,” the HRC uses a broad interpretation, stating that who comprises the family depends on the understanding of the society of the state party concerned.²⁸⁷ The HRC further explains that in the case of Indigenous Peoples, the terms “home” and “privacy” must be understood in the context of the special relationship that Indigenous Peoples have with their territories.²⁸⁸

According to General Comment No. 16 on the right to privacy and family life from the HRC, this right must be protected against “interference and attacks whether they emanate from State authorities or from natural or legal persons”.²⁸⁹ In *Pereira et al.* and *Portillo Cáceres*, the HRC interprets this right that states have the obligation to adopt “positive measures to ensure the effective exercise of this right”.²⁹⁰

In *Hopu and Bessert v France*, the HRC found that the interference with traditional lands or resources can violate the right to privacy and family life.²⁹¹ In *Pereira et al.* the HRC found a violation of Art. 17 “on the grounds that their livestock, crops, fruit trees and hunting, fishing and foraging resources are elements of their private life, family life and home and that the lack of State oversight of the agricultural activity at the source of the pollution [...] therefore constitutes arbitrary interference with their privacy, family life and home”.²⁹² Similarly, in *Portillo Cáceres*, the HRC found a violation of Art. 17 because of the contamination of the food sources and the state’s failure to protect the environment: “When pollution has direct repercussions on

²⁸⁶ ICCPR (n 136) Art. 17.

²⁸⁷ HRC (ed), *General comment No. 16: Article 17 (Right to Privacy): The Right to Respect of Privacy, Family, Home and Correspondence, and Protection of Honour and Reputation* (1988) §5.

²⁸⁸ *Pereira et al. v Paraguay* (n 200) §8.2.

²⁸⁹ HRC (ed), *General comment No. 16: Article 17 (Right to Privacy)* (n 287) §1.

²⁹⁰ *Pereira et al. v Paraguay* (n 200) §8.3; *Portillo Cáceres v Paraguay* (n 198) §7.8.

²⁹¹ *Francis Hopu and Tepoaitu Bessert v France* (1997) 549/1993 §10.3 (HRC).

²⁹² *Pereira et al. v Paraguay* (n 200) §8.2.

the right to one's private and family life and home, and the adverse consequences of that pollution are serious because of its intensity or duration and the physical or mental harm that it does, then the degradation of the environment may adversely affect the well-being of individuals and constitute violations of private and family life and the home".²⁹³ Furthermore, in *Portillo Cáceres*, the HRC emphasizes the application of the principle of *culpa in vigilando*, referring to the state's failure to adequately supervise and monitor harmful activities.²⁹⁴ Hence, ground for the violation of Art. 17 in *Pereira et al.* and *Portillo Cáceres* was the lack of resources for self-subsistence and the inadequate monitoring of the pollution – thus, the state failed to prevent the contamination.²⁹⁵ Also in *Billy et al.*, the Human Rights Committee held that the state violated this right because climate change, *inter alia*, reduced marine resources, thereby affecting the applicants' access to traditional sources of nutrition and it emphasized that the long duration of the harm amplifies its severity. Thus, the HRC affirmed that food forms an integral element of private life, family, and home.²⁹⁶

Applying the HRC's interpretation of Art. 17 ICCPR to the context of marine biodiversity loss caused by plastic pollution, it becomes evident that such environmental harm may potentially amount to a violation of the right to privacy and family life. As established in *Pereira et al.*, *Portillo Cáceres*, and *Billy et al.*, the destruction of food resources – such as marine resources relied upon by Indigenous Peoples for subsistence – can constitute arbitrary interference with private and family life.²⁹⁷ The prolonged harm caused by plastics to Indigenous Peoples may heighten the severity of the impact and, consequently, the likelihood of a violation of this right. Particularly the principle of *culpa in vigilando*²⁹⁸ and states' duty to actively monitor harmful environmental activities (also from private entities) could be enforced.

However, applying these principles to the case of plastic pollution presents challenges. Unlike in *Pereira et al.* and *Portillo Cáceres*, where the link between the harmful activity and its impact on the community was more direct, plastic pollution involves a more diffuse and complex causal chain. Identifying responsibility of state inaction may therefore prove more difficult, particularly in light of the transboundary nature of marine pollution and the involvement of multiple actors.

²⁹³ *Portillo Cáceres v Paraguay* (n 198) §7.8.

²⁹⁴ *ibid.*

²⁹⁵ *Pereira et al. v Paraguay* (n 200) §8.4; *Portillo Cáceres v Paraguay* (n 198) §7.8.

²⁹⁶ *Billy et al v Australia* (n 197) §8.12.

²⁹⁷ *Pereira et al. v Paraguay* (n 200) §8.4; *Portillo Cáceres v Paraguay* (n 198) §7.8.

²⁹⁸ *Portillo Cáceres v Paraguay* (n 198) §7.7.

This analysis concludes that Art. 17 ICCPR, as interpreted by the HRC, may be violated in cases of environmental degradation impacting Indigenous Peoples' subsistence resources. This includes harm caused by private actors, with states having a positive duty to protect and supervise such situations, as seen in *Pereira et al.* and *Portillo Cáceres*. These cases show that a lack of oversight leading to environmental damage can amount to arbitrary interference. However, applying this to marine plastic pollution is more complex due to its diffuse causality and trans-boundary nature.

7.3.2 ECHR

Art. 8 of the ECHR states:

- “1. Everyone has the right to respect for his private and family life, his home and his correspondence.
2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.”²⁹⁹

The interpretation of Art. 8 ECHR in environmental cases is guided by the ECtHR's *Guide on Art. 8*,³⁰⁰ the *Guide on the Environment and HR*,³⁰¹ and relevant case-law. Particularly *López Ostra v Spain* is important as it serves as a basis for the development of further environmental cases regarding Art. 8. Four interests are protected under Art. 8: private life, family life, home, and correspondence. A claim must fall within one of these aspects. If it does, the ECtHR assesses whether there was interference.³⁰² To trigger Art. 8 protections, an individual's well-being – specifically in relation to their home, private life, or family life – must be directly and seriously affected by “unsafe or disruptive environmental conditions”.³⁰³ The applicant must demonstrate direct impact,³⁰⁴ and a minimum severity threshold must be met. The severity threshold depends on the specific case, particularly the intensity and duration of the pollution

²⁹⁹ ECHR (n 220) Art. 8.

³⁰⁰ *Guide on Article 8 - Right to respect for private and family life, home and correspondence* (2025).

³⁰¹ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7).

³⁰² (n 300) §1.

³⁰³ *ibid* §190; *Cordella and Others v Italia* (2019) 54414/13 & 54264/15 §§157-160 (ECtHR).

³⁰⁴ (n 300) §190.

and its physical or mental effects on the applicant's health or life.³⁰⁵ Pollution can form a basis for interference.³⁰⁶ In *Pavlov and Others v Russia* the ECtHR made clear that the distance from a source of pollution is not sufficient for excluding a complaint from the application of Art. 8.³⁰⁷ If an interference with Art. 8 is found, the ECtHR then examines whether it was justified in line with Art. 8(2) of the ECHR, requiring that it be in accordance with the law and necessary in a democratic society, often balancing various competing interests.³⁰⁸

Regarding state obligations, negative obligations under Art. 8 primarily serve to protect individuals from arbitrary interferences.³⁰⁹ However, the ECtHR applies a restricted margin of appreciation when issues of individual existence or identity are at stake.³¹⁰ A wider margin is afforded when balancing private and public interests or competing ECHR rights.³¹¹

In terms of positive obligations, states must also ensure that Art. 8 is respected by private parties.³¹² These obligations depend on whether “fundamental values” or “essential aspects” of private life are at issue,³¹³ and on the nature and impact of the obligation.³¹⁴ In *Hämäläinen v Finland*, the ECtHR states that where “a particularly important facet of an individual's existence or identity is at stake, the margin allowed to the State [regarding its positive obligations] will be restricted”.³¹⁵ Additionally, *Klimaseniorinnen* introduced the concept of intergenerational burden-sharing, recognizing legal obligations toward future generations.³¹⁶ Therefore, in *Klimaseniorinnen* the ECtHR discussed measures such as mitigation, adaptation, and procedural safeguards.³¹⁷ However, the type of obligation – whether narrow and precise or broad – must also be taken into account when assessing states' positive obligations.³¹⁸

³⁰⁵ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7) §79; *Fadeyeva v Russia* (2005) 55723/00 §69 (ECtHR); *Cordella and Others v Italia* (n 303) §157.

³⁰⁶ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7) §71; *López Ostra v Spain* (1994) 16798/90 §51 (ECtHR); *Fadeyeva v Russia* (n 305) §69.

³⁰⁷ *Pavlov and Others v Russia* (2023) 31612/09 §64 (ECtHR).

³⁰⁸ ECHR (n 220) §8(2).

³⁰⁹ (n 300) §5; *X and Y v The Netherlands* (1985) 8978/80 §23 (ECtHR); *Von Hannover v Germany (No. 2)* (2012) 40660/08 & 60641/08 §98 (ECtHR); *Libert v France* (2018) 588/13 §43 (ECtHR); *Bărbulescu v Romania* (2017) 61496/08 §108 (ECtHR).

³¹⁰ (n 300) §8; *X and Y v The Netherlands* (n 309) §24.

³¹¹ (n 300) §8.

³¹² *ibid* §5; *Fadeyeva v Russia* (n 305) §89; *Von Hannover v Germany (No. 2)* (n 309) §98; *Bărbulescu v Romania* (n 309) §§108-111.

³¹³ (n 300) §8.

³¹⁴ *ibid* §7; *X and Y v The Netherlands* (n 309) §27.

³¹⁵ *Hämäläinen v Finland* (2014) 37359/09 §67 (ECtHR).

³¹⁶ *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (n 155) §§419-420.

³¹⁷ (n 300) §15; *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (n 155) §§549-554.

³¹⁸ *Hämäläinen v Finland* (n 315) §66.

However, in *Kyrtatos v Greece* the ECtHR declared inadmissible a claim under Art. 8 concerning biodiversity loss from urban development, as it did not directly affect the applicants' private or family life or home³¹⁹ – highlighting the ECtHR's anthropocentric approach and the absence of a standalone right to a clean environment under the Convention. Still, Art. 8 may apply in environmental cases whether pollution is directly caused by the state or results from a failure to regulate private sector activities adequately.³²⁰

Applying the foregoing to the context of this thesis, it is crucial that the ECtHR affirms that pollution can be a ground for an interference with Art. 8, especially when it seriously and directly affects the individual's well-being.³²¹ However, the ECtHR more often refers to health impacts than to impacts on nutrition as a ground for interference. Therefore, the severity threshold must be set newly for cases regarding food resources, and it must be clarified if food is contained in the "essential aspects" of private life³²² or is "a particularly important facet of an individual's existence or identity"³²³ that the ECtHR requires for the realization of Art. 8. The severity threshold would need to be examined in light of the specific intensity and duration of the pollution, as well as the extent to which the marine biodiversity loss affects nutrition, health, and cultural identity – particularly for Indigenous Peoples. In contrast to cases like *Kyrtatos*, where the loss of biodiversity was not deemed to affect the applicants directly, a strong argument could be made that the destruction of food sources and ecosystems tied to daily subsistence meets the direct impact requirement. Moreover, where such resources are closely linked to cultural identity or traditional ways of life, the argument can be made that a "particularly important facet" of identity is at stake,³²⁴ thereby narrowing the state's margin of appreciation. If it is sufficiently shown that marine biodiversity loss caused by plastic pollution meets this minimum threshold by interfering with subsistence, cultural practices, and daily living conditions, a violation could be considered.

That states do have positive obligations regarding Art. 8 and can be found responsible for the actions of private parties is important in the case of plastic pollution, since a lot of plastics come from private parties.³²⁵ Finally, the case *Klimaseniorinnen* shows that states are expected

³¹⁹ *Kyrtatos v Greece* (2003) 41666/98 §53 (ECtHR).

³²⁰ (n 300) §190.

³²¹ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7) §71; *López Ostra v Spain* (n 306) §51; *Fadeyeva v Russia* (n 305) §69.

³²² (n 300) §7; *X and Y v The Netherlands* (n 309) §27.

³²³ *Hämäläinen v Finland* (n 315) §67.

³²⁴ *ibid* §42.

³²⁵ UNEP, 'FROM POLLUTION TO SOLUTION' (n 9); UNEP, 'Neglected: Environmental Justice Impacts of Marine Litter and Plastic Pollution' (n 8).

to implement forward-looking safeguards in response to environmental harm. This may also be relevant in cases of plastic pollution, especially where long-term degradation threatens both current and future generations.³²⁶

In conclusion, it can be said that pollution may amount to an interference with Art. 8 ECHR where it seriously and directly affects an individual's well-being. While the ECtHR has primarily addressed health-related impacts of pollution, the destruction of food resources due to marine biodiversity loss could also meet the severity threshold – particularly when it threatens subsistence, health, and cultural identity, especially for Indigenous Peoples. In such cases, the interference may concern a “particularly important facet” of identity, narrowing the state's margin of appreciation. States also have positive obligations under Art. 8, including protection from harm caused by private actors, which is relevant for plastic pollution. Furthermore, as *Klimaseniorinnen* illustrates, states are expected to adopt forward-looking safeguards, a duty that may apply equally to the long-term risks of marine pollution.

7.3.3 ACHR

Art. 11 of the ACHR states:

- “1. Everyone has the right to have his honor respected and his dignity recognized.
2. No one may be the object of arbitrary or abusive interference with his private life, his family, his home, his correspondence, or of unlawful attacks on his honor or reputation.
3. Everyone has the right to the protection of the law against such interference or attacks.”³²⁷

Art. 17(1) of the ACHR further states:

“The family is the natural and fundamental group unit of society and is entitled to protection by society and the state.”³²⁸

In its Adv. Op. 23/17, the IACtHR notes that the right to a private life is particularly vulnerable to environmental harms and grounds that on judgments from the ECtHR.³²⁹ In its Adv. Op.

³²⁶ *Verein Klimaseniorinnen Schweiz and Others v Switzerland* (n 155) §§419-420.

³²⁷ American Convention on Human Rights "Pact of San Jose, Costa Rica" (n 236) Art. 11.

³²⁸ *ibid* §17(1).

³²⁹ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §66; *Moreno Gómez v Spain* (2004) 4143/02 (ECtHR); *López Ostra v Spain* (n 306).

32/25 on climate change, the IACtHR underscores the importance of safeguarding family unity when it is threatened by climate disasters or other forms of environmental harm.³³⁰ However, no cases before the IACtHR with violations of Arts. 11 and 17 of the ACHR have been found in connection with pollution and environmental harm so far. In the case *Yakye Axa Community*, the IACtHR did not find a violation of Art. 11. However, Judge A. Abreu Burelli made clear in his dissenting opinion that Art. 11 includes “protection of [ethnic and cultural groups’] culture and respect for the integrity of the values, practices and institutions of these peoples” and that Art. 11 includes that everyone is free from hunger.³³¹ In *La Oroya*, the IACtHR recalls Art. 11 and its right “to have his honor respected and his dignity recognized”.³³² However, it does not examine Art. 11 more deeply but instead focuses on the examination of a violation of the right to life. Nevertheless, in *I.V. v Bolivia* the IACtHR ruled a landmark decision on reproductive rights³³³ what shows that the IACtHR is willing to apply Arts. 11 and 17 to new contexts.

That Arts. 11 and 17 are used less in the context of pollution, environmental harm, and Indigenous rights might be because the IACtHR incorporates health and nutrition already in its interpretation of the right to life. Cases like *Street Children v Guatemala*, *Sawhoyamaxa Indigenous Community v Paraguay*, *Yakya Axa Community v Paraguay*, *La Oroya v Peru* and *Xákmok Kásek Indigenous Community v Paraguay* are assessed mainly on the grounds of the right to life. When looking at the case-law, a violation of Arts. 11 and 17 is therefore not as likely to be found by the IACtHR as by the HRC or ECtHR. However, the IACtHR is not bound by its case-law, and new precedent could be built that enables findings of violations of Arts. 11 and 17. Also the content of Arts. 11 and 17 would allow similarly to the provisions of the ICCPR and the ECHR interpretations that could potentially lead to violations of Arts. 11 and 17.

7.3.4 Banjul Charter

Art. 18 of the Banjul Charter states:

- “1. The family shall be the natural unit and basis of society. It shall be protected by the State which shall take care of its physical health and moral.
2. The State shall have the duty to assist the family which is the custodian or morals and traditional values recognized by the community.

³³⁰ IACtHR (ed), *Advisory Opinion OC-32/25* (n 7) §§404-405.

³³¹ *Yakye Axa Indigenous Community v Paraguay* (n 139): Dissenting Opinion Judge A. Abreu Burelli.

³³² *The Inhabitants of La Oroya v Peru* (n 247) §221.

³³³ *I.V. v Bolivia* (2016) 329 (IACtHR).

3. The State shall ensure the elimination of every discrimination against women and also ensure the protection of the rights of the woman and the child as stipulated in international declarations and conventions.

4. The aged and the disabled shall also have the right to special measures of protection in keeping with their physical or moral needs.”³³⁴

In the Banjul Charter there is no explicit right to private life.

In the case *SERAC & the CESR*, the ACHPR took housing into account when finding a violation of Art. 18, but not food.³³⁵ It states that “well-being” and the right to food sources are included in the right to life, the right to health and the right to economic, social and cultural development.³³⁶ Therefore, it is unlikely that the AfCHPR finds a violation of Art. 18 based on the impacts of marine biodiversity loss caused by plastic pollution on Indigenous Peoples’ nutrition.

7.4 Rights regarding culture

This chapter focuses on the relationship between culture and food in the context of the thesis. While other violations of the right to take part in cultural life could arise from the impacts of marine biodiversity loss – for example, on spiritual aspects – the emphasis here is on a potential violation of this right through the effects on Indigenous Peoples’ traditional nutrition.

The ECHR does not explicitly enshrine a right to culture. Nevertheless, in certain cases, the ECtHR has taken cultural identity into consideration. In *Chapman v The United Kingdom*, the ECtHR clarified that Art. 8 can encompass the right to maintain a minority identity, and that states have an “obligation to protect their security, identity and lifestyle”.³³⁷ A case partially related to the context of this thesis is *Hingitq 53 and Others v Denmark*, in which Indigenous Peoples in Greenland submitted a claim under Art. 8 and the right to property pursuant to Art. 1 of Protocol 1³³⁸ to the ECHR. Their application included the argument that they could no longer hunt on their traditional lands, thereby raising, among other things, an issue related to traditional nutrition. However, the case was declared inadmissible due to a lack of jurisdiction *ratione temporis*.³³⁹ As such, the ECtHR lacks significant precedent relevant to the context of

³³⁴ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 18.

³³⁵ *SERAC and CESR v Nigeria* (n 279) §59.

³³⁶ *ibid* §64.

³³⁷ *Chapman v The United Kingdom* (2001) 27238/95 §93 (ECtHR).

³³⁸ Protocol 1 to the ECHR 1952 (Council of Europe).

³³⁹ *Hingitq 53 and Others v Denmark* (2004) 18584/04 (ECtHR).

this thesis. Nonetheless, it does incorporate cultural considerations in certain cases, and a claim based on a violation of cultural identity could potentially influence the determination of a rights violation.³⁴⁰

7.4.1 ICESCR

Art. 15(1) of the ICESCR states:

“The States Parties to the present Covenant recognize the right of everyone: (a) To take part in cultural life”.³⁴¹

The CESCR understands culture as an “interactive process”,³⁴² encompassing “ways of life, [...] methods of production or technology, natural and man-made environments, food, [...] customs, and traditions through which individuals, groups of individuals, and communities express their humanity and the meaning they give to their existence”.³⁴³ It clarifies that “participating” or “taking part” in cultural life entails participation in, access to, and contribution to cultural life. This includes the ability to act freely, choose one’s own identity, and engage in one’s own cultural practices,³⁴⁴ and having access to essential “cultural goods and resources such as land, water, biodiversity” necessary to follow a particular way of life.³⁴⁵ The CESCR further underscores the “need to take into account, as far as possible, cultural values attached to, *inter alia*, food and food consumption”.³⁴⁶

With regard to Indigenous Peoples’ right to culture, the CESCR references the UNDRIP, stating that “the strong communal dimension of indigenous peoples’ cultural life is indispensable to their existence [...] and includes the right to their lands, territories, and resources which they have traditionally owned, occupied, or otherwise used or acquired”.³⁴⁷ In line with this, the CESCR highlights that Indigenous Peoples’ means of subsistence and traditional natural resources must be protected.³⁴⁸

³⁴⁰ ECtHR and Council of Europe (eds), *Research report: Cultural rights in the case-law of the European Court of Human Rights* (2011).

³⁴¹ ICESCR (n 137) 15(1).

³⁴² CESCR (ed), *General comment No. 21: Right of everyone to take part in cultural life (art. 15, para 1 (a), of the International Covenant on Economic, Social and Cultural Rights)* (2009) §12.

³⁴³ *ibid* §13.

³⁴⁴ *ibid* §15(a).

³⁴⁵ *ibid* §15(b).

³⁴⁶ *ibid* §26(e).

³⁴⁷ United Nations Declaration of the Rights of Indigenous Peoples (n 102) Art. 26(a).

³⁴⁸ CESCR (ed), *General comment No. 21* (n 344) §36.

The ICESCR requires the “progressive” realization of its rights, depending on the availability of resources. However, the CESCRC simultaneously emphasizes that states must take “deliberate and concrete measures” to achieve this aim.³⁴⁹ The obligation to respect entails that states must refrain from interfering with cultural practices and the goods necessary for these practices, and must do so without discrimination.³⁵⁰ In addition to this negative obligation, states also hold positive duties. The obligation to protect means that states must prevent third parties from negatively impacting the right to take part in cultural life,³⁵¹ which includes the responsibility to regulate the corporate sector and other non-state actors.³⁵² Furthermore, the obligation to fulfil requires states to adopt “legislative, administrative, judicial, budgetary, promotional and other measures”³⁵³ to enable individuals and collectives to participate in their culture and choose their own way of life.³⁵⁴ States also bear international obligations, particularly with respect to economic and technical cooperation aimed at realizing this right.³⁵⁵ In this regard, when engaging in negotiations with international financial institutions or concluding bilateral agreements, states must give due consideration to their duty to realize the right to take part in cultural life.³⁵⁶

Pollution is not specifically mentioned by the CESCRC as a threat to the right to take part in cultural life. However, in General Comment No. 21, the CESCRC places significant emphasis on Indigenous Peoples’ right to participate in cultural life and highlights the importance of access to traditional resources for food and particularly mentions the access to biodiversity under the protection of this right.³⁵⁷ This interpretation could serve as a basis for finding a violation in the context of the thesis. In particular, the fulfilment of this right through positive measures may be crucial: the CESCRC could potentially determine, for example, that states have failed to meet their obligations of international cooperation, which is especially important in addressing transnational crises such as plastic pollution, or that they have not enacted appropriate legislation to regulate plastic pollution. In such cases, a failure by the state to guarantee this right could constitute a violation through omission.

³⁴⁹ *ibid* §45.

³⁵⁰ *ibid* §§6, 44 & 48.

³⁵¹ *ibid* §48.

³⁵² *ibid* §73.

³⁵³ *ibid* §48.

³⁵⁴ *ibid* §§48 & 52(b).

³⁵⁵ *ibid* §56.

³⁵⁶ *ibid* §59.

³⁵⁷ *ibid* §16(e).

7.4.2 ICCPR

Art. 27 of the ICCPR states:

“In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language.”³⁵⁸

Art. 27 protects minority groups that share a common culture, religion, and/or language.³⁵⁹ While states retain their sovereignty and territorial integrity, the HRC affirms that “culture manifests in many forms, including a particular way of life associated with the use of land resources, especially in the case of indigenous peoples”.³⁶⁰ This includes traditional activities such as fishing.³⁶¹ The HRC also bases its decision on General Comment No. 21 of the CESCR emphasizing the importance of the relationship of Indigenous Peoples with their territory and natural resources, and its importance for economic survival and spirituality.³⁶²

States have positive obligations to ensure the protection of minority groups through legislative, judicial, or administrative measures.³⁶³ In doing so, they are required to apply the principles of equality and non-discrimination, as outlined in Arts. 2.1 and 26 of the ICCPR.³⁶⁴ This means that any measures taken must aim to correct existing conditions in order to guarantee the rights protected under Art. 27. There must also be a legitimate basis for distinguishing between groups, minorities, and the broader population.³⁶⁵ Moreover, they must ensure effective participation and obtain free, prior, and informed consent when implementing measures that interfere with the rights of Indigenous Peoples.³⁶⁶ These obligations extend to all minorities who “exist” within the state’s territory, even if they are not citizens of a state party or do not reside there permanently.³⁶⁷ States are also responsible for addressing the impacts caused by other actors within their jurisdiction.³⁶⁸ In *Billy et al.*, the HRC decided that “the State party’s failure to

³⁵⁸ ICESCR (n 137) Art. 27.

³⁵⁹ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (1994) §1.

³⁶⁰ *ibid* §7.

³⁶¹ *ibid*; *Pereira et al. v Paraguay* (n 200) §8.6; *Poma Poma v Peru* (2009) 1457/2006 §7.2 (HRC); *Ågren et al. v Sweden* (2020) 54/2013 §6.6 (CERD).

³⁶² *Pereira et al. v Paraguay* (n 200) §8.6; CESCR (ed), *General comment No. 21* (n 344) §36.

³⁶³ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §§6.1 & 6.2.

³⁶⁴ ICCPR (n 136) Arts. 2.1 & 26.

³⁶⁵ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §6.2.

³⁶⁶ *ibid* §6.1; United Nations Declaration of the Rights of Indigenous Peoples (n 102) art. 32; *Poma Poma v Peru* (n 363) §7.2; *Ågren et al. v Sweden* (n 363) §6.7.

³⁶⁷ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §§5.1 & 5.2.

³⁶⁸ *ibid* §6.1.

adopt timely adequate adaptation measures to protect the authors' collective ability to maintain their traditional way of life and to transmit to their children and future generations their culture and traditions and use of land and sea resources discloses a violation" of Art. 27.³⁶⁹

When applying the foregoing to the context of the thesis, it becomes clear that the incorporation of food resources as an integral part of culture, with fishing specifically mentioned as an example, is an important aspect.³⁷⁰ As demonstrated in *Pereira et al.*, where the Indigenous community was deeply connected to its territory and the use of natural resources, including traditional fishing, and where pollution disrupted these practices,³⁷¹ the HRC found a violation on these grounds. Similarly, in *Billy et al.*, the HRC found a violation due to the state's failure to adopt timely and adequate measures to protect the cultural identity and essential resources of the applicants and future generations from environmental harm.³⁷² Many coastal Indigenous communities' livelihoods, their cultures and nutrition are closely tied to marine resources and biodiversity (see Chapter 4). Accordingly, the HRC could reach a similar conclusion in the context of this thesis, recognizing that plastic pollution has long-term impacts on the identity and cultural practices such as traditional nutrition of Indigenous Peoples by reducing marine biodiversity and, consequently, their traditional food sources. Furthermore, states hold positive obligations to prevent harm caused by other actors. This aspect is particularly relevant here, as marine plastic pollution is not always directly caused by states themselves.

7.4.3 ACHR

The ACHR does not contain a specific Art. explicitly enshrining the right to culture. However, in his dissenting opinion in *Yakye Axa Indigenous Community*, judge A. Abreu Burelli asserts that "the right to cultural identity, while not explicitly set forth, is protected in the treaty based on an evolutionary interpretation of the content of the rights embodied in its Arts. 1(1), 5, 11, 12, 13, 15, 16, 17, 18, 21, 23 and 24".³⁷³ Judge O. Ruiz-Chiriboga concurs with this view and even extends the list to include Arts. 8 and 14.³⁷⁴ In *Kichwa Indigenous People of Sarayaku v Ecuador*, the IACtHR affirmed that "the right to cultural identity is a fundamental right – and one of a collective nature – of the indigenous communities, which should be respected in a multicultural, pluralistic and democratic society. This means that states have an obligation to

³⁶⁹ *Billy et al v Australia* (n 197) §8.14.

³⁷⁰ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §7.

³⁷¹ *Pereira et al. v Paraguay* (n 200).

³⁷² *Billy et al v Australia* (n 197) §8.14.

³⁷³ *Yakye Axa Indigenous Community v Paraguay* (n 139) §24.

³⁷⁴ Oswaldo Ruiz Chiriboga, 'The right to cultural identity of indigenous peoples and national minorities: a look from the Inter-American System' (2006) 5 *Sur International journal on human rights* 42, 51.

ensure that indigenous peoples are properly consulted on matters that affect or could affect their cultural and social life, in accordance with their values, traditions, customs and forms of organisation”.³⁷⁵

To enforce the right to cultural identity, the IACtHR interprets various Arts. of the ACHR in ways that ensure its protection. A key provision is the right to life (Art. 4), which the IACtHR interprets through the lens of a dignified life, incorporating cultural dimensions. This has been evident in cases such as *Street Children*, *Yakye Axa Indigenous Community*, and *Sawhoyamaxa Indigenous Community*.³⁷⁶ Judges A.A. Cançado Trindade and M.E. Ventura Robles underscore that “cultural identity is a component or is attached to the right to life *lato sensu*; thus, if cultural identity suffers, the very right to life of the members of said indigenous community also inevitably suffers”.³⁷⁷

Furthermore, Art. 1(1), which prohibits discrimination, can also serve as a foundation for the protection of cultural identity. In *Kichwa Indigenous Peoples of Sarayaku*, the IACtHR emphasized that cultural identity must be considered when evaluating HR violations under the ACHR.³⁷⁸ In *Lhaka Honhat v Argentina*, Art. 26 has also been used to safeguard Indigenous Peoples’ cultural identities,³⁷⁹ potentially opening avenues for environmental rights claims.³⁸⁰

Chapter 4 demonstrates that the food of coastal Indigenous Peoples is not only essential for their survival but also integral to their cultural identity. Consequently, the preservation of Indigenous food traditions – and therefore the protection of the right to cultural identity – is closely dependent on the health and diversity of marine biodiversity. Taking into account that the IACtHR frequently applies an evolutionary interpretation of the ACHR and interprets its Arts. in a way that allows for the protection of cultural identity, it is possible that the IACtHR finds a HR violation related to cultural identity and traditional nutrition in the context of the thesis. In particular, a violation of the right to life – understood through the concept of a dignified life – could be found. The protection of cultural identity could therefore serve as one of

³⁷⁵ *Kichwa Indigenous People of Sarayaku v Ecuador* (n 139) §217.

³⁷⁶ “*Street Children*” (*Villagran-Morales et al.*) v *Guatemala* (n 242); *Yakye Axa Indigenous Community v Paraguay* (n 139); *Sawhoyamaxa Indigenous Community v Paraguay* (n 244).

³⁷⁷ Dissenting opinion of opinion A.A. Cançado Trindade and M.E. Ventura Robles in *Yakye Axa Indigenous Community v Paraguay* (n 139) §18.

³⁷⁸ *Kichwa Indigenous People of Sarayaku v Ecuador* (n 139) §213.

³⁷⁹ *Indigenous Communities of the Lhaka Honhat (our Land) Association v Argentina* C-400 (IACtHR).

³⁸⁰ Katarzyna Zombory, ‘The Right to Cultural Identity in the Case Law of the Inter-American Court of Human Rights: A New Global Standard for the Protection of Indigenous Rights and Future Generations?’ (2023) 18(34) JAEL 171, 171–173.

several grounds upon which a violation of Art. 4 might be based. A further interpretation of Art. 4 is examined in the context of the thesis in chapter 5.2.3.

7.4.4 Banjul Charter

Art. 17 of the Banjul Charter states:

- “2. Every individual may freely, take part in the cultural life of his community.
3. The promotion and protection of morals and traditional values recognized by the community shall be the duty of the State.”³⁸¹

The ACHPR understands “culture” as a “complex whole which includes a spiritual and physical association with one's ancestral land, knowledge, belief, art, law, morals, customs and any other capabilities and habits [...] encompass[ing] a group's religion, language, and other defining characteristics”.³⁸² It further cites the HRC, which states that culture “manifests itself in many forms, including a particular way of life associated with the use of land resources, especially in the case of indigenous peoples. That right may include such traditional activities as fishing”.³⁸³ According to the ACHPR, Art. 17 “protects all forms of culture”.³⁸⁴ The protection of culture is particularly important when it comes to Indigenous Peoples.³⁸⁵ “Violations of cultural rights take different forms and are caused by a combination of factors. For instance, the loss of key productive resources is impacting negatively on indigenous peoples' cultures, denying them the right to maintain the livelihood of their own choice”.³⁸⁶ Art. 17 of the ACHPR has a dual dimension, protecting both individuals' participation in cultural life and the collective values of communities.³⁸⁷ Further, it has no claw-back clause, which the ACHPR in *Centre for Minority Rights Development (Kenya) and Minority Rights Group v Kenya* interprets to mean that in very few, if any, circumstances can Art. 17 be limited.³⁸⁸

³⁸¹ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 17.

³⁸² *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (2009) 276/03 §241 (AfCHPR).

³⁸³ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §7; *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384) §243.

³⁸⁴ *ACHPR v Republic of Kenya* (2017) 006/2012 §178 (AfCHPR).

³⁸⁵ ACHPR (ed), *Indigenous Peoples in Africa: The Forgotten Peoples?: The African Commission's work on indigenous peoples in Africa* (2006) 17; *ACHPR v Republic of Kenya* (n 386) §180.

³⁸⁶ ACHPR (ed), *Indigenous Peoples in Africa: The Forgotten Peoples?* (n 387) 17.

³⁸⁷ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 17; *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384) §241; *ACHPR v Republic of Kenya* (n 386) §177.

³⁸⁸ *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384) §249.

States have several obligations under this provision. They must not destroy or weaken minority groups and must respect and protect cultural heritage that is crucial for a group's identity.³⁸⁹ Moreover, they must take measures that aim at the conservation, development, and diffusion of culture.³⁹⁰

The AfCHPR understands culture as a broad concept which could also encompass the traditional nutrition of Indigenous Peoples.³⁹¹ Cultural traditions and Indigenous Peoples' nutrition are often deeply connected with the sea and its resources (see chapter 4). If the means of survival – meaning the marine food resources necessary for traditional nutrition – are evicted because of marine biodiversity loss caused by plastic pollution, it is likely that a violation of Art. 17 is found. Similarities exist to the case *ACHPR v Republic of Kenya*, where a violation of Art. 17 was found, *inter alia*, because of the eviction of means of survival.³⁹² However, there is no case yet that rules on Art. 17 and which's basis is biodiversity loss or pollution. Limitations could occur through the complexity of biodiversity and plastic pollution, since these phenomena include responsibilities from different states and a lot of scientific research to have clarity about the sources of the harms (if clarity can be reached at all).

7.5 Right to health

Microplastics can have impacts on human health.³⁹³ In this chapter an overview over the right to health and its application to environmental cases is given. However, giving a detailed analysis of the health impacts of microplastics on Indigenous Peoples' through their nutrition based on marine resources would go beyond the scope of this thesis.

7.5.1 ICESCR

Art. 12 of the ICESCR states:

“1. The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

³⁸⁹ Cultural Charter for Africa 1976 (OAU) §9 and Arts. 3, 5, 8(a); *ACHPR v Republic of Kenya* (n 386) §179.

³⁹⁰ *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384) §246.

³⁹¹ *ibid* §241; *ACHPR v Republic of Kenya* (n 386) §178.

³⁹² *ACHPR v Republic of Kenya* (n 386) §182.

³⁹³ Joana C Prata and others, 'Environmental exposure to microplastics: An overview on possible human health effects' (2020) 702 *The Science of the total environment* 134455.

2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for:

- (a) The provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child;
- (b) The improvement of all aspects of environmental and industrial hygiene;
- (c) The prevention, treatment and control of epidemic, endemic, occupational and other diseases;
- (d) The creation of conditions which would assure to all medical service and medical attention in the event of sickness.”³⁹⁴

In its General Comment No. 14, the CESCR clarifies that the right to health is strongly connected with other rights such as the right to food, life, and non-discrimination.³⁹⁵ Thus, Art. 12(2)(b) also incorporates “an adequate supply of food and proper nutrition”.³⁹⁶ Furthermore, the CESCR considers the “reduction of the population’s exposure to harmful substances such as [...] detrimental environmental conditions that directly or indirectly impact upon human health” as crucial for the fulfilment of the right to health.³⁹⁷ Regarding Indigenous Peoples’ rights, the CESCR particularly notes that the health of Indigenous Peoples depends on the health of society as a whole and emphasizes their links to their territories and environment, among others, for their nutrition.³⁹⁸

In order to realize the right to health, states must refrain from unlawfully polluting air, water, and soil.³⁹⁹ They have the obligation to prevent third parties from interfering with the guarantees of Art. 12,⁴⁰⁰ and they must adopt “appropriate legislative, administrative, budgetary, judicial, promotional and other measures”.⁴⁰¹ Furthermore, they must “recognize the essential role of international cooperation”⁴⁰² and ensure that “their actions as members of international organizations take due account of the right to health”.⁴⁰³ However, the CESCR also recognizes

³⁹⁴ ICESCR (n 137) Art. 12.

³⁹⁵ CESCR (ed), *General comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)* (2000) §3.

³⁹⁶ *ibid* §§10 & 15.

³⁹⁷ *ibid* §15.

³⁹⁸ *ibid* §27.

³⁹⁹ *ibid* §34.

⁴⁰⁰ *ibid* §33.

⁴⁰¹ *ibid* §36.

⁴⁰² *ibid* §39.

⁴⁰³ *ibid*.

obstacles stemming from international and other factors that are beyond the control of states and that create barriers to the realization of Art. 12.⁴⁰⁴ For a violation to occur, it is necessary to distinguish between a state's inability and its unwillingness to take action to comply with Art. 12.⁴⁰⁵ Nevertheless, there are obligations with immediate effect: states must "take steps [...] towards the full realization of Art. 12".⁴⁰⁶ Yet, there have not been cases on the right to health in relation to environmental harm or plastic pollution before the CESC.

In the context of the thesis, the right to health could be relevant since it also incorporates the right to proper nutrition⁴⁰⁷ and since the CESC acknowledges the harm of contaminants to health. Thus, states could be forced to take more effective action in order to realize the right to health when it comes to reducing plastic pollution and protecting marine ecosystems that are necessary for Indigenous Peoples' nutrition and health. However, since the impacts of plastic pollution mostly stem from more than one state actor, and the CESC acknowledges obstacles from other international actors which lead to an inability of states to act, this could be a limitation of the right to health.

7.5.2 Banjul Charter

Art. 16 of the Banjul Charter states:

"1. Every individual shall have the right to enjoy the best attainable state of physical and mental health.

2. States parties to the present Charter shall take the necessary measures to protect the health of their people and to ensure that they receive medical attention when they are sick."⁴⁰⁸

In its jurisprudence, the ACHPR considers the right to food to be implicitly protected under the right to health.⁴⁰⁹ It further holds that states bear environmental obligations in order to realize Art. 16.⁴¹⁰ These obligations include "not carrying out, sponsoring or tolerating any practice, policy or legal measures violating the integrity of the individual",⁴¹¹ monitoring threatened

⁴⁰⁴ *ibid* §5.

⁴⁰⁵ *ibid* §47.

⁴⁰⁶ *ibid* §30; ICESC (n 137) Art. 2(1).

⁴⁰⁷ CESC (ed), *General comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)* (n 397) §§10 & 15.

⁴⁰⁸ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 16.

⁴⁰⁹ *SERAC and CESR v Nigeria* (n 279) §64.

⁴¹⁰ *ibid* §51.

⁴¹¹ *ibid* §52.

environments,⁴¹² and providing opportunities for individuals to be heard and to participate in decision-making processes.⁴¹³

In the context of this thesis, it is important that states have obligations regarding people's nutrition and that environmental protection is crucial for the realization of the right to health. Therefore, marine plastic pollution – also when states finance or tolerate it – could, due to its negative impacts on Indigenous Peoples' nutrition and health, potentially constitute a violation of the right to health under the African HR system.

The ACHR and ECHR don't explicitly contain the right to health.

7.6 Other provisions

This chapter gives a non-exhaustive overview on other rights that could be relevant in the context of the thesis. A detailed analysis would go beyond the scope of this thesis. Nevertheless, brief insights are offered, with more in-depth literature referenced in the footnotes.

Right to a clean, healthy and sustainable environment

In the ICCPR and ICESCR, environmental rights are not explicitly mentioned. However, in 2021, the UN HR Council recognized the right to a clean, healthy and sustainable environment,⁴¹⁴ and in 2022 the UN General Assembly (GA) followed with a resolution affirming the same right.⁴¹⁵ Furthermore, the ICJ recognizes that the “right to a clean, healthy and sustainable environment is essential for the enjoyment of other human rights”.⁴¹⁶ In the Interamerican system, the right to a healthy environment is enshrined in the Protocol of San Salvador.⁴¹⁷ Nevertheless, this right is not justiciable. However, the IACtHR clearly recognizes the interdependence of HR and environmental protection, as well as the interrelation of all HR.⁴¹⁸ In its Adv. Op. 32/25, the IACtHR goes even further and clarifies that nature has the right to maintain its essential ecological processes⁴¹⁹ and that “prohibitions derived from the obligation to preserve

⁴¹² *ibid* §53.

⁴¹³ *ibid*.

⁴¹⁴ HR Council (ed), *Resolution adopted by the Human Rights Council on 8 October 2021: 48/13. The human right to a clean, healthy and sustainable environment* (2021).

⁴¹⁵ Resolution adopted by the General Assembly on 28 July 2022, 76/300. The human right to a clean, healthy and sustainable environment (UN GA).

⁴¹⁶ ICJ (ed), *Obligations of states in respect of climate change* (n 7) §393.

⁴¹⁷ Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (n 182) Art. 11.

⁴¹⁸ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §47; IACtHR (ed), *Advisory Opinion OC-32/25* (n 7).

⁴¹⁹ IACtHR (ed), *Advisory Opinion OC-32/25* (n 7) §279.

our common ecosystem [...] have the character of *jus cogens*”.⁴²⁰ In the African HR system, a General Comment on the Protection and Promotion of the Right to environment in Africa has been requested. This comment aims to analyse the environmental obligations of states arising from Arts. 21 (right of peoples to freely dispose of their wealth and natural resources) and 24 (right to a general satisfactory environment favorable to their development)⁴²¹ of the Banjul Charter and from the Revised African Convention on the Conservation of Nature and Natural Resources.⁴²² In its case law, the AfCHPR has already clarified that states have environmental obligations arising, *inter alia*, from Arts. 21 and 24 of the Banjul Charter.⁴²³ It is anticipated that by the end of 2025, the AfCHPR will issue its Adv. Op. on climate change, which may provide novel interpretative frameworks for understanding rights related to environmental issues. Within the ECHR framework, no explicit right to a healthy environment exists. However, environmental concerns can be incorporated into other rights, as the preceding analysis has shown.⁴²⁴ Furthermore, discussions are underway regarding the adoption of an Additional Protocol recognizing the right to a clean, healthy, and sustainable environment.⁴²⁵ In conclusion, while the European HR system adopts a predominantly anthropocentric approach and so far does not explicitly recognize a right to a clean, healthy, and sustainable environment, the right to a clean, healthy and sustainable environment is directly enshrined in both the ACHR and ACHPR and is recognized by the ICJ and the UN GA. Notably, through its Adv. Op. 32/25 on climate change, the IACtHR has advanced a more progressive stance, exceeding the scope of other regional HR mechanisms in addressing environmental issues.

Right to Development

Art. 26 of the ACHR, the right to progressive development provides space for economic, social and cultural rights.⁴²⁶ In its interpretation of Art. 26, the IACtHR also includes the right to food and established precedents which show that environmental protection is crucial to the right to

⁴²⁰ *ibid* §291; *The Inhabitants of La Oroya v Peru* (n 247) serves as an example of protection of this right.

⁴²¹ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138).

⁴²² ACHPR, ‘Resolution on Developing General Comment on the Protection and Promotion of the Right to environment in Africa - ACHPR/Res.633 (LXXXIII) 2025’ (3 June 2025) accessed 26 July 2025.

⁴²³ *SERAC and CESR v Nigeria* (n 279) §§51 & 52; *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384) §§120-124; *ACHPR v Republic of Kenya* (n 386) §§216-217; *LIDHO et al. v Côte d’Ivoire* (2023) 041/2016 §§178-186 (AfCHPR).

⁴²⁴ ECtHR (ed), *Guide on the case-law of the European Court of Human Rights* (n 7); *Verein Klimasenioren Schweiz and Others v Switzerland* (n 155); *López Ostra v Spain* (n 306); *Fadeyeva v Russia* (n 305).

⁴²⁵ Steering Committee for HR (CDDH), ‘CDDH study on the need for and feasibility of a further instrument or instruments in the field of human rights and the environment’ (29 November 2024).

⁴²⁶ American Convention on Human Rights "Pact of San Jose, Costa Rica" (n 236) Art. 26.

food.⁴²⁷ In the Banjul Charter, the right to economic, social and cultural development is enshrined in Art. 22.⁴²⁸ The AfCHPR's jurisprudence makes clear that this provision can also be interpreted to include the right to food.⁴²⁹ Thus, the right to development may also be adversely affected, potentially giving rise to a violation within the context of this thesis.

Right to self-determination

Art. 1, the right to self-determination under the ICCPR and ICESCR, is not cognizable alone under the Optional Protocol but can be claimed together with other provisions such as Art. 27 of the ICCPR (cultural rights of minorities) or Art. 11 ICESCR (right to adequate food).⁴³⁰ Furthermore, the right to self-determination can be connected with the right to a clean, healthy and sustainable environment and the control over environmental resources in order to be able to "freely pursue their economic, social and cultural development".⁴³¹ The Banjul Charter as well includes the right to self-determination in Art. 20 and could be used for a potential claim in the context of the thesis.⁴³²

Other provisions

Also the right to property,⁴³³ the right to natural resources in the African HR system⁴³⁴ and the respect for dignity and prohibition of torture⁴³⁵ might be relevant to the context of the thesis.

⁴²⁷ IACtHR (ed), *Advisory Opinion OC-23/17* (n 7) §109; IACtHR (ed), *Advisory Opinion OC-32/25* (n 7) §§435-440; *Indigenous Communities of the Lhaka Honhat (our Land) Association v Argentina* (n 381) §§201-230 & 274.

⁴²⁸ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 22.

⁴²⁹ *SERAC and CESR v Nigeria* (n 279) §64; *ACHPR v Republic of Kenya* (n 386); *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384).

⁴³⁰ HRC (ed), *General comment No. 23: Article 27 (Rights of Minorities)* (n 361) §3.1.

⁴³¹ ICCPR (n 136) Art.1; ICESCR (n 137) Art. 1; Liljeblad (n 104), 76.

⁴³² African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 20; *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384); Issa G. Shivji to Intergenerational Dialogue on the occasion of the 2023 Judicial Year of the African Court (2023); Rachel Murray, 'Article 20: Peoples' Right to Existence, Self-determination and Freedom from Foreign Domination: A Commentary' [2019] Oxford Commentaries on International Law, Oxford Law Pro.

⁴³³ Mardikian and Galani (n 108); *Kaliña and Lokono peoples v Suriname* (2015) C-309 (IACtHR).

⁴³⁴ African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 21; *Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v Kenya* (n 384); *SERAC and CESR v Nigeria* (n 279) §§56-58; *ACHPR v Republic of Kenya* (n 386).

⁴³⁵ ICCPR (n 136) Art. 7; Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment 1987 (General Assembly resolution 39/46); HRC (ed), *General comment No. 20: Article 7 (Prohibition of Torture, or Other Cruel, Inhuman or Degrading Treatment or Punishment)* (1992); ECHR (n 220) Art. 3; Clare James, 'Food, dignity, and the European Court of Human Rights' (2024) 44(3) Legal stud 519; American Convention on Human Rights "Pact of San Jose, Costa Rica" (n 236) Art. 5; African Charter on Human and Peoples' Rights (Banjul Charter) (n 138) Art. 5; ACHPR (ed), *Report on Article 5 of the African Charter's Jurisprudence* (2023).

8. Conclusion & Outlook

Summary of the findings

Plastic pollution exerts a range of complex and multifaceted impacts on marine biodiversity. These impacts arise not only from the direct presence of plastics in marine ecosystems – such as ingestion by marine organisms, entanglement, and habitat disruption – but also indirectly through the contribution of plastics to broader environmental stressors, including climate change, ocean acidification, and the consequences of fossil fuel extraction associated with plastic production. Given that Indigenous Peoples, particularly coastal communities, rely on marine biodiversity for their nutritional needs, marine biodiversity loss caused by plastic pollution and its related effects poses a significant threat to Indigenous Peoples' nutrition worldwide.

The research has demonstrated that multiple rights across the UN, Inter-American, African, and European HR systems might be enforced when Indigenous Peoples' nutrition is impacted by marine biodiversity loss resulting from plastic pollution.

The ICCPR and ICESCR enshrine a broad spectrum of rights that may be invoked when Indigenous Peoples' nutrition is affected. The right to food, established under the ICESCR, is interpreted broadly, incorporating key principles such as *adequacy*, *sustainability for present and future generations*, and *cultural acceptability*, all of which must be protected. The right to life, protected under the ICCPR, is interpreted through the concept of the *right to live with dignity*. As such, it encompasses not only cases involving direct threats to life but also situations in which adequate living conditions, including access to food, are compromised. The HRC has recognized environmental threats as among the most serious challenges to the right to life. Moreover, the right to private and family life under the ICCPR may also be engaged in the context of this thesis, as the HRC considers the destruction of food sources a potential ground for a violation. Also cultural rights can play a major role: the right to take part in cultural life, enshrined in the ICESCR, encompasses traditional food practices and ways of life. The CESCR explicitly acknowledges that access to essential resources, such as biodiversity, is necessary for the enjoyment of this right. Furthermore, the ICCPR protects the rights of minority groups and recognizes that food resources constitute an integral part of cultural identity, thereby bringing food within the protective scope of this provision. The right to health under the ICESCR, which includes access to adequate food and proper nutrition, is likewise applicable in the context of this thesis. Toward the realization of economic, social, and cultural rights, states are obligated to take steps, to the maximum of their available resources. While this standard may limit the

scope of state obligations in certain contexts, it also provides the CESCRC with a basis to hold states accountable for failures to act.

In the Inter-American system, the right to life may play a pivotal role, as its realization requires the guarantee of a *dignified existence*. Accordingly, the right to life is interpreted broadly to encompass not only the protection from arbitrary deprivation of life but it also entails access to, and the quality of food. Cultural rights, while not explicitly enshrined in the ACHR, are embedded within other provisions, such as the right to life and the prohibition of discrimination. It is likely that the cultural identity of Indigenous Peoples is taken into account when assessing potential HR violations. The Inter-American HR system places comparatively greater emphasis on environmental rights and has advanced a progressive interpretation of international law in this area, particularly with regard to climate change. This is reflected in its Adv. Op. 32/25, which recognizes the rights of nature and affirms that certain environmental obligations possess *jus cogens* character. Additionally, the right to progressive development implicitly includes the right to food, making it relevant in the context of this thesis.

In the African HR system, the right to life is interpreted broadly, incorporating the notion of a *dignified life*. Within this framework, the right to food is implicitly included as a necessary component of the right to life. The AfCHPR adopts an expansive understanding of the concept of culture, making Art. 17, the right to take part in cultural life, particularly relevant. Similarly, the right to health implicitly encompasses the right to food, and states bear environmental obligations to ensure the realization of this right. Environmental rights are explicitly enshrined in Arts. 21 and 24 of the ACHPR, and the AfCHPR has affirmed that states have binding environmental obligations. Furthermore, the right to economic, social, and cultural development may be significant in the context of this thesis. It is anticipated that the requested Adv. Op. on climate change will be published by the end of the year, potentially offering new avenues for the interpretation of environmental cases within the African HR system.

In the European system, the right to private and family life, home, and correspondence protects an individual's existence and identity, and environmental pollution can constitute an interference with this right. However, such interference must reach a minimum threshold of severity to be considered a violation. With respect to the right to life, the ECtHR typically grants states a broad margin of appreciation in determining the measures required to fulfil this right. In the European system, rights related to culture and the right to health are not explicitly guaranteed but are implicitly protected through other provisions.

All HR systems analysed impose positive obligations on states, including the duty to implement preventive measures and to exercise responsibility over third-party actors. Moreover, all legal bodies recognize the particular vulnerability of Indigenous Peoples and uphold the principles of equality and non-discrimination. However, significant challenges remain, particularly with respect to legal personality and procedural rights since those are required to initiate a claim at all. In addition, the complex interrelations and underlying causes of marine biodiversity loss driven by plastic pollution could present further obstacles, as assigning concrete responsibility to specific states is difficult. In many cases, this would also require states to assume extraterritorial responsibility.

Further research is needed on specific cases in which the context of this thesis arises, in order to apply the theoretical framework developed here to real-world situations. Within such research, the specific interests and perspectives of Indigenous Peoples are of central importance. The line of argument followed in this thesis – examining how plastic pollution contributes to marine biodiversity loss, how this affects Indigenous Peoples’ nutrition, and how it may lead to HR violations – represents just one possible approach to identifying Indigenous rights infringements from plastic pollution and marine biodiversity loss. Other violations could be explored, for example, by assessing impacts on health or spirituality, without necessarily focusing on nutrition as the intermediary. Furthermore, research addressing extraterritorial obligations and adopting an environmental justice perspective is crucial for responding to the transboundary nature of plastic pollution and marine biodiversity loss, as well as to the global inequalities these phenomena entail.

Outlook

In August 2025, at the time of this thesis’ submission, the next – and potentially final – round of negotiations (Second Part of the Fifth Session (INC-5.2)) for the GPT is taking place. This instrument is intended to be legally binding and will regulate plastic pollution, including its impact on the marine environment. The draft text explicitly includes the right to development and several procedural rights specific to Indigenous Peoples, such as the requirement to secure their engagement. The GPT could serve as a valuable complementary instrument upon which legal bodies may base their decisions.

All HR systems analysed in this thesis recognize that states bear responsibilities for the actions of private actors. However, future efforts could place greater emphasis on the relationship between business and HR. Following the development of the Guiding Principles on Business and

HR,⁴³⁶ a legally binding treaty addressing business and HR could potentially be adopted.⁴³⁷ Such a development in combination with the GPT could enhance the accountability of the appropriate actors for the harm they cause and lead to long-lasting improvements for instance through circular economy policies, the elimination of unnecessary, avoidable, and problematic plastics and polymers, deposit-refund systems, and economic instruments such as taxes and fees.

With the increasing number of international decisions and advisory opinions, all advocating for stricter environmental protection in the context of HR, alongside the imminent adoption of the GPT and greater emphasis on business and HR, the question arises: Will there be a surge in litigation concerning plastic pollution and marine biodiversity loss similar to the current wave related to climate change? Could the GPT serve as a starting point for new jurisprudential developments addressing plastic pollution?

⁴³⁶ Guiding Principles on Business and Human Rights 2011, Implementing the United Nations "Protect, Respect and Remedy" Framework (UN).

⁴³⁷ *ibid*; OHCHR, 'BHR Treaty Process: OHCHR and business and human rights' <<https://www.ohchr.org/en/business-and-human-rights/bhr-treaty-process>> accessed 13 August 2025.

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Abstract

As of this thesis's submission in August 2025, the potentially final negotiation round of negotiations for the Global Plastics Treaty is underway. Combined with the growing body of jurisprudence and advisory opinions on environmental issues, this may lead to more cases on plastic pollution and marine biodiversity loss – both part of the triple planetary crisis. Therefore, this thesis examines how marine biodiversity loss caused by plastic pollution affects the nutrition of Indigenous Peoples and may constitute a violation of their HR. To this end, it employs an extensive literature review and analyses key international HR documents and case law, applying them to this context. The findings demonstrate that plastics harm marine biodiversity both directly – through plastic debris in marine ecosystems – and indirectly – via contributions from plastic production to climate change, ocean acidification, and fossil fuel extraction. Indigenous Peoples around the world rely on marine biodiversity for their nutrition. As a result, the legal analysis shows that various HR provisions, such as the right to food (ICESCR), the right to life (ACHR, Banjul Charter, ICCPR, ECHR), the right to private and family life (ICCPR, ECHR), and rights related to culture (ICESCR, ICCPR, ACHR, Banjul Charter), may be relevant. Challenges include the limited case law on this specific topic, questions of extraterritorial and corporate responsibility, and the inherent complexity of unforeseeable and non-linear feedback loops from plastic pollution and biodiversity loss and the application to HR.

Zum Zeitpunkt der Abgabe dieser Masterarbeit im August 2025 läuft die potenziell letzte Verhandlungsrunde über den Globalen Plastikvertrag. In Verbindung mit der zunehmenden Rechtsprechung und Gutachten zu Umweltthemen könnte dies zu einer Zunahme von Fällen führen, die Plastikverschmutzung und den Verlust mariner Biodiversität betreffen – beide zentrale Elemente der dreifachen planetaren Krise. Daher untersucht diese Masterarbeit, inwiefern mariner Biodiversitätsverlust, verursacht durch Plastikverschmutzung, die Ernährung von Indigenen Gruppen beeinträchtigt und dadurch Menschenrechtsverletzungen verursacht. Dafür ist eine Literaturrecherche durchgeführt worden und die wichtigsten internationalen Menschenrechtsdokumente und Fälle analysiert und an den Kontext der Arbeit angewandt worden. Die Ergebnisse zeigen, dass Plastik marine Biodiversität direkt – durch Plastik im Meer – und indirekt – durch seinen Beitrag zur Klimaerwärmung, Ozeanversäuerung und Extraktion von fossilen Brennstoffen bei der Produktion des Plastiks – beeinträchtigt. Indigene Gruppen auf der ganzen Welt hängen für ihre Ernährung von mariner Biodiversität ab. Daher können verschiedene

Menschenrechtsprovisionen, wie das Recht auf Nahrung (ICESCR), das Recht auf Leben (ACHR, Banjul Charter, ICCPR, ECHR), das Recht auf Privat- und Familienleben (ICCPR, ECHR) und Rechte im Zusammenhang mit Kultur (ICESCR, ICCPR, ACHR, Banjul Charter) relevant sein. Herausforderungen bestehen u.a. durch die begrenzte Anzahl an Fällen, die als Präzedenzfall dienen können, durch Fragen zu extraterritorialer und unternehmerischer Verantwortung und die Komplexität von unvorhersehbaren und nicht-linearen Rückkopplungsschleifen von Plastikverschmutzung und Biodiversitätsverlust und deren Anwendung auf Menschenrechte.