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To Bee or not to Bee:

Harnessing Synergies Between Pollinator Conservation and the Right to Food

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Abstract:

It is predicted that over the next 30 years, the world population will increase by 25 per cent, and the global food demand will more than double. Food production is intertwined with, and dependent on, biodiversity and the ecosystem services that it provides. Yet, Earth's biodiversity is declining at an unprecedented rate. Ironically, non-sustainable agriculture is the largest single factor driving the alarming decline. Achieving and sustaining food security thus appears to be at odds with conserving biodiversity.

Aligning biodiversity conservation efforts with food security goals is therefore essential. This is one of the greatest challenges facing humanity and meeting it will likely require multipronged strategies across several spheres. This thesis focuses on the potential role of international law in overcoming the apparent incompatibility of biodiversity conservation with food security.

The realisation of many human rights is dependent on biodiversity and ecosystem services. This is especially true in the context of children's and future generations' rights. The link between the right to food and animal-mediated pollination is particularly evident; 75 per cent of the world's most important food crops are reliant on pollinators. Pollination, a keystone ecosystem service, is also of indispensable value to global biodiversity; it is a necessary step for the reproduction of 90 per cent of our planet's plants. Legal means of safeguarding animal-mediated pollination can therefore be considered a key aspect of both achieving food security and conserving biodiversity. As the decline in pollinators is a global concern, legal measures at the global level are appropriate.

Both international environmental law and international human rights law, when examined separately, appear to lack teeth. However, considering them as interrelated and complementary to one another can serve to amplify the positive impact of both areas of law. In this thesis, pollinator conservation under international environmental law and the right to food under international human rights law are first examined separately. After these comprehensive analyses, the two branches of international law are brought together, and the key aspects of the complex relationship between pollinator conservation and the right to food are analysed. The analysis indicates that minimising trade-offs and maximising synergies between the two areas of international law can facilitate a win-win situation by enhancing both biodiversity conservation and food security. It is illustrated that through harnessing these synergies, international law can potentially be a powerful tool for safeguarding pollinators and the vital pollination

services that they provide. This approach can contribute to the reconciliation of biodiversity conservation with food security.

Key words:

Right to food, food security, biodiversity, pollinators, pollination, conservation, synergies, right to a healthy environment, human rights-based approach, sustainable development, future generations, intergenerational equity.

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Abbreviations and Acronyms

African Commission	African Commission on Human and Peoples' Rights
Aarhus Convention	Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters
Banjul Charter	African Charter on Human and Peoples' Rights
Bern Convention	Convention on the Conservation of European Wildlife and Natural Habitats
Bonn Convention	Convention on the Conservation of Migratory Species and Wild Animals
Brundtland Report	Report of the World Commission on Environment and Development: Our Common Future
CBD	Convention on Biological Diversity
CCPR	Human Rights Committee
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CESCR or the Committee	Committee on Economic, Social and Cultural Rights
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CRC	Convention on the Rights of the Child
CRPD	Convention on the Rights of Persons with Disabilities
ECtHR	European Court of Human Rights
EHRD	Environmental human rights defender
EIA	Environmental impact assessment
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GBF	Post-2020 Global Biodiversity Framework
GHG	Greenhouse gas
HLPE	High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security
HRBA	Human rights-based approach
HRC	United Nations Human Rights Council

IACtHR	Inter-American Court of Human Rights
ICESCR or the Covenant	International Covenant on Economic, Social and Cultural Rights
ICCPR	International Covenant on Civil and Political Rights
ICJ	International Court of Justice
IEL	International environmental law
IHRL	International human rights law
International Pollinator Initiative - IPI	International Initiative for the Conservation and Sustainable Use of Pollinators
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPPC	International Plant Protection Convention
ISDL	International sustainable development law
Limburg Principles	Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights
Maastricht Guidelines	Maastricht Guidelines on Violations of Economic, Social and Cultural Rights
Montevideo Programme V	Fifth Montevideo Programme for the Development and Periodic Review of Environmental Law
OHCHR	Office of the United Nations High Commissioner for Human Rights
OP-ICESCR	Optional Protocol to the International Covenant on Economic, Social and Cultural Rights
POA	Plan of Action for the International Initiative for the Conservation and Sustainable Use of Pollinators
POA 2.0	Updated Plan of Action 2018-2030 for the International Initiative on the Conservation and Sustainable Use of Pollinators
Protocol of San Salvador	Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights
Ramsar Convention	Convention on Wetlands of International Importance especially as Waterfowl Habitat
Right to Food Guidelines	Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security
Rio Declaration	Rio Declaration on Environment and Development

Rotterdam Convention	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
SDG	Sustainable Development Goal
Stockholm Convention	Stockholm Convention on Persistent Organic Pollutants
Stockholm Declaration	Stockholm Declaration on the Human Environment
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNEP	United Nations Environment Programme
UNEP-LEAP	United Nations Environment Programme's Law and Environment Assistance Platform
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
World Heritage Convention	Convention Concerning the Protection of the World Cultural and Natural Heritage

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1. Introduction

1.1. Background

1.1.1. The Issue of Rising Food Demand Coupled with Declining Biodiversity

At the time of writing, there are close to 8 billion people on Earth.¹ By 2050, the world population is predicted to have increased by some 25 per cent, meaning nearly ten billion people will be living on this planet.² In that same 30-year period, the global demand for food is predicted to more than double.³ In other words, the indication is that not only will there be more people, but the average amount of food consumed by individuals will increase. The predicted rise in consumption is based on foreseen income rises in developing countries and is likely to drive the growth in global food demand more significantly than the expected population growth.⁴ Furthermore, rising incomes are predicted to particularly increase the demand for animal-based foods, the production of which requires more resources than plant-based alternatives.⁵

While food demand is rising, Earth's biological diversity, or biodiversity, is declining at an unprecedented rate.⁶ Biodiversity is defined in Article 2 of the Convention on Biological Diversity (CBD) as follows:

the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.⁷

Scientific evidence of the imperative role of biodiversity for both our planet and humanity is rapidly mounting. As biodiversity declines, many risks to humanity either emerge or grow.⁸ The current rate at which the variability among living organisms is decreasing is

¹ Worldometer 2021.

² United Nations, Department of Economic and Social Affairs, Population Division 2019, p. 5.

³ Franco et al./World Economic Forum 2020, p. 47.

⁴ Fukase and Martin 2020, p. 10.

⁵ Ranganathan et al./World Resources Institute 2018.

⁶ Díaz et al./Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (hereinafter IPBES) 2019, p. 12.

⁷ Convention on Biological Diversity, 5.6.1992, 1760 UNTS 79 (hereinafter CBD), Article 2.

⁸ Franco et al./World Economic Forum 2020, pp. 47-53. N.B. Biodiversity decline, climate change and pollution are all interconnected and together they constitute the triple planetary crisis. To achieve sustainability, these crises must be addressed in conjunction. On this, see United Nations Environment Programme (hereinafter UNEP) 2021 (a).

highly likely to have a multitude of consequences at the local, national, regional and global levels. Indeed, conserving biodiversity is considered fundamental for achieving most of the United Nations' (UN) Sustainable Development Goals (SDGs).⁹

In this context, one of the most acute and tangible risks to humanity stems from the dependency of the world's food systems on biodiversity.¹⁰ The production of both plant- and animal-based food is intertwined with, and dependent on, the multitude and diversity of species that populate the ecosystems in which the food is produced.¹¹ More specifically, food production is dependent on ecosystem services, i.e., "the conditions and processes through which natural ecosystems, and the species that make them up, sustain, and fulfil human life".¹² At the same time, agricultural expansion is already directly and significantly threatening biodiversity.¹³ Indeed, as noted by David R. Boyd, the current UN Special Rapporteur on human rights and the environment, "[a]griculture is the largest single factor in the destruction of ecosystems and the decline in biological diversity".¹⁴ The predicted increases in global food demand will likely exacerbate the issue. This complex relationship whereby more food production leads to increased loss of biodiversity, coupled with a growing demand for food, will lead to more and more unstable ecosystem conditions. Such a relationship between food production and biodiversity paints a grim picture that can be likened to a biological positive feedback loop spiralling towards chaos.¹⁵ Accordingly, the decline in biodiversity will likely lead to less food or less diverse food being produced, even as proportionally more land area is

⁹ International Institute for Sustainable Development 2019. N.B. The Sustainable Development Goals were adopted in 2015, see United Nations General Assembly, 70th session, Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, UN Doc. A/RES/70/1 (hereinafter UN Doc. A/RES/70/1).

¹⁰ Pilling, Bélanger and Hoffmann 2020, p. 144.

¹¹ Food and Agriculture Organization of the United Nations (hereinafter FAO) 2020, p. 3.

¹² Daily 1997, p. 6.

¹³ Chappell and LaValle 2011, p. 3. N.B. This is especially true for industrial agriculture. So-called diversified farming systems have been put forward as an alternative to industrial agriculture that has promising potential to increase the sustainability and resilience of agriculture, thus enhancing food security. On this, see Kremen, Iles and Bacon 2012.

¹⁴ United Nations General Assembly, 75th session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 15 July 2020, UN Doc. A/75/161 (hereinafter UN Doc. A/75/161), para. 17.

¹⁵ On biological positive feedback loops, see for example The Albert Team 2020.

devoted to food production. Therefore, our planet’s capacity to meet the increasing food demand will likely diminish.¹⁶ This poses a significant risk to food security.¹⁷

1.1.2. Pollinators are Key to Combatting a Socio-Ecological Crisis in the Making

Whilst there are many links between food security and biodiversity,¹⁸ this thesis focuses on a keystone ecosystem service of indispensable value to both food security and biodiversity, namely pollination.¹⁹ Simply put, “[p]ollination is the transfer of pollen between the male and female parts of flowers to enable fertilization and reproduction”.²⁰ Pollination is a necessary step for the reproduction of 90 per cent of our planet’s plants,²¹ and is described as “one of the most important mechanisms in the maintenance and promotion of biodiversity and, in general, life on Earth”.²² Pollination is facilitated by wind, water and, in the majority of cases, animals.²³ Animals that facilitate pollination are called pollinators, and range from invertebrates such as bees, flies, moths, butterflies and beetles, to vertebrates including bats, birds and primates.²⁴ Bees are seen as the most important group of pollinators,²⁵ but pollinator diversity is crucial for the maintenance of biodiversity,²⁶ as well as for the resilience of global crop pollination services.²⁷ Whilst some bees are managed, the bulk of pollinator species are wild.²⁸

¹⁶ UNEP 2021 (a), p. 25.

¹⁷ Food security is defined as “[existing] when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”, see FAO, Report of the World Food Summit on Food Security, 16-18 November 2009, Declaration of the World Summit on Food Security, UN Doc. WSFS 2009/2 (hereinafter UN Doc. WSFS 2009/2), para. 2, footnote 1. Further discussed infra.

¹⁸ See Cramer et al. 2017.

¹⁹ On pollination as a keystone ecosystem service, see Rose et al./FAO 2016, p. 4.

²⁰ Potts et al./IPBES 2016, p. XXVI.

²¹ Walker 2020, p. 5.

²² Secretariat of the Convention on Biological Diversity (hereinafter SCBD) 2012.

²³ Walker 2020, p. 5.

²⁴ Potts et al./IPBES 2016, p. XX.

²⁵ Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Sixth Meeting, April 2002, CBD/COP/DEC/VI/5 (hereinafter CBD/COP/DEC/VI/5), Annex II, para. 3.

²⁶ SCBD 2012.

²⁷ See, *inter alia*, Vasiliev and Greenwood 2020; Rader et al. 2016; Senapathi et al. 2015; Albrecht et al. 2012; Blüthgen and Klein 2011.

²⁸ Potts et al./IPBES 2016, p. XX.

Seventy-five per cent of the world's most important food crops are to some extent reliant on pollinators.²⁹ Pollinators not only increase the quantity of food, but also improve the quality; for example, crops mediated by pollinators provide micronutrients which are vital to human health.³⁰ Although difficult to measure, the estimated global annual value of animal-mediated crop pollination is several hundreds of billions of United States (US) dollars.³¹

Due to a multitude of anthropogenic stressors,³² our planet's vital pollinators are declining at an alarming rate. In North-West Europe and North America, wild pollinators have declined in occurrence, diversity and abundance. Whilst lack of data makes it difficult to measure declines in other regions of the world, the available data indicate that this is a global phenomenon.³³

Over the past 50 years, global agriculture has become some 300 per cent more reliant on pollinator-dependent crops.³⁴ If pollinator decline continues, and no alternative means of pollination is found,³⁵ farmers will be forced to reverse this trend and shift to staple crops that are not pollinator-dependent.³⁶ Staple crops such as, *inter alia*, potatoes, rice, and corn, tend to be energy-dense but nutrient-poor.³⁷ The over-consumption of these crops is already partly responsible for both the worldwide rise in obesity and various diseases linked to diet.³⁸ This global health crisis is likely to be aggravated in the event of a shift to more staple crops.³⁹

In the worst-case scenario, whereby pollinators were to become extinct, the impacts on both food security and biodiversity would likely be devastating. The decline in pollinators thus poses a global socio-ecological crisis. Legal means of safeguarding animal-mediated

²⁹ See Klein et al. 2007.

³⁰ See Chaplin-Kramer et al. 2014; Eilers et al. 2011.

³¹ Porto et al. 2020, p. 1425.

³² Discussed *infra*.

³³ Potts et al./IPBES 2016, p. XXI.

³⁴ *Ibid.*, p. XXXII.

³⁵ N.B. In the Maoxian County of Sichuan, China, the absence of natural pollinators forced farmers to employ human pollinators, which was found to be economically unsustainable. On this, see Partap and Ya 2012.

³⁶ Franco et al./World Economic Forum 2020, p. 49.

³⁷ Benton and Bailey 2019, p. 3.

³⁸ *Ibid.*, pp. 3-4.

³⁹ Franco et al./World Economic Forum 2020, p. 49.

pollination is therefore a key aspect of both achieving food security and of conserving biodiversity.

1.1.3. The Potential Role of International Law in Facilitating a Solution

Acknowledging that achieving food security for all of humanity in an equitable and sustainable manner is among the greatest challenges we face,⁴⁰ and considering the above, the expansion of non-sustainable agricultural systems to meet the growing need for food would appear to be at odds with conserving biodiversity. A key part of facilitating a sustainable future is therefore to find ways and means of overcoming the seeming incompatibility of the two goals of food security and biodiversity conservation.

As will be shown, food security is a key element of the right to food; a universal human right that is protected under international human rights law (IHRL). Biodiversity conservation, in turn, falls under the realm of international environmental law (IEL). Thereby, under international law, States are obligated to both ensure food security and conserve biodiversity. In this thesis it is argued that international law, when aptly utilised, has a vital role to play in overcoming the apparent incompatibility between achieving food security and conserving biodiversity. Specifically, tackling the issue through building on synergies and addressing tensions between IHRL and IEL is advocated. Such a strategy is considered to have the potential to amplify the positive impact of both areas of international law and thereby concurrently contribute both to the protection of biodiversity and to the achievement of food security. The aim is to illustrate that, from an international law perspective, the two goals need not be incompatible.

1.2. Research Questions, Delimitations and Structure

Overcoming the incompatibility between achieving food security and conserving biodiversity is likely to require multipronged action across, *inter alia*, the legal, political and scientific spheres. The analysis in this thesis is, however, limited to the potential role

⁴⁰ Romanelli et al./World Health Organization (hereinafter WHO) and SCBD 2015, p. 92; Willett et al. 2019, p. 447.

of international law in meeting this challenge. More specifically, it examines how harnessing synergies between instruments from the fields of IEL and IHRL can facilitate desirable developments at the global level. To narrow it down further still, the analysis covers the relationship between pollinator conservation under IEL and the right to food under IHRL. The aim is to analyse how synergies between these two sections of international law can be utilised to simultaneously enhance pollinator conservation, thereby also fostering overall biodiversity, and to advance the right to food, thereby promoting food security. To this end, the research questions which this thesis aims to answer are the following:

- 1) *What is the potential of pollinator conservation under IEL to support the realisation of the right to food under IHRL?*
- 2) *To what extent can the right to food under IHRL be applied as a legal tool to support pollinator conservation?*

In relation to the first research question, it should be noted that there is considerable ambiguity surrounding the analytical approach according to which environmental degradation affects the realisation of human rights.⁴¹ As noted by Dupuy and Viñuales, the approach “could imply that, from a human rights perspective, environmental protection has only instrumental value in that it is but a contribution to the respect of such rights”.⁴² Notwithstanding the importance of this debate, in the context of human rights, whether or not nature has an intrinsic worth remains an unanswered question.⁴³ Since the focus of this thesis is on the synergies between human rights and environmental protection, it is a debate considered to be beyond the scope of the present analysis and will not be further examined.

This thesis consists of five chapters. Comprehensive analyses of both pollinator conservation under IEL and the right to food under IHRL are prerequisites to addressing the research questions. Therefore, following this introduction, said areas are scrutinised in chapters two and three, respectively. These two chapters thus form the necessary

⁴¹ On this, see Bosselmann 2017, chapter 4.

⁴² Dupuy and Viñuales 2018, p. 359.

⁴³ Pirjatanniemi 2016, p. 19.

background against which the main analysis can take place. In chapter four, the relationship between the two areas of international law is examined and both research questions are addressed. Furthermore, in the context of harnessing synergies between pollinator conservation under IEL and the right to food under IHRL, the added value of a) the UN recognising the human right to a healthy environment, b) applying a human rights-based approach to pollinator conservation, and c) considering the relationship between pollinator conservation and the right to food within the sustainable development framework, is examined. Finally, in chapter five, the conclusions drawn from the analysis are presented.⁴⁴

In analysing the nexus between pollinator conservation and the right to food, this thesis brings together two branches of international law which, when examined separately, seemingly lack teeth. IEL is characterised by fragmentation and lacks effective implementation and enforcement.⁴⁵ The impact of IHRL, in turn, is impaired by issues such as non-compliance, ambiguity and inconsistency.⁴⁶ This thesis aims to discuss, through the example of pollinator conservation and the right to food, whether the positive impacts of IEL and IHRL can be bolstered by identifying and harnessing synergies between the two branches of international law, thereby facilitating a win-win situation whereby environmental protection is enhanced and human rights are advanced.

Notably, non-State actors, particularly corporations, are increasingly considered human rights duty bearers.⁴⁷ Similarly, although corporations are not legally bound by IEL treaties, legal standards are emerging whereby the legitimacy of corporations' conduct can be determined against normative benchmarks rooted in IEL.⁴⁸ The duties, as well as opportunities, of corporations in relation to the protection of biodiversity are particularly

⁴⁴ N.B. The analysis conducted in this thesis is limited by the fact that the author has, with the exception of a case only available in Spanish and discussed in sub-chapter 4.3.2, only considered sources available in English, Swedish and Finnish.

⁴⁵ On this, see United Nations General Assembly, 73rd session, Gaps in international environmental law and environment-related instruments: towards a global pact for the environment, 30 November 2018, UN Doc. A/73/419; UNEP 2019. On the potential added value of a "Global Pact for the Environment" to international environmental law, see Voigt 2019.

⁴⁶ On this, see for example Posner 2014, particularly chapters 4 and 5.

⁴⁷ On this, see for example Bernaz 2017; Clapham 2006.

⁴⁸ On this, see for example Morgera 2020.

topical.⁴⁹ However, these debates are beyond the scope of this thesis and the analysis is therefore limited to the obligations of States.

1.3. Method and Sources

Applying the legal dogmatic research method, the sources of international law are used for this thesis' analysis. Pursuant to Article 38 (1) of the Statute of the International Court of Justice, the sources of international law are the following:

- a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
- b. international custom, as evidence of a general practice accepted as law;
- c. the general principles of law recognized by civilized nations;
- d. judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.⁵⁰

Whilst the first three sources listed by the International Court of Justice (ICJ) are primary, the last one is secondary, hence the word “subsidiary”. Secondary sources of international law are those that implement and interpret primary ones.⁵¹ This thesis' analysis is based on a variety of legal sources; both primary and secondary. The most important primary sources used to analyse pollinator conservation and the right to food are the CBD and the International Covenant on Economic, Social, and Cultural Rights (ICESCR or the Covenant), respectively.⁵² Said treaties are those dealing with the respective topics most comprehensively, and they are examined in accordance with the general rules of interpretation as laid down by the Vienna Convention on the Law of Treaties.⁵³ Additionally, treaties other than those already mentioned, general comments adopted by treaty monitoring bodies, resolutions, statements, guidelines and various other documents

⁴⁹ This is, for instance, reflected in the first draft of the upcoming Post-2020 Global Biodiversity Framework, see Open-ended Working Group on the Post-2020 Global Biodiversity Framework, 3rd meeting, First Draft of the Post-2020 Global Biodiversity Framework, 5 July 2021, CBD/WG2020/3/3 (hereinafter CBD/WG2020/3/3), Annex, in particular target 15.

⁵⁰ Statute of the International Court of Justice, 24.10.1945, 33 UNTS 993, Article 38 (1).

⁵¹ Williams 1981, p. 9.

⁵² CBD; International Covenant on Economic, Social and Cultural Rights, 16.12.1966, 993 UNTS 3 (hereinafter ICESCR).

⁵³ See Vienna Convention on the Law of Treaties, 23.5.1969, 1155 UNTS 331, Article 31.

adopted by well-established and qualified international institutions are utilised.⁵⁴ Reports of UN Special Rapporteurs, particularly those of the UN Special Rapporteur on human rights and the environment, are made use of throughout this thesis.⁵⁵ Moreover, the analysis utilises judicial and quasi-judicial decisions as well as the work of legal academics and jurists. Lastly, since IEL is largely based on science, this thesis necessarily frequently refers to scientific studies.

In its analytical study on the relationship between human rights and the environment, the Office of the UN High Commissioner for Human Rights (OHCHR) identifies three main approaches used to analyse the relationship between human rights and the environment.⁵⁶ According to the first approach, “the environment is a precondition to the enjoyment of human rights”.⁵⁷ In line with the second approach, human rights can be used as tools to protect the environment and address environmental issues.⁵⁸ Lastly, according to the third approach, which is deemed more ambiguous than the other two,⁵⁹ human rights and the environment should be integrated under the concept of sustainable development.⁶⁰ These approaches, which, importantly, are capable of coexisting,⁶¹ are adopted in this thesis’ analysis, as is reflected in the research questions. They will therefore be examined in further detail in chapter 4.

⁵⁴ N.B. Although soft law instruments are not immediately binding upon States, they can be just as effective as binding instruments in terms of addressing international issues. Furthermore, over time they can crystallise into hard law. On the integral role of soft law, see Shelton 2009.

⁵⁵ On the vital role of UN Special Rapporteurs in the development and promotion of international human rights norms, see Subedi et al. 2011.

⁵⁶ Human Rights Council, 19th session, Analytical study on the relationship between human rights and the environment, Report of the United Nations High Commissioner for Human Rights, 16 December 2011, UN Doc. A/HRC/19/34 (hereinafter UN Doc. A/HRC/19/34), para. 7.

⁵⁷ UN Doc. A/HRC/19/34, para. 7.

⁵⁸ *Ibid.*, para. 8.

⁵⁹ Dupuy and Viñuales 2018, p. 360.

⁶⁰ UN Doc. A/HRC/19/34, para. 9.

⁶¹ *Ibid.*, para. 7.

2. Pollinator Conservation Under International Environmental Law

2.1. Pollinator Decline: A Global Concern

Threats to pollinators include, but are not limited to, climate change, pesticides, habitat loss, parasites, impacts of non-native species, invasive diseases, declining flower resources and light pollution.⁶² When considering the overall threat landscape, it is notable that the different drivers of decline may take place concurrently, thus intensifying the pressure on pollinators.⁶³ Indeed, two or more separate, non-lethal threats may act in concurrence, thus creating lethal circumstances.⁶⁴

The decline in pollinators is, as previously noted, a global phenomenon. At the same time, crops and other plants are reliant on pollinators globally. Furthermore, pollinator decline drivers, as so many biodiversity challenges, are often of a transboundary nature and therefore cannot be controlled by any one State. The decline in pollinators is therefore by definition a global concern, and effectual conservation of pollinators, like so many components of biodiversity, is thus only possible through international cooperation.⁶⁵ Ergo, legal measures at the global level are appropriate to address the issue.

2.2. Legal Bases for International Cooperation to Address Pollinator Decline

Approaching the issue of pollinator decline through international cooperation is not only a matter of practicality, but also an application of the duty of international cooperation. The duty to cooperate is a general principle of public international law. It has support in the general practice of States,⁶⁶ and is present in several provisions of the Charter of the UN.⁶⁷ In his separate opinion on the *MOX Plant* case, Judge Wolfrum of the International Tribunal for the Law of the Sea notes that the duty to cooperate “balances the principle

⁶² See, *inter alia*, Soroye, Newbold and Kerr 2020; Baron et al. 2017; Knop et al. 2017; Potts et al./IPBES 2016; Meeus et al. 2011; Goulson, Lye and Darvill 2008; Carvell et al. 2006.

⁶³ See, *inter alia*, Goulson et al. 2015; Vanbergen and the Insect Pollinators Initiative 2013.

⁶⁴ Walker 2020, p. 204.

⁶⁵ On the need for international cooperation for effectual conservation of biodiversity in general, see Human Rights Council, 34th session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 19 January 2017, UN Doc. A/HRC/34/49 (hereinafter UN Doc. A/HRC/34/49), para. 36.

⁶⁶ UN Doc. A/HRC/34/49, para. 36.

⁶⁷ See Charter of the United Nations, 26.6.1945, 1 UNTS XVI, Articles 1 (3), 56 & 74.

of sovereignty of States and thus ensures that community interests are taken into account *vis-à-vis* individualistic State interests”.⁶⁸

In terms of addressing pollinator decline, legal bases for international cooperation can be found in both IHRL and IEL. In the context of this thesis, it is particularly notable that the ICESCR proclaims the duty to cooperate.⁶⁹ Often, the duty to cooperate merely plays a supporting role in the protection of human rights.⁷⁰ However, the duty is triggered by certain types of environmental harm that affect human rights.⁷¹ John H. Knox, former UN Special Rapporteur on human rights and the environment, has left no doubt that the full realisation of the right to food is dependent on biodiversity and ecosystem services.⁷² As aforementioned, pollination is an ecosystem service of particular significance to the realisation of the right to food.⁷³ Ergo, the decline in pollinators affects the enjoyment of the right to food and therefore triggers the duty of international cooperation.

The duty to cooperate is a central element of IEL.⁷⁴ It is laid down in soft law instruments such as the Stockholm Declaration on the Human Environment (Stockholm Declaration) and the Rio Declaration on Environment and Development (Rio Declaration).⁷⁵ As noted by Craik, the duty to cooperate has been ubiquitously recognised in treaties adopted after the adoption of these declarations, and it is widely recognised by judicial bodies as a fundamental principle of IEL.⁷⁶ Judge Wolfrum has gone as far as calling it “the overriding principle”.⁷⁷ In terms of addressing pollinator decline, it is particularly relevant to note the presence of the duty to cooperate in the provisions of the CBD. The need for global cooperation for the protection of biodiversity is stressed in the instrument’s preamble, whilst Article 5 obligates States Parties to the convention to “as far as possible

⁶⁸ International Tribunal for the Law of the Sea, *MOX Plant (Ireland v. United Kingdom)*, Provisional Measures, Order of 3 December 2001, Separate Opinion of Judge Wolfrum, ITLOS Reports 2001 (hereinafter *MOX Plant*, Separate Opinion of Judge Wolfrum), p. 135.

⁶⁹ See ICESCR, Article 2. Further discussed *infra*.

⁷⁰ Human Rights Council, 31st session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean healthy and sustainable environment, 1 February 2016, UN Doc. A/HRC/31/52 (hereinafter UN Doc. A/HRC/31/52), para. 44.

⁷¹ UN Doc. A/HRC/34/49, para. 36.

⁷² *Ibid.*, para. 5.

⁷³ Discussed *infra*.

⁷⁴ See Craik 2020.

⁷⁵ Stockholm Declaration on the Human Environment, 16.6.1972, 11 ILM 1416 (hereinafter Stockholm Declaration), Principle 24; Rio Declaration on Environment and Development, 14.6.1992, 21 ILM 874 (hereinafter Rio Declaration), Principles 7 & 27.

⁷⁶ Craik 2020, p. 2.

⁷⁷ *MOX Plant*, Separate Opinion of Judge Wolfrum, p. 135.

and as appropriate cooperate with other Contracting Parties [...] for the conservation and sustainable use of biological diversity”.⁷⁸ Like many other IEL treaties, the CBD does, however, acknowledge that the “particular conditions and capabilities” of its Parties differ.⁷⁹ In other words, the need for international cooperation does not imply that all Parties are expected to take identical measures to protect pollinators, rather, regional and national differences should be given due regard.

The purpose of the present chapter is to analyse what States have done to fulfil their duty of international cooperation in addressing pollinator decline. Sections of IEL that are relevant to the conservation of pollinators, with particular emphasis on the CBD, are examined.

2.3. Exploring the Breadth of IEL Treaties Relevant to the Protection of Pollinators

2.3.1. With a Myriad of Threats Comes a Diverse Range of Relevant Treaties

Some groups of pollinators are subject to their very own instruments, such as the International Convention for the Protection of Birds and the Agreement on the Conservation of Populations of European Bats.⁸⁰ The relevance of these to pollinator conservation is self-explanatory. Although their relevance may not be as straightforward, there are several other treaties within the scope of IEL which, either directly or indirectly, contribute to the conservation of pollinators.

As previously noted, pollinators face a multitude of threats which, especially in combination, can be lethal. As a result of the myriad of threats, the relevant legal framework is diverse. To effectively and comprehensively address pollinator decline, threats to pollinators and the various instruments addressing these threats should be considered not only separately but in combination. An extensive review of how IEL as a whole works from a pollinator conservation perspective would therefore be of value. Alas, the scope of this thesis does not allow for such a review. Instead, the approach taken

⁷⁸ CBD, Preamble & Article 5.

⁷⁹ *Ibid.*, Article 6.

⁸⁰ See International Convention for the Protection of Birds, 18.10.1950, 638 UNTS 185; Agreement on the Conservation of Populations of European Bats, 4.12.1991.

is to identify and analyse key treaties of relevance, with the intention to demonstrate the breadth of IEL instruments that do, or can, play a role in pollinator conservation. The treaties discussed here should therefore not be regarded as an exhaustive list. In the subsequent analysis, different drivers of pollinator decline are used to identify relevant IEL treaties. By identifying treaties that regulate different threats to pollinators, both the multitude of threats and the extent of the relevant legal instruments can be addressed through a coherent framework. Each of the following sub-chapters examines a particular risk to pollinators and the IEL instruments relevant to addressing that risk.

2.3.2. Indirect Pollinator Conservation Through the Climate Regime

Climate change is a major driver of global biodiversity loss.⁸¹ Pollinators are particularly vulnerable to this phenomenon,⁸² and climate change driven loss of pollinators is expected to accelerate.⁸³ The UN Framework Convention on Climate Change (UNFCCC) and instruments adopted under the auspices of it,⁸⁴ particularly the Paris Agreement,⁸⁵ therefore have the potential to channel important contributions to the conservation of pollinators through the facilitation of action primarily intended to mitigate climate change.⁸⁶

2.3.3. Instruments Applicable to the Conservation of Pollinator Habitats

Habitat loss, largely attributable to land-use change, is another key driver of biodiversity decline globally.⁸⁷ The impacts of habitat loss on pollinators are adverse.⁸⁸ IEL treaties such as the Convention on Wetlands of International Importance especially as Waterfowl

⁸¹ FAO 2015, p. V.

⁸² See Giannini et al. 2020; FAO 2015, p. 12.

⁸³ See Sirois-Delisle and Kerr 2018.

⁸⁴ See United Nations Framework Convention on Climate Change, 9.5.1992, 1771 UNTS 107 (hereinafter UNFCCC).

⁸⁵ See Paris Agreement of the UNFCCC, 12.12.2015 (hereinafter Paris Agreement).

⁸⁶ On the benefits of climate change mitigation for biodiversity, see Warren et al. 2018.

⁸⁷ Astegiano et al. 2015, pp. 202-203.

⁸⁸ *Ibid.*, p. 231.

Habitat (Ramsar Convention),⁸⁹ the Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention),⁹⁰ the Convention on the Conservation of Migratory Species and Wild Animals (Bonn Convention),⁹¹ and the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention),⁹² are relevant to the conservation of pollinator habitats. The Ramsar Convention covers wetlands “selected...on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology”.⁹³ Wetlands may hold key forage sources for bees.⁹⁴ Sites that may be important pollinator habitats are protected by the World Heritage Convention,⁹⁵ which considers, *inter alia*, “precisely delineated areas which constitute the habitat of threatened species of animals or plants of outstanding universal value from the point of science or conservation” to be “natural heritage”.⁹⁶ The Bonn Convention covers migratory species throughout their range, and some pollinator habitats, such as that of the Monarch butterfly (*Danaus plexippus*), are explicitly covered.⁹⁷ The Bern Convention “aims [...] to conserve wild flora and fauna and their natural habitats”, with “[p]articular emphasis [...] given to endangered and vulnerable species”.⁹⁸ It covers, *inter alia*, several species of bat.⁹⁹

2.3.4. Pesticide Regulation is Crucial to Pollinator Conservation

Pesticides have repeatedly been pointed out as one of the most detrimental threats to pollinators.¹⁰⁰ A growing body of scientific research indicates that neonicotinoids, i.e.,

⁸⁹ See Convention on Wetlands of International Importance especially as Waterfowl Habitat, 2.2.1971, 996 UNTS 245 (hereinafter Ramsar Convention).

⁹⁰ See Convention Concerning the Protection of the World Cultural and Natural Heritage, 16.11.1972, 1037 UNTS 151 (hereinafter World Heritage Convention).

⁹¹ See Convention on the Conservation of Migratory Species and Wild Animals, 23.6.1979, 1651 UNTS 333 (hereinafter Bonn Convention).

⁹² See Convention on the Conservation of European Wildlife and Natural Habitats, 19.9.1979, ETS. No. 104 (hereinafter Bern Convention).

⁹³ Ramsar Convention, Article 2 (2).

⁹⁴ Byrne and Fitzpatrick 2009, Table I.

⁹⁵ *Ibid.*

⁹⁶ World Heritage Convention, Article 2.

⁹⁷ See Bonn Convention, Appendix II.

⁹⁸ Bern Convention, Article I.

⁹⁹ See Bern Convention, Appendices II & III.

¹⁰⁰ See, *inter alia*, Zhao et al. 2020; Crall et al. 2018; Woodcock et al. 2017; Potts et al./IPBES 2016, p. XXII; Stanley and Raine 2016; Moffat et al. 2015; Cutler and Scott-Dupree 2014; Feltham, Park and Goulson 2014.

“nicotine-related insecticides”,¹⁰¹ are particularly harmful to the ecosystem services on which our food production depends.¹⁰² Since this thesis focuses on food security, it should be noted that the pesticide industry, which is worth hundreds of billions of US dollars,¹⁰³ consistently suggests that its products are essential to food production.¹⁰⁴ However, whilst pesticides can be agriculturally beneficial,¹⁰⁵ the services performed by pollinators are likely to be more pivotal to global food production than pesticides.¹⁰⁶ Furthermore, the pollination services provided by bees have been shown to outperform pesticides in terms of both production and profitability of crops.¹⁰⁷ Bees both increase food production and improve food quality.¹⁰⁸ Boyd has stated that “[p]esticides jeopardize the right to food by harming pollinators and contaminating soils”.¹⁰⁹

Nevertheless, use of pesticides hazardous to pollinators continues to be widespread.¹¹⁰ Within the scope of IEL, the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) have the potential to protect pollinators from pesticides.¹¹¹ As of 2019, the Stockholm and Rotterdam Conventions cover 18 and 35 pesticides, respectively.¹¹² Although the pesticides covered are among the most harmful ones, in numerical terms they constitute the tip of the iceberg.¹¹³ Several actors are calling for stronger pesticide regulating instruments at the international level.¹¹⁴ Specifically from a

¹⁰¹ Matsuda et al. 2001, p. 573.

¹⁰² Bijleveld van Lexmond et al. 2015, p. 3.

¹⁰³ Statista 2020.

¹⁰⁴ Syngenta 2020; Bayer AG 2020; Corteva 2020; BASF 2020.

¹⁰⁵ See, *inter alia*, Jess et al. 2014; Cooper and Dobson 2007.

¹⁰⁶ See Lechenet et al. 2017.

¹⁰⁷ See Catarino et al. 2019.

¹⁰⁸ See, *inter alia*, Garibaldi et al. 2016; FAO 2016; Chaplin-Kramer et al. 2014.

¹⁰⁹ UN Doc. A/75/161, para. 45.

¹¹⁰ See Wintermantel et al. 2020.

¹¹¹ See Stockholm Convention on Persistent Organic Pollutants, 22.5.2001, 2256 UNTS 119 (hereinafter Stockholm Convention); Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 10.9.1998, 2244 UNTS 337 (hereinafter Rotterdam Convention).

¹¹² See the Stockholm and Rotterdam Conventions’ Appendices, as revised in 2019.

¹¹³ Kinniburgh and Rankovic 2019, p. 2.

¹¹⁴ *Ibid.*

pollinator conservation perspective, the banning of neonicotinoids at the international level has been called for.¹¹⁵

2.3.5. Indirect Conservation of Pollinators Through the Conservation of Plants

Many plants and pollinators engage in mutualistic interactions, meaning that a decline of either party will affect the survival of the other.¹¹⁶ The close-knit relationship between plants and pollinators makes the International Plant Protection Convention (IPPC) highly relevant to the conservation of pollinators.¹¹⁷ In the context of this thesis it is particularly notable that the IPPC mission statement is “[t]o secure cooperation among nations in protecting global plant resources [...] in order to preserve food security [and] biodiversity [...]”.¹¹⁸

2.3.6. Relevance of the Regulation of International Trade in Endangered Species

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulates the commercial trade of species in danger of extinction.¹¹⁹ CITES currently covers some pollinators, including birds and butterflies,¹²⁰ making it a relevant instrument from a pollinator conservation perspective. The treaty may also contribute to pollinator conservation indirectly through the regulation of trade in species which, when

¹¹⁵ Drivdal and van der Sluijs 2021, p. 100; Marshman, Blay-Palmer and Landman 2019, p. 9. N.B. Some neonicotinoids have been banned at the regional level. For instance, in 2018 the EU banned all outdoor use of imidacloprid, clothianidin and thiamethoxam. See Commission Implementing Regulation (EU) 2018/783 of 29 May 2018 amending Implementing Regulation (EU) No 540/2011 as regards the conditions of approval of the active substance imidacloprid (Imidacloprid Regulation); Commission Implementing Regulation (EU) 2018/784 of 29 May 2018 amending Implementing Regulation (EU) No 540/2011 as regards the conditions of approval of the active substance clothianidin (Clothianidin Regulation); Commission Implementing Regulation (EU) 2018/785 of 29 May 2018 amending Implementing Regulation (EU) No 540/2011 as regards the conditions of approval of the active substance thiamethoxam (Thiamethoxam Regulation).

¹¹⁶ On this, see Bronstein, Alarcón and Geber 2006.

¹¹⁷ See International Plant Protection Convention, 6.12.1951, 150 UNTS 67 (hereinafter IPPC).

¹¹⁸ Official Website of the IPPC.

¹¹⁹ See Convention on International Trade in Endangered Species of Wild Flora and Fauna, 3.3.1973, 993 UNTS 243 (hereinafter CITES).

¹²⁰ See CITES Appendices. See also Byrne and Fitzpatrick 2009, Table I.

moved from one place to another, are classified as invasive alien species and threaten native pollinators.

2.4. Pollinator Conservation Through the Convention on Biological Diversity

2.4.1. The Overarching Global Framework for Pollinator Conservation

As shown in the previous sub-chapters, there are many IEL treaties that may contribute to pollinator conservation through addressing different threats. However, one IEL treaty clearly stands out in terms of applicability to pollinator conservation. As will be shown, the CBD is the international regulatory instrument that fundamentally governs the global framework of pollinator conservation.

The relationships of interdependency between pollinators, plants and ecosystems are complex. In simple terms, however, biodiverse ecosystems with many plant species sustain a diversity of pollinators, while the biodiversity of ecosystems is equally dependent on the services performed by pollinators.¹²¹ The CBD is an instrument that addresses both aspects of this relationship, as it protects pollinators both explicitly, most notably through the auspices of the International Pollinator Initiative,¹²² and implicitly through the general protection of biodiversity. Therefore, in the context of this thesis, the CBD is particularly relevant and a more detailed analysis of its role in pollinator conservation is warranted.

2.4.2. Scope of the CBD in the Context of Pollinator Conservation

The CBD is an ambitious treaty. It is the international conservation agreement with the widest scope.¹²³ To date, it has 196 Parties,¹²⁴ making it nearly universal.¹²⁵ Almost every country in the world has ratified the CBD, with the notable exception of the United States

¹²¹ European Commission 2020, pp. 25 and 29.

¹²² Discussed *infra*.

¹²³ UN Doc. A/HRC/34/49, para. 39.

¹²⁴ For an up-to-date list of Parties to the CBD, see United Nations Treaty Collection, Convention on Biological Diversity.

¹²⁵ UN Doc. A/HRC/34/49, para. 40.

of America. Thus, the treaty facilitates global cooperation for the protection of biodiversity. Indeed, the importance of cooperation is, as aforementioned, recognised in the CBD.¹²⁶

With the general goal to encourage actions which will lead to a sustainable future, the CBD's three main objectives are the following:

1. conservation of biodiversity;
2. sustainable use of biodiversity; and
3. fair and equitable sharing of benefits arising from the use of genetic resources.¹²⁷

The terms used within the CBD are defined in Article 2.¹²⁸ In the present context, it is essential to note that “[b]iological resources” includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity”.¹²⁹ Pollinators are biological resources with actual value for humanity,¹³⁰ and references to biological resources in the CBD should therefore be interpreted as applicable to pollinators.

Pursuant to Article 7, Parties are obligated to “as far as possible and as appropriate”, *inter alia*:

- (a) [i]dentify components of biological diversity important for its conservation and sustainable use having regard to the indicative list of categories set down in Annex I;
- (b) [m]onitor [...] [these components] [...] paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use; [and]
- (c) [i]dentify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects [...]¹³¹

¹²⁶ See CBD, Preamble & Article 5.

¹²⁷ CBD, Article 1. N.B. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (hereinafter Nagoya Protocol) was adopted in 2010 to facilitate implementation of the CBD's third objective, see Nagoya Protocol, 29.10.2010. In the context of pollinators, the protocol is, for instance, relevant to the access and benefit-sharing of bee genetic resources, see Aizen et al./ FAO 2021, p. 59.

¹²⁸ See CBD, Article 2.

¹²⁹ *Ibid.*

¹³⁰ Hellerstein et al. 2003, p. 1.

¹³¹ CBD, Article 7.

Pollinators fit into several categories amongst those listed in Annex I, *inter alia*, threatened species and species of agricultural value.¹³² Moreover, as previously discussed, habitat loss poses a major threat to pollinators, and therefore the category of habitats containing large numbers of threatened species is relevant to pollinator conservation.¹³³ From a long-term food security perspective and in line with Article 7 (b), pollinators should be given particular attention. Indeed, the “critical importance” of conserving and sustainably using biodiversity in order to meet the growing need for food is noted in the CBD.¹³⁴ The importance of pollinators to sustainable food production is discussed in chapter 4.2.

Article 8 covers in-situ conservation,¹³⁵ i.e., the conservation of components of biodiversity in their natural habitats.¹³⁶ Several of the provisions of Article 8 are relevant to pollinator conservation. In particular, Parties are obligated to, “as far as possible and as appropriate”:

[r]egulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use[.]¹³⁷

In light of the fact that “[p]ollination is one of the most important mechanisms in the maintenance and promotion of biodiversity and, in general, life on Earth”,¹³⁸ it is indisputable that, pursuant to the above provision, Parties to the CBD are obligated to protect pollinators.

Under Article 8, other key provisions from the perspective of pollinator conservation are those obligating Parties to “promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies”, and to “[d]evelop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations”.¹³⁹ Although there is some uncertainty as to the extent of pollinator decline, the evidence indicates that, worldwide, pollinators

¹³² CBD, Annex I, Category 2. See also Potts et al./IPBES 2016, p. XXI; Hellerstein et al. 2003, p. 1.

¹³³ CBD, Annex I, Category 1.

¹³⁴ *Ibid.*, Preamble.

¹³⁵ *Ibid.*, Article 8.

¹³⁶ *Ibid.*, Article 2.

¹³⁷ *Ibid.*, Article 8 (c).

¹³⁸ SCBD 2012.

¹³⁹ CBD, Article 8 (f) & (k).

are declining rapidly.¹⁴⁰ Moreover, as noted in preambular paragraph 9 of the CBD, “where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat”.¹⁴¹ In accordance with the precautionary principle and pursuant to Article 8, Parties to the CBD should both promote the recovery of pollinators and take necessary legislative measures to protect them. Indeed, as argued by Drivdal and van der Sluijs, given the crucial importance of pollinators to both global food security and biodiversity, a stronger and broader application of the precautionary principle to pollinator conservation is urgently needed.¹⁴²

Lastly, Article 8 also obligates Parties to “[w]here a significant adverse effect on biological diversity has been determined pursuant to Article 7, regulate or manage the relevant processes and categories of activities”.¹⁴³ As the maintenance of biodiversity is dependent on pollinators, this provision may, for instance, be interpreted as to obligate Parties to regulate the use of such pesticides that have significant adverse effects on pollinators.

Article 9 covers ex-situ conservation.¹⁴⁴ Ex-situ conservation, as opposed to in-situ conservation, “means the conservation of components of biological diversity outside their natural habitats”,¹⁴⁵ and may therefore be applicable in the case of domesticated bees.¹⁴⁶

Pursuant to Article 10, Parties are obligated to, “as far as possible and as appropriate”, *inter alia*, “[a]dopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity”.¹⁴⁷ Article 14 contains more specific provisions related to the obligation to adopt measures; it requires States Parties to perform environmental impact assessments (EIAs) “of [any] proposed projects that are likely to have significant adverse effects on biological diversity”.¹⁴⁸ Although consideration of biodiversity in EIAs is highly complex,¹⁴⁹ systematic assessment and mitigation through

¹⁴⁰ Potts et al./IPBES 2016, p. XXI.

¹⁴¹ CBD, Preamble.

¹⁴² See Drivdal and van der Sluijs 2021.

¹⁴³ CBD, Article 8 (1).

¹⁴⁴ *Ibid.*, Article 9.

¹⁴⁵ *Ibid.*, Article 2.

¹⁴⁶ *Ibid.*, in particular Article 9 (c).

¹⁴⁷ *Ibid.*, Article 10 (b).

¹⁴⁸ *Ibid.*, Article 14 (1) (a).

¹⁴⁹ On this, see Wale and Yalew 2010.

the EIA approach, when applied, may be key to avoiding or minimising adverse impacts on pollinators.¹⁵⁰

Article 12 covers obligations related to research and training. Parties are, *inter alia*, obligated to:

[p]romote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, *inter alia*, in accordance with decisions of the Conference of the Parties taken in consequence of recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice.¹⁵¹

Article 18, in turn, lays down that Parties are obligated to:

promote international [...] scientific cooperation in the field of conservation and sustainable use of biological diversity, where necessary, through the appropriate international and national institutions.¹⁵²

Public education and awareness are covered by Article 13, pursuant to which Parties are obligated to:

(a) [p]romote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and

(b) [c]ooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes with respect to conservation and sustainable use of biological diversity.¹⁵³

As argued by Morgera, all of the CBD's provisions are legally binding.¹⁵⁴ Thus, the question is not whether States should implement the obligations arising from the convention, but rather how.¹⁵⁵ The above analysis indicates that Parties to the CBD are obligated to protect and conserve pollinators. Moreover, Parties have obligations to promote research and scientific cooperation in the field of biodiversity conservation, as well as promote awareness of the importance of conserving biodiversity. The following sub-chapters cover what has been done under the auspices of the CBD to meet these

¹⁵⁰ FAO 2007, p. 12.

¹⁵¹ CBD, Article 12 (b).

¹⁵² *Ibid.*, Article 18 (1).

¹⁵³ *Ibid.*, Article 13.

¹⁵⁴ Morgera/European Parliament 2020, p. 8.

¹⁵⁵ *Ibid.*

obligations, with the discussion on research and awareness focusing specifically on pollinators.

2.4.3. The International Pollinator Initiative: A Catalyst for Pollinator Conservation Efforts Worldwide

Pollinators were first given priority by the Parties to the CBD in decision III/11 on the conservation and sustainable use of agricultural biological diversity, adopted during the third Conference of the Parties to the CBD in 1996.¹⁵⁶ Decision III/11 established a programme of work on agricultural biodiversity, and prioritised agriculturally important components of biodiversity, including pollinators.¹⁵⁷ Consequently, in 1998, a Workshop on the Conservation and Sustainable Use of Pollinators in Agriculture with Emphasis on Bees was held in São Paulo, resulting in the São Paulo Declaration on Pollinators, in which the suggestion of an International Pollinator Initiative was first put forward.¹⁵⁸ Based on the recommendations of said declaration, the CBD's Subsidiary Body on Scientific, Technical and Technological Advice proposed the establishment of an International Pollinator Initiative.¹⁵⁹

Thus, in 2000, with an increasing sense of urgency to address the global decline in pollinators, the International Initiative for the Conservation and Sustainable Use of Pollinators (International Pollinator Initiative – IPI) was established through Decision V/5 during the fifth Conference of the Parties to the CBD.¹⁶⁰ The IPI was established “as a cross-cutting initiative within the programme of work on agricultural biodiversity”.¹⁶¹ Its purpose is the following:

¹⁵⁶ See Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Third Meeting, November 1996, CBD/COP/DEC/III/11 (hereinafter CBD/COP/DEC/III/11).

¹⁵⁷ CBD/COP/DEC/III/11, Annex 3 (1).

¹⁵⁸ See International Pollinators Initiative: São Paulo Declaration on Pollinators, Report on the Recommendations of the Workshop on the Conservation and Sustainable Use of Pollinators in Agriculture with Emphasis on Bees, Brasília: Brazilian Ministry of the Environment (MMA) 1999.

¹⁵⁹ CBD's Subsidiary Body on Scientific Technical and Technological Advice, 5th meeting, 31 January - 4 February 2000, Recommendation V/9, Annex, para 6.

¹⁶⁰ See Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Fifth Meeting, May 2000, CBD/COP/DEC/V/5 (hereinafter CBD/COP/DEC/V/5), section II.

¹⁶¹ CBD/COP/DEC/V/5, section II, para 15.

to promote coordinated action worldwide to:

- (a) [m]onitor pollinator decline, its causes and its impact on pollination services;
- (b) [a]ddress the lack of taxonomic information on pollinators;
- (c) [a]ssess the economic value of pollination and the economic impact of the decline of pollination services;
- (d) [p]romote the conservation and the restoration and sustainable use of pollinator diversity in agriculture and related ecosystems.¹⁶²

The IPI is facilitated and coordinated primarily by the Food and Agriculture Organization of the UN (FAO).¹⁶³ In collaboration with key experts, FAO and the Secretariat of the CBD prepared a Plan of Action for the IPI (POA) which was adopted in 2002 through decision VI/5 at the sixth Conference of the Parties to the CBD.¹⁶⁴ The four central elements of this original POA were assessment, adaptive management, capacity building and mainstreaming.¹⁶⁵ Much was accomplished during the first phase of the IPI. Among other things, the main threats and causes of pollinator decline and the impacts of this on food production were identified, the economic value of pollinators was assessed, and several important tools were developed to facilitate pollinator conservation efforts.¹⁶⁶

The second phase of the IPI commenced in 2018. At its thirteenth meeting, the Conference of the Parties to the CBD requested the development of an updated plan of action.¹⁶⁷ Hence, at the following meeting, such a plan was adopted through decision 14/6.¹⁶⁸ The overriding objective of the Updated Plan of Action 2018-2030 for the International Initiative on the Conservation and Sustainable Use of Pollinators (POA 2.0) is as follows:

¹⁶² CBD/COP/DEC/V/5, section II, para 15.

¹⁶³ *Ibid.*, section II, para 16.

¹⁶⁴ See CBD/COP/DEC/VI/5, para. 8. See also CBD/COP/DEC/VI/5, Annex II.

¹⁶⁵ See CBD/COP/DEC/VI/5, Annex II.

¹⁶⁶ Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Fourteenth Meeting, November 2018, CBD/COP/DEC/14/16, Annex I, Updated Plan of Action 2018-2030 for the International Initiative on the Conservation and Sustainable Use of Pollinators (hereinafter IPI POA 2.0), para. 12.

¹⁶⁷ Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Thirteenth Meeting, December 2016, CBD/COP/DEC/XIII/15 (hereinafter CBD/COP/DEC/XIII/15), para. 10.

¹⁶⁸ See IPI POA 2.0.

to promote coordinated action worldwide to safeguard wild and managed pollinators and promote the sustainable use of pollination functions and services, which is a recognized vital ecosystem service for agriculture and for the functioning and health of ecosystems.¹⁶⁹

The actions that POA 2.0 aims to facilitate the implementation of “can be applied at the regional, national, subnational and local levels”.¹⁷⁰ More specifically:

[t]he updated Plan of Action builds on the first phase, and taking into account decision XIII/15, orients the emphasis towards mainstreaming pollination concerns into policy, developing and implementing measures on the ground to support the conservation and sustainable use of pollinators, addressing risks, building capacity and sharing knowledge on multiple levels to integrate pollination considerations into farming, land use and other management decisions, and focusing collaborative research on emerging issues and prevailing needs.¹⁷¹

Hence, the four central elements of POA 2.0 are:

1. enabling policies and strategies;
2. field-level implementation;
3. civil society and private sector engagement; and
4. monitoring, research and assessment.¹⁷²

In the context of this thesis, the following statement in POA 2.0 is particularly important:

[p]ollinator-friendly measures have the potential to increase productivity and sustainability and contribute to the long-term viability and profitability of food production systems. Their wider use could be a transformative agent by fostering sustainable practices among agricultural sectors.¹⁷³

Despite it lacking legal force, the IPI has catalysed pollinator conservation efforts worldwide. Indeed, the IPI has brought “pollinators to the forefront of agricultural policy internationally”.¹⁷⁴ Today, there is a considerable number of initiatives for pollinator conservation at the international, regional and national levels. FAO’s Global Action on Pollination Services for Sustainable Agriculture is a key initiative at the global level.¹⁷⁵

¹⁶⁹ IPI POA 2.0, para 3.

¹⁷⁰ *Ibid.*, para. 6.

¹⁷¹ *Ibid.*, para. 13.

¹⁷² *Ibid.*, Part III, Elements.

¹⁷³ *Ibid.*, para. 11.

¹⁷⁴ Williams 2003, p. 31.

¹⁷⁵ See FAO’s Global Action on Pollination Services for Sustainable Agriculture.

Through said initiative, FAO works with an array of partners from various sectors to push forward the pollinator agenda. Another notable example of an international initiative is the Coalition of the Willing on Pollinators, more commonly known as Promote Pollinators.¹⁷⁶ Through Promote Pollinators, countries from across the globe collaborate and share knowledge with the purpose of spurring action to protect pollinators.¹⁷⁷

At the regional level there are currently five major pollinator initiatives, namely the Brazilian, African, European, North American and Oceania ones.¹⁷⁸ Initiatives operating at the national level include the National Pollinator Strategy for bees and other pollinators in England, the Dutch Pollinator Strategy and the Honey bee and pollination continuity strategy (Australia), to name but a few.¹⁷⁹ According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),¹⁸⁰ “[t]here is no doubt that these integrated actions and strategies can lead to policy change with the potential to influence pollinator management on the ground”.¹⁸¹ This is already happening in the Netherlands; thanks to the Dutch strategy bee populations are steady in urban environments across the country.¹⁸²

2.4.4. The Promotion of Science and Awareness for Pollinator Conservation

With the objective “to approach science and decision making for the conservation of biodiversity and ecosystem services, human well-being and sustainable development”,¹⁸³ IPBES was established in 2012.¹⁸⁴ The establishment of IPBES can be seen as an application of States’ obligations under the CBD to promote research and scientific cooperation in the field of biodiversity conservation.¹⁸⁵ IPBES’ debut global assessment

¹⁷⁶ See Promote Pollinators.

¹⁷⁷ *Ibid.*

¹⁷⁸ See Brazilian Pollinators Initiative; African Pollinator Initiative; European Pollinator Initiative; North American Pollinator Protection Campaign; Oceania Pollinator Initiative.

¹⁷⁹ See the National Pollinator Strategy: for bees and other pollinators in England; NL Pollinator Strategy: “Bed & Breakfast for Bees”; Honey bee and pollination continuity strategy.

¹⁸⁰ Discussed *infra*.

¹⁸¹ Potts et al./IPBES 2016, p. 414.

¹⁸² See Pinto-Rodrigues/The Guardian 2021.

¹⁸³ Pires and Maués 2020, p. 469.

¹⁸⁴ See Resolution on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, adopted by the second session of the plenary meeting to determine the modalities and institutional arrangements for IPBES, 2012.

¹⁸⁵ See CBD, Articles 12 & 18.

report was titled “Pollinators, Pollination and Food Production”.¹⁸⁶ Pollinators have consequently become a major talking point globally.¹⁸⁷

In 2017, following a proposal from Slovenia and “[a]cknowledging the urgent need to raise awareness at all levels and to promote and facilitate actions for the protection of bees and other pollinators in order to contribute to their health and development [...]”, the UN General Assembly adopted a resolution declaring the 20th of May as World Bee Day.¹⁸⁸ This can be seen as an application of States’ obligation to raise awareness of the importance of biodiversity conservation, and to cooperate in doing so.¹⁸⁹ In a notable national example of awareness-raising, Finland’s national broadcasting company Yle launched a pollinator campaign, *Pelasta pörriäinen*, calling upon Finns to take concrete measures to save pollinators.¹⁹⁰ The campaign was highly successful in both raising awareness about pollinators and increasing enthusiasm to protect them.¹⁹¹

2.5. Safeguarding Pollinators Through IEL: Key Considerations

The environmental rule of law is crucial to addressing biodiversity decline.¹⁹² Evidently, pollinator conservation under IEL is complex and multifaceted. As previously noted, in order to comprehensively address pollinator decline, it is crucial that IEL covers all threats to pollinators. At least as important, however, is that collaboration between the relevant treaty regimes takes place to avoid fragmentation and optimise pollinator conservation. The importance of future collaboration between the chemical and biodiversity regimes has, for instance, been emphasised.¹⁹³ Moreover, in POA 2.0, “[promoting] coherent policies across sectors and cross-cutting issues” is listed as one of the activities needed to implement the IPI.¹⁹⁴

¹⁸⁶ See Potts et al./IPBES 2016.

¹⁸⁷ Pires and Maués 2020, p. 469.

¹⁸⁸ See United Nations General Assembly, 72nd session, World Bee Day, 18 October 2017, UN Doc. A/C.2/72/L.32, para. 1.

¹⁸⁹ See CBD, Article 13.

¹⁹⁰ See Yle Arenan 2020.

¹⁹¹ Miljöministeriet 2021. N.B. The campaign was awarded a prize by the International Union for Conservation of Nature’s National Committee of Finland.

¹⁹² UNEP 2019, p. 9.

¹⁹³ Kinniburgh and Rankovic 2019, p. 3.

¹⁹⁴ IPI POA 2.0, Activity A.1.1.1.

The CBD has the potential to facilitate the conservation of Earth’s biodiversity, but has been criticised, *inter alia*, due to its breadth and ambiguous language.¹⁹⁵ Koivurova, for instance, argues that the CBD’s status as binding upon nearly every State comes at the expense of its substantive content.¹⁹⁶ In a similar vein, Izaguirre argues that the instrument’s “comprehensiveness waters down its obligations and complicates its implementation”.¹⁹⁷ Moreover, there are no explicit enforcement mechanisms that can be used to compel States Parties to fulfil their CBD obligations.¹⁹⁸ Indeed, the biodiversity regime is plagued by massive implementation and enforcement gaps.¹⁹⁹ The deficiencies of the CBD are demonstrated by the fact that, almost 30 years after its adoption, “[n]one of the global goals for the protection of life on Earth have been fully met”.²⁰⁰ Anthropogenic stressors are still causing snowballing declines in biodiversity and an estimated eighth of the species living on our planet are currently threatened with extinction.²⁰¹ The situation is grave, and scientists believe that we, humans, are causing the ongoing sixth mass extinction.²⁰² Unless urgent action is taken, the decline in biodiversity is predicted to accelerate.²⁰³ Robinson argues that “[b]iodiversity law – both internationally and nationally – is manifestly inadequate to conserve the Earth’s legacy of biodiversity”.²⁰⁴ Furthermore, he stresses that “[u]nless human laws safeguard nature, humanity itself reaches the extinction threshold found in other species”.²⁰⁵ Humanity thus has no choice but to step up.

The Post-2020 Global Biodiversity Framework (GBF), expected to be adopted at the second part of the fifteenth Conference of the Parties to the CBD in the spring of 2022,²⁰⁶ represents a major opportunity for the international community to take the necessary steps towards “living in harmony with nature” by 2050. The first draft of the GBF was

¹⁹⁵ See Izaguirre 2008.

¹⁹⁶ Koivurova 2014, p. 19.

¹⁹⁷ Izaguirre 2008, p. 1040.

¹⁹⁸ Ong 2018, p. 11.

¹⁹⁹ UN Doc. A/75/161, para. 27.

²⁰⁰ UNEP 2021 (a), p. 23.

²⁰¹ *Ibid.*

²⁰² See Ceballos, Ehrlich and Raven 2020.

²⁰³ UNEP 2021 (a), p. 23.

²⁰⁴ Robinson 2018, p. 39.

²⁰⁵ *Ibid.*, p. 29.

²⁰⁶ N.B. The Fifteenth Conference of the Parties to the CBD was originally scheduled to be held in October 2020 in Kunming, China, but it has been delayed multiple times due to the COVID-19 pandemic.

published in July 2021.²⁰⁷ It “sets out an ambitious plan to implement broad-based action to bring about a transformation in society’s relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled”.²⁰⁸ With four long-term goals for 2050 as well as several corresponding milestones to be assessed in 2030,²⁰⁹ the first draft of the GBF holds a lot of potential to facilitate the action needed to protect and restore Earth’s biodiversity. However, it should be noted that the goals are highly ambitious and reaching them will not be an easy task. Nevertheless, during the first part of the critical conference, which was held online in mid-October 2021, the Kunming Declaration, in which governments pledge to, *inter alia*, “[e]nsure the development, adoption and implementation of an effective post-2020 global biodiversity framework”, was adopted.²¹⁰

The non-binding IPI and the regional and national initiatives that it has catalysed appear to be successful in raising both awareness and willingness to engage.²¹¹ According to FAO, “[t]he [IPI] has led to significant and noteworthy progress”.²¹² However, in terms of necessary policy changes and measures to address pollinator decline, pollinator initiatives at the European Union (EU) level, to provide a regional example, have not borne fruit.²¹³ Recent data indicates that despite a plethora of initiatives aimed at addressing the decline in pollinators, they are still declining at alarming rates.²¹⁴ However, it should be noted that many pollinator initiatives are still in their infancy, and their importance in addressing pollinator decline in the long-run should by no means be disregarded. The lack in application of behaviour-change theories has been pointed out as a major underlying reason for the implementation gap in pollinator initiatives.²¹⁵ Addressing this gap is likely to be key in mitigating the loss of pollinators.²¹⁶ In the context of the need to address implementation gaps, it is notable that one of the key aims

²⁰⁷ See CBD/WG2020/3/3, Annex.

²⁰⁸ CBD/WG2020/3/3, Annex, para. 1.

²⁰⁹ *Ibid.*, Annex, para. 11.

²¹⁰ Kunming Declaration, 13.10.2021, para. 1.

²¹¹ See, *inter alia*, Underwood, Darwin and Gerritsen/Institute for European Environmental Policy 2017, p. 11.

²¹² Aizen et al./FAO 2021, p. 83.

²¹³ See European Court of Auditors 2020.

²¹⁴ See van Klink et al. 2020.

²¹⁵ See Marselle et al. 2021.

²¹⁶ Marselle et al. 2021, p. 620.

included in the first draft of the GBF is “to facilitate implementation”.²¹⁷ Another aim put forward which is highly relevant in the context of this thesis is that “to promote synergies and coordination”.²¹⁸

In the context of strengthening the implementation of IEL, it is notable that the UN Environment Programme (UNEP) is currently conducting the Fifth Montevideo Programme for the Development and Periodic Review of Environmental Law (Montevideo Programme V).²¹⁹ Montevideo Programme V builds on the four previous ten-year intergovernmental programmes aimed at promoting, developing and implementing IEL.²²⁰ A key element which was recently introduced to the latest programme is its digital backbone, namely UNEP’s Law and Environment Assistance Platform (UNEP-LEAP).²²¹ Although still a work-in-progress, UNEP-LEAP has the potential to facilitate strengthened implementation of IEL, *inter alia* through enabling Member States and various other stakeholders to request technical legal assistance via the platform’s Clearing House Mechanism.²²²

Notwithstanding the importance of enhancing synergies between treaty regimes within IEL and strengthening the implementation of pollinator initiatives at the regional, national and local levels, there is also reason to explore the potential added value of utilising synergies with treaties in other branches of international law. In the context of pollinator conservation, IHRL may be a particularly useful complementary branch of international law. Specifically, the right to food may be a valuable tool to support pollinator conservation. This is discussed in detail in sub-chapter 4.3. As a clear understanding of the right to food under IHRL is a prerequisite for such a discussion, the right is defined and analysed in the following chapter.

²¹⁷ CBD/WG2020/3/3, Annex, para. 3.

²¹⁸ *Ibid.*

²¹⁹ See United Nations Environment Assembly of the United Nations Environment Programme, 4th session, Fifth Programme for the Development and Periodic Review of Environmental Law (Montevideo Programme V): delivering for people and the planet, 28 March 2019, UN Doc. UNEP/EA.4/Res.20 (hereinafter UN Doc. UNEP/EA.4/Res.20), para. 1.

²²⁰ See UN Doc. UNEP/EA.4/Res.20.

²²¹ See UNEP’s Law and Environment Assistance Platform.

²²² *Ibid.*

3. The Right to Food Under International Human Rights Law

3.1. The Legal Basis of the Right to Food in IHRL

The right to food was first recognised by the international community in the landmark Universal Declaration of Human Rights (UDHR) of 1948.²²³ Article 25 (1) of the UDHR lays down that “[e]veryone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food [...]”.²²⁴ In itself, the UDHR is not a legally binding treaty. However, the instrument’s legal status has evolved since its adoption, and nowadays it is considered that at least some of the rights proclaimed in the UDHR are a part of customary international law.²²⁵

In 1966, eighteen years after the adoption of the UDHR, the right to food became enshrined in the legally binding ICESCR. Pursuant to Article 11 (1) of the ICESCR, everyone has the right “to an adequate standard of living for himself and his family [...] including adequate food [...]”.²²⁶ Hence, the right to food is also referred to as the right to *adequate* food, and the two terms will subsequently be used interchangeably.

Notably, although the wording “for himself and his family” may seem to imply that the above provision is applicable only to a specific category of peoples, this is not the case. The ICESCR’s supervisory body, the Committee on Economic, Social and Cultural Rights (CESCR or the Committee) clarifies this, stating in its General Comment No. 12 that the right to adequate food “applies to everyone”.²²⁷ Moreover, pursuant to article 2 (2) of the ICESCR, the rights proclaimed in the Covenant must “be exercised without discrimination of any kind”.²²⁸ Ergo, the right to adequate food is, like all human rights, universal.

²²³ See Universal Declaration of Human Rights, adopted by United Nations General Assembly Resolution 217 A (III), 10 December 1948, UN Doc. A/RES/3/217/A (hereinafter UDHR).

²²⁴ UDHR, Article 25 (1).

²²⁵ On this, see Hannum 1995. N.B. Customary international law is defined by Pirjatanniemi as “a body of international norms that have been established via consistent and identifiable state practice and further backed up by a belief that this very practice is legally binding”, see Pirjatanniemi 2018, p. 67.

²²⁶ ICESCR, Article 11 (1).

²²⁷ See Committee on Economic, Social and Cultural Rights, General Comment No. 12: The Right to Adequate Food, 12 May 1999, UN Doc. E/C.12/1999/5 (hereinafter CESCR, General Comment No. 12), para 1.

²²⁸ ICESCR, Article 2 (2).

In addition to proclaiming the right to adequate food, the ICESCR recognises “the fundamental right of everyone to be free from hunger”.²²⁹ In the Rome Declaration on World Food Security, adopted at the World Food Summit in 1996, “the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger” was reaffirmed.²³⁰

Besides the ICESCR, the right to food is recognised, either explicitly or implicitly, in several other IHRL treaties.²³¹ Other international treaties that proclaim the right to food include, but are not limited to, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the Convention on the Rights of the Child (CRC) and the Convention on the Rights of Persons with Disabilities (CRPD).²³² Moreover, regional instruments, such as the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador), the African Charter on the Rights and Welfare of the Child and the Protocol to the African Charter on Human and Peoples’ Rights on the Rights of Women in Africa, recognise the right to food.²³³ Nevertheless, the ICESCR remains the IHRL treaty which deals the most comprehensively with the right,²³⁴ and it is therefore the focus of the subsequent analysis.

²²⁹ ICESCR, Article 11 (2).

²³⁰ FAO, Report of the World Food Summit, 13-17 November 1996, UN Doc. WFS 96/REP (hereinafter UN Doc. WFS 96/REP), Part I, Appendix, Rome Declaration on World Food Security, Preamble.

²³¹ Office of the United Nations High Commissioner for Human Rights (hereinafter OHCHR) 2010, pp. 7-8.

²³² Convention on the Elimination of All Forms of Discrimination against Women, 18.12.1979, 1249 UNTS 13, Article 12 (2); Convention on the Rights of the Child, 20.11.1989, 1577 UNTS 3, Articles 24 (2) (c) & (e) & 27 (3); Convention on the Rights of Persons with Disabilities, 13.12.2006, 2515 UNTS 3, Articles 25 (f) & 28 (1).

²³³ Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, 17.11.1988, OAS Doc. A-52 (hereinafter Protocol of San Salvador), Articles 12 and 17; African Charter on the Rights and Welfare of the Child, 11.7.1990, OAU Doc. CAB/LEG/24.9/49, Article 14 (2) (c), (d) & (h); Protocol to the African Charter on Human and Peoples’ Rights on the Rights of Women in Africa, 11.7.2003, Articles 14 (2) (b) & 15.

²³⁴ CESCR, General Comment No. 12, para. 1.

3.2. Food: A Precondition for the Enjoyment of Other Fundamental Human Rights

The right to adequate food is inseparably linked to human dignity and is of critical importance for the full enjoyment of all other human rights.²³⁵ First and foremost, it is inextricably linked to the right to life, for without adequate food a human cannot survive. In its General Comment No. 6 on the right to life, the Human Rights Committee (CCPR), i.e., the body of independent experts that monitors the implementation of the International Covenant on Civil and Political Rights (ICCPR),²³⁶ recognises this, noting that pursuant to the duty to protect life, States are obligated to take appropriate measures to, *inter alia*, address widespread hunger and malnutrition and ensure access to food.²³⁷

Just as the right to life cannot be realised without food, it is not possible for individuals to obtain the highest attainable standard of physical and mental health without adequate food. The connection between the rights to food and health is recognised, *inter alia*, by the CESCR. In its General Comment No. 14 on the right to the highest attainable standard of health, the Committee clarifies that “the right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition [...]”.²³⁸ These prominent examples of the rights to life and health clearly demonstrate the fundamentality of the right to adequate food.

Yet, despite the fundamentality and legally binding nature of the long-established right, the right to food framework only gained what Strakos and Sanches refer to as “significant legal attention in the international arena” around 30 years after the adoption of the ICESCR, and almost half a century after the right was first recognised in the UDHR.²³⁹ Indeed, it was not until the World Food Summit in 1996 that State leaders committed to realising the right to food.²⁴⁰

²³⁵ CESCR, General Comment No. 12, paras. 1 & 4.

²³⁶ See International Covenant on Civil and Political Rights, 16.12.1966, 993 UNTS 3 (hereinafter ICCPR).

²³⁷ Human Rights Committee, General Comment No. 36: Article 6: right to life, 3 September 2019, UN Doc. CCPR/C/GC/36 (hereinafter CCPR, General Comment No. 36), para. 26.

²³⁸ Committee on Economic, Social and Cultural Rights, General Comment No. 14: The right to the highest attainable standard of health, 11 August 2000, UN Doc. E/C.12/2000/4 (hereinafter CESCR, General Comment No. 14), para. 4.

²³⁹ Strakos and Sanches 2017, p. 38.

²⁴⁰ Golay and Büschi/FAO 2012, p. 10.

3.3. Key Developments in Defining the Right to Food

The above-mentioned General Comment No. 12 was the first major development in the elaboration of the normative content of the right to adequate food.²⁴¹ It was adopted in 1999 in response to a request made by political leaders at the 1996 World Food Summit,²⁴² with the aim of identifying “some of the principal issues which the Committee considers to be important in relation to the right to adequate food”.²⁴³ Soon after the adoption of General Comment No. 12, “in order to respond fully to the necessity for an integrated and coordinated approach in the promotion and protection of the right to food”, the mandate of the first UN Special Rapporteur on the right to food was created by the UN Commission on Human Rights,²⁴⁴ and Jean Ziegler was appointed. Another landmark development came in 2004 when FAO endorsed the CESCR’s interpretation of the right to adequate food in its Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security (Right to Food Guidelines).²⁴⁵ The Right to Food Guidelines were adopted with the goal of encouraging more States to realise the right to adequate food in practice.²⁴⁶ According to Ziegler *et al.*, the adoption of the guidelines “was an important step, because [it] reaffirmed a solid commitment to the right to adequate food and agreed on an internationally accepted understanding of the right”.²⁴⁷

Building on these key developments, in the sub-chapters that follow, the normative content of the right to food is untangled and the State obligations arising therefrom are examined.

²⁴¹ See CESCR, General Comment No. 12.

²⁴² See UN Doc. WFS 96/REP, Part I, Appendix, World Food Summit Plan of Action, para. 61, Objective 7.4.

²⁴³ CESCR, General Comment No. 12, para 2.

²⁴⁴ See United Nations Commission on Human Rights, 52nd meeting, The right to food, 17 April 2000, UN Doc. E/CN.4/RES/2000/10, para. 10. N.B. The UN Commission on Human Rights was replaced by the UN Human Rights Council in 2006. See United Nations General Assembly, 60th session, Human Rights Council, 3 April 2006, UN doc. A/RES/60/251, para. 1.

²⁴⁵ See FAO, Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security, adopted by the 127th Session of the FAO Council, November 2004 (hereinafter Right to Food Guidelines).

²⁴⁶ Right to Food Guidelines, Preface, paras. 6 & 9.

²⁴⁷ Ziegler *et al.* 2011, p. 8.

3.4. Untangling the Normative Content of the Right to Food

3.4.1. Availability, Accessibility, Adequacy and Sustainability

Drawing on the CESCR's elaboration on the normative content of the right to food,²⁴⁸ Olivier De Schutter, former UN Special Rapporteur on the right to food, has concisely defined the right to food as follows:

the right of every individual, alone or in community with others, to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations.²⁴⁹

The core content of the right, according to the CESCR, implies the following:

[t]he 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; [and]

[t]he accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights.²⁵⁰

Four elements are thus encompassed in the right to adequate food. These are availability, accessibility, adequacy and sustainability. Availability refers to individuals' possibilities of feeding themselves, either directly from natural resources or from a food market.²⁵¹ Accessibility entails physical and economic accessibility.²⁵² Whilst physical accessibility refers, quite literally, to the physical access of individuals to adequate food, economic accessibility, in simple terms, means that individuals can afford to buy adequate food.²⁵³ The adequacy element refers to the quality of food; for food to be adequate it must "satisfy the dietary needs of individuals, [be] free from adverse substances, and [be] acceptable within a given culture".²⁵⁴ Lastly, the sustainability dimension of the right to adequate food implies the accessibility of food not only for present, but also future generations.²⁵⁵

²⁴⁸ See CESCR, General Comment No. 12, paras. 6-13.

²⁴⁹ Human Rights Council, 25th session, Report of the Special Rapporteur on the right to food, 24 January 2014, UN Doc. A/HRC/25/57 (hereinafter UN Doc. A/HRC/25/57), para. 2.

²⁵⁰ CESCR, General Comment No. 12, para. 8.

²⁵¹ *Ibid.*, para. 12.

²⁵² *Ibid.*, para. 13.

²⁵³ *Ibid.*, para. 13.

²⁵⁴ *Ibid.*, para. 8.

²⁵⁵ *Ibid.*, para. 7.

Closely related to, but not synonymous with, the right to adequate food is the concept of food security. For the purposes of this thesis, a clear understanding of the signification of this concept is necessary. Therefore, in the following sub-chapter, food security is defined and the concept's relationship with the right to adequate food is clarified.

3.4.2. The Relationship Between the Right to Food and Food Security

FAO's first official definition of food security was "[t]he availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices".²⁵⁶ According to the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE), the original definition reflected the then prevailing perception that the primary reasons for hunger were the unavailability of sufficient quantities of food as well as global price instability.²⁵⁷ Over the past five decades, however, the understanding of food insecurity and the underlying causes of it has evolved, and food security has thus been redefined several times.²⁵⁸ In the 1996 World Food Summit Plan of Action, food security is defined as existing "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".²⁵⁹ Five years later, FAO added the word "social" to this definition.²⁶⁰ With this addition, the following definition of food security was officially reaffirmed in the 2009 Declaration of the World Summit on Food Security:

[f]ood security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.²⁶¹

This definition of food security is the most authoritative and commonly used one.²⁶² It established the four original pillars of food security, i.e., availability, access, utilisation

²⁵⁶ FAO, Report of the World Food Conference, 5-16 November 1974, UN Doc. E/CONF.65/20.

²⁵⁷ High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (hereinafter HLPE) 2020, p. 6.

²⁵⁸ HLPE 2020, pp. 6-7.

²⁵⁹ UN Doc. WFS 96/REP, Part I, Appendix, World Food Summit Plan of Action, para. 1.

²⁶⁰ FAO 2001, Glossary.

²⁶¹ UN Doc. WSFS 2009/2, para. 2, footnote 1.

²⁶² HLPE 2020, p. 7.

and stability.²⁶³ The availability of food is dependent on the production and distribution of food that is adequate in terms of both quantity and quality.²⁶⁴ The access dimension of food security refers to physical and economic availability.²⁶⁵ Food utilisation means the best possible use of food to ensure the satisfaction of the dietary needs of individuals.²⁶⁶ Lastly, food stability refers to the constancy of availability, access and utilisation.²⁶⁷

Either explicit or implicit recognition of these four pillars of food security can be identified within legal interpretations of the right to adequate food.²⁶⁸ The CESCR explicitly refers to food availability and accessibility in General Comment No. 12.²⁶⁹ Furthermore, it mentions dietary needs,²⁷⁰ which according to the HLPE corresponds to utilisation.²⁷¹ Lastly, the Committee refers to the obligation of States to ensure adequate food even in times of severe resource constraints,²⁷² which the HLPE deems correspondent to stability.²⁷³ The link between these four pillars of food security and the right to adequate food was reinforced by FAO in its Right to Food Guidelines.²⁷⁴

With the emergence of the SDGs and a deepened understanding of the need to transform our food systems to meet them, two additional dimensions of food security have come to be recognised as essential to food security, namely agency and sustainability.²⁷⁵ According to the HLPE, these additional dimensions “flow directly from the principle of the right to food”, and are implicitly present in the most authoritative definition of food security.²⁷⁶ The agency dimension of food security refers to individuals’ capacity to choose what they eat, what food to produce themselves and how to produce, process and distribute it, as well as the ability of individuals to participate in policy and governance processes of relevance to food systems.²⁷⁷ Agency is profoundly linked to the right to

²⁶³ UN Doc. WSFS 2009/2, para. 2, footnote 1.

²⁶⁴ FAO 2020, p. 5.

²⁶⁵ *Ibid.*, pp. 5-6.

²⁶⁶ *Ibid.*

²⁶⁷ *Ibid.*

²⁶⁸ HLPE 2020, p. 7.

²⁶⁹ CESCR, General Comment No. 12, paras. 8, 12 & 13.

²⁷⁰ *Ibid.*, paras. 8 & 9.

²⁷¹ HLPE 2020, p. 7.

²⁷² CESCR, General Comment No. 12, paras. 17 & 28.

²⁷³ HLPE 2020, p. 7.

²⁷⁴ See Right to Food Guidelines, Preface, para. 15.

²⁷⁵ HLPE 2020, p. 7.

²⁷⁶ *Ibid.*, pp. 7, 9 & 10.

²⁷⁷ *Ibid.*, p. 8.

adequate food, as well as other human rights.²⁷⁸ The importance of agency to the realisation of the right to adequate food is reinforced in the Right to Food Guidelines:

States should promote and safeguard a free, democratic and just society in order to provide a peaceful, stable and enabling economic, social, political and cultural environment in which individuals can feed themselves and their families in freedom and dignity.²⁷⁹

Moreover, the need for inclusive processes in the development, implementation and monitoring of right to food strategies is explicitly referred to in the Right to Food Guidelines.²⁸⁰

The final dimension of food security, i.e., sustainability, implies providing food security for present generations in such a way that it does not compromise the provision of food security for future generations.²⁸¹ It differs from the stability dimension in that it implies a more long-term outlook.²⁸² Sustainability is recognised, *inter alia*, in the Right to Food Guidelines, as vital to the realisation of the right to food:

States should consider specific national policies, legal instruments and supporting mechanisms to protect ecological sustainability and the carrying capacity of ecosystems to ensure the possibility for increased, sustainable food production for present and future generations, prevent water pollution, protect the fertility of the soil, and promote the sustainable management of fisheries and forestry.²⁸³

As noted by the HLPE, “[t]he six dimensions of food security [...] are all interconnected through a complex web of relationships”.²⁸⁴ Indeed, all the pillars must be addressed concurrently in order to ensure food security.²⁸⁵

Notably, the definitions of the concepts of food security and the right to adequate food are significantly similar.²⁸⁶ Moreover, when comparing the right to adequate food elements with the pillars of food security, it is evident that there is a considerable amount of overlap. Nevertheless, the two concepts should not be confused. According to the

²⁷⁸ HLPE 2020, p. 8.

²⁷⁹ Right to Food Guidelines, Guideline 1.1.

²⁸⁰ See Right to Food Guidelines, *inter alia*, Guidelines 3, 8, 9 & 11.

²⁸¹ HLPE 2020, p. 9.

²⁸² *Ibid.*

²⁸³ Right to Food Guidelines, Guideline 8.E.

²⁸⁴ HLPE 2020, p. 9.

²⁸⁵ Poppy et al. 2014, p. 4.

²⁸⁶ Mechlem 2004, p. 631. See sub-chapter 3.4.1. for definition of the right to food.

OHCHR, food security “is a precondition for the full enjoyment of the right to food”.²⁸⁷ In other words, achieving food security is an integral part of the realisation of the right to food.²⁸⁸ However, as emphasised by Mechlem, “fully realising the right to food is a wider and more encompassing objective than achieving food security”.²⁸⁹ Furthermore, although food security carries a considerable legal weight, it is not legally binding and therefore does not impose obligations.²⁹⁰ As highlighted by Strakos and Sanches, “[t]he [right to adequate food] adds the vital element of accountability to food security”.²⁹¹

The elements of both the right to adequate food and food security are further discussed in sub-chapter 4.2, in which the crucial importance of safeguarding pollinators in order to address these elements is brought to light.

3.5. State Obligations Arising from the Right to Food

3.5.1. The Classification of State Obligations

Originally, the human rights obligations of States have been divided into positive and negative obligations. The initial perception was that economic, social and cultural rights were positive, i.e., “vague and resource-demanding rights subject to progressive realisation”, whilst civil and political rights were viewed as negative, i.e., “precise and cost-free, capable of immediate implementation”.²⁹² Such dichotomy is now long considered outdated and alternatives to the traditional notion have evolved. The most prominent alternative is known as the tripartite typology of obligations. Although originally elaborated by Shue in 1980,²⁹³ the tripartite typology was popularised by Eide in 1987.²⁹⁴ According to the tripartite typology, States bear three types of human rights

²⁸⁷ OHCHR 2010, p. 4.

²⁸⁸ *Ibid.*, p. 5.

²⁸⁹ Mechlem 2004, p. 645.

²⁹⁰ Strakos and Sanches 2017, p. 40.

²⁹¹ *Ibid.*

²⁹² Koch 2005, p. 82.

²⁹³ See Shue 1980, p. 52.

²⁹⁴ Commission on Human Rights, Sub-Commission on Prevention of Discrimination and Protection of Minorities, 39th session, Report on the right to adequate food as a human right submitted by Mr. Asbjørn Eide, Special Rapporteur, 7 July 1987, UN Doc. E/CN.4/Sub.2/1987/23 (hereinafter UN Doc. E/CN.4/Sub.2/1987/23), paras. 112-114.

obligations; to respect, protect and fulfil.²⁹⁵ Another noteworthy alternative to the traditional division of human rights obligations is known as the quadruple typology.²⁹⁶ Elaborated by van Hoof in 1984, it differs from the tripartite typology in that instead of the obligation to fulfil it includes the obligations to ensure and to promote.²⁹⁷ The understanding of the nature of State obligations is elevated by the more nuanced tripartite and quadruple typologies.²⁹⁸

Although originally adopted to describe State obligations arising from the right to adequate food, the tripartite typology has subsequently become the most common approach used to classify human rights,²⁹⁹ and is described as a “bridge-builder” between economic, social and cultural rights, and civil and political rights.³⁰⁰ Indeed, the approach illustrates that positive and negative elements are encompassed in both sets of rights.³⁰¹ The applicability of the tripartite typology to all human rights reflects their universality, indivisibility, interdependency and interrelatedness.³⁰²

Notably, the tripartite typology is employed by the 1998 Maastricht Guidelines on Violations of Economic, Social and Cultural Rights (Maastricht Guidelines), which were agreed upon by an independent group of experts with the goal of facilitating understanding and determination of violations of economic, social and cultural rights.³⁰³ In Guideline 6, the obligations to respect, protect and fulfil are described as follows:

- (1) [t]he obligation to respect requires States to refrain from interfering with the enjoyment of economic, social and cultural rights.
- (2) [t]he obligation to protect requires States to prevent violations of such rights by third parties.

²⁹⁵ UN Doc. E/CN.4/Sub.2/1987/23, paras. 112-114.

²⁹⁶ van Hoof 1984, pp. 106-108.

²⁹⁷ *Ibid.*

²⁹⁸ Leib 2011, p. 63.

²⁹⁹ Schmid and Nolan 2014, p. 366.

³⁰⁰ Koch 2005, p. 82.

³⁰¹ *Ibid.*, p. 84.

³⁰² See Vienna Declaration and Programme of Action, adopted by the World Conference on Human Rights, 25 June 1993, UN Doc. A/CONF.157/23, para. 5.

³⁰³ See the 1998 Maastricht Guidelines on Violations of Economic, Social and Cultural Rights (hereinafter Maastricht Guidelines), Guideline 6. N.B. The Maastricht Principles build on the 1987 Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (hereinafter Limburg Principles).

- (3) [t]he obligation to fulfil requires States to take appropriate legislative, administrative, budgetary, judicial and other measures towards the full realization of such rights.³⁰⁴

It is, furthermore, laid down that “[f]ailure to perform any one of these three obligations constitutes a violation of such rights”.³⁰⁵ Lastly, it is noted in the Maastricht Guidelines that the obligations to respect, protect and fulfil each consist of what are known as obligations of conduct and obligations of result.³⁰⁶ These obligations are described in the Maastricht Guidelines as follows:

- (1) [t]he obligation of conduct requires action reasonably calculated to realize the enjoyment of a particular right.
- (2) [t]he obligation of result requires States to achieve specific targets to satisfy a detailed substantive standard.³⁰⁷

The tripartite typology is widely applied by the CESCR to guide States in their implementation of the ICESCR.³⁰⁸ Specifically in the context of the right to adequate food, the CESCR specifies that the obligation to respect requires States to refrain from taking measures that prevent existing access to adequate food.³⁰⁹ According to Ziegler, “[t]he obligation to respect the right to food is effectively a negative obligation, as it entails limits on the exercise of State power that might threaten people’s access to food”.³¹⁰ The obligation to protect, in turn, means that States must take measures to guarantee that individuals are not deprived of their access to adequate food by other individuals or by enterprises.³¹¹ The obligation to protect is thus of a positive nature,³¹² and it essentially means that States are required to prevent such deprivation through passing and enforcing laws.³¹³ Pursuant to their positive obligation to fulfil,³¹⁴ States are

³⁰⁴ Maastricht Guidelines, Guideline 6.

³⁰⁵ *Ibid.*

³⁰⁶ Maastricht Guidelines, Guideline 7. N.B. It was the International Law Commission that termed the obligations of conduct and of result. See International Law Commission, Draft Articles on State Responsibility with commentaries thereto, adopted by the International Law Commission on first reading, January 1997, Articles 20 & 21.

³⁰⁷ Maastricht Guidelines, Guideline 7.

³⁰⁸ Griffey 2011, p. 289.

³⁰⁹ CESCR, General Comment No. 12, para. 15.

³¹⁰ Commission on Human Rights, 62nd session, Report of the Special Rapporteur on the right to food, 16 March 2006, UN Doc. E/CN.4/2006/44 (hereinafter UN Doc. E/CN.4/2006/44), para. 22.

³¹¹ CESCR, General Comment No. 12, para. 15.

³¹² Strakos and Sanches 2017, p. 41.

³¹³ UN Doc. E/CN.4/2006/44, para. 23.

³¹⁴ Strakos and Sanches 2017, p. 42.

required to take on a more proactive role in the realisation of the right to adequate food.³¹⁵ According to the CESCR, the obligation to fulfil, in the context of the right to adequate food, incorporates two sub-obligations, namely those to facilitate and to provide.³¹⁶ In accordance with their obligation to facilitate, States are required to “pro-actively engage in activities intended to strengthen people’s access to and utilization of resources and means to ensure their livelihood, including food security”. Ensuring food security is thus considered to fall under the realm of the obligation to fulfil.³¹⁷ Lastly, the obligation to provide means that States bear the duty to provide individuals or groups with adequate food when they, for reasons beyond their control, are unable to do so themselves.³¹⁸

3.5.2. Obligations Pursuant to Articles 2 & 11 of the Covenant

Article 2 of the ICESCR lays down the nature of States Parties’ general legal obligations.³¹⁹ These are applicable in relation to each of the rights enunciated in the Covenant. The first paragraph of Article 2 reads as follows:

[e]ach State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.³²⁰

In its General Comment No. 3 on the nature of States Parties’ obligations, the CESCR reaffirms that “[t]he principal obligation of result reflected in article 2 (1) is to take steps “with a view to achieving progressively the full realization of the rights recognized””.³²¹ This includes the right to adequate food.³²²

³¹⁵ CESCR, General Comment No. 12, para. 15.

³¹⁶ *Ibid.* N.B. According to the CESCR, in the context of other social, economic and cultural rights, such as the right to health, the obligation to fulfil incorporates a third sub-obligation; to promote, see CESCR, General Comment No. 14.

³¹⁷ CESCR, General Comment No. 12, para. 15.

³¹⁸ *Ibid.*

³¹⁹ See ICESCR, Article 2.

³²⁰ ICESCR, Article 2 (1).

³²¹ Committee on Economic, Social and Cultural Rights, General Comment No. 3: The Nature of States Parties’ Obligations, 14 December 1990, UN Doc. E/1991/23 (hereinafter CESCR, General Comment No. 3), para. 9.

³²² CESCR, General Comment No. 12, para. 14.

The Committee highlights that whilst in the English version of the Covenant, States Parties are obligated “to take steps”, the undertaking in the French version is “to act” (“*s’engage à agir*”), and in the Spanish one “to adopt measures” (“*a adoptar medidas*”). In the full meaning of the phrase, States are therefore obligated to take steps towards the progressive realisation of the right to adequate food “within a reasonably short time after the Covenant’s entry into force”. The Committee further clarifies that the “[s]uch steps should be deliberate, concrete and targeted as clearly as possible towards meeting the obligations recognized in the Covenant”.³²³

Regarding the concept of progressive realisation, Ziegler emphasises that it “cannot be used to justify persistent injustice and inequality”.³²⁴ Rather, it means that States should take immediate steps towards the full realisation of the right to adequate food.³²⁵ This is made clear in the Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (Limburg Principles), in which it is clarified that the phrase imposes an obligation on States to “move as expeditiously as possible towards the realization of the rights”.³²⁶ Moreover, the concept of progressive realisation implies the principle of non-retrogression, meaning that States are prohibited from taking any deliberately retrogressive measures, i.e., measures that reduce the level of protection that has already been achieved.³²⁷ An example of a deliberate retrogressive measure is rescinding a law that affects the rights proclaimed in the Covenant.³²⁸

Pursuant to the provisions in Articles 2 and 11 relating to the duty to cooperate,³²⁹ States Parties, depending on their resources, are obligated to receive or to provide.³³⁰ The wording “to the maximum of its available resources” in Article 2 (1) should be interpreted, in accordance with the Limburg Principles, to mean that “States parties are obligated, regardless of the level of economic development, to ensure respect for minimum subsistence rights for all”.³³¹ This was reaffirmed in the Maastricht Guidelines

³²³ CESCR, General Comment No. 3, para. 2.

³²⁴ UN Doc. E/CN.4/2006/44, para. 26.

³²⁵ *Ibid.*

³²⁶ Limburg Principles, Principle 21.

³²⁷ UN Doc. E/CN.4/2006/44, para. 26. See also CESCR, General Comment No. 3, para. 9.

³²⁸ OHCHR 2005, p. 12.

³²⁹ See ICESCR, Articles 2 (1) & 11 (1) & (2).

³³⁰ OHCHR 2005, p. 14.

³³¹ Limburg Principles, Principle 25.

and by the CESCR in General Comment No. 3.³³² In the case of the right to food,³³³ the minimum core obligation of States is to ensure that everyone under its jurisdiction is free from hunger.³³⁴ Importantly, the fulfilment of a minimum core obligation should not be regarded as the conclusion of the realisation of an economic, social and cultural right. Rather, it should be viewed as a first step.³³⁵

Although Article 2 (1) emphasises the need to adopt legislative measures in order to fully realise the rights proclaimed in the Covenant, this does not imply that laws suffice. The weight of legislative action is noted in the Limburg Principles, but the obligation of States to use all appropriate means is also emphasised.³³⁶ Appropriate means, according to the Limburg Principles, “[include] legislative, administrative, judicial, economic, social and educational measures”.³³⁷

Pursuant to the second paragraph of Article 2, States are prohibited from exercising the rights proclaimed in the ICESCR with any kind of discrimination.³³⁸ According to the Limburg Principles, the prohibition of discrimination is an immediate duty.³³⁹ Indeed, as emphasised by Ziegler, “discrimination in access to food [...] cannot be justified under any circumstances”.³⁴⁰

As already noted, Article 11 of the Covenant proclaims the right to adequate food and recognises the fundamental right of everyone to be free from hunger.³⁴¹ It is of particular interest in the context of this thesis that the second paragraph of Article 11, recognising the right to freedom from hunger, obligates States Parties to take measures:

[t]o 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.³⁴²

³³² Maastricht Guidelines, Guideline 10; CESCR, General Comment No. 3, para. 10.

³³³ See ICESCR, Article 11.

³³⁴ CESCR, General Comment No. 12, para. 17.

³³⁵ OHCHR 2005, p. 23.

³³⁶ Limburg Principles, Principles 17 & 18.

³³⁷ *Ibid.*, Principle 17.

³³⁸ ICESCR, Article 2 (2).

³³⁹ Limburg Principles, Principle 22.

³⁴⁰ UN Doc. E/CN.4/2006/44, para. 27.

³⁴¹ ICESCR, Article 11.

³⁴² *Ibid.*, Article 11 (2) (a).

Although States are afforded a certain degree of discretion in their methods of implementing the right to adequate food, all Parties to the ICESCR are obligated to “take whatever steps are necessary to ensure that everyone is free from hunger and as soon as possible can enjoy the right to adequate food”.³⁴³ The obligations arising from the right to adequate food will be further examined in sub-chapter 4.3 in relation to using the right as a legal tool to support pollinator conservation.

3.6. The Justiciability of the Right to Food

Economic, social and cultural human rights, including the right to adequate food, appear to have a “reputation” for being non-justiciable. This is largely due to the perceived vagueness of such rights.³⁴⁴ Although right to food litigation is uncommon,³⁴⁵ according to FAO, “there is nothing inherent in the right to food that dictates its non-justiciability at the national level”, and “[a]ll levels of obligations regarding the right to food can be and have been found to be justiciable”.³⁴⁶ An oft-cited regional human rights case demonstrating the justiciability of the right to adequate food is the *Social and Economic Rights Action Center and the Center for Economic and Social Rights v. Nigeria (Ogoni)* case.³⁴⁷ In the *Ogoni* case, the African Commission on Human and Peoples’ Rights (African Commission) considered a communication involving the violation of wide-ranging rights, including the right to food.³⁴⁸

The entry into force of the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (OP-ICESCR) in 2013 represents a landmark development in the advancement of accountability for violations of the rights proclaimed in the ICESCR.³⁴⁹ A new complaints procedure for economic, social and cultural rights was

³⁴³ CESCR, General Comment No. 12, para. 21.

³⁴⁴ De Schutter 2013, p. 7.

³⁴⁵ Elver 2016, p. 23.

³⁴⁶ FAO 2006, pp. 94-95. For examples of adjudication of the right to food in practice, see International Development Law Organization 2014.

³⁴⁷ African Commission on Human and Peoples’ Rights (hereinafter African Commission), *Social and Economic Rights Action Center and the Center for Economic and Social Rights v. Nigeria*, 27 May 2002, No. 155/96 (hereinafter *Ogoni*).

³⁴⁸ See *Ogoni*.

³⁴⁹ See Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, 10.12.2008, adopted by United Nations General Assembly Resolution A/RES/63/117 (hereinafter OP-ICESCR).

established by the OP-ICESCR, making the rights proclaimed in the ICESCR quasi-justiciable at the international level.³⁵⁰ Today, claims that economic, social and cultural rights are non-justiciable are not tenable.

Pollinator conservation under IEL and the right to food under IHRL have been analysed in chapters two and three of this thesis, respectively. In the following chapter, the two sections of international law are brought together with the aim of identifying and analysing potential synergies between them that may be utilised in order to concomitantly enhance food security and pollinator conservation.

³⁵⁰ See OP-ICESCR, Article 2. For an analysis of the evolving jurisprudence of the CESCRC under the OP-ICESCR, see Liebenberg 2020.

4. Utilising International Law to Reconcile Pollinator Conservation with Food Security

4.1. Charting the Relationship Between Human Rights and Environmental Protection

4.1.1. Identifying the Connection in International Law Instruments

A relationship between IHRL and IEL has been recognised virtually since the latter field of law emerged in the late 1960's.³⁵¹ At the 1972 UN Conference on the Human Environment, held in Stockholm, the intrinsic link between environmental protection and human rights was first officially recognised by the international community. The conference resulted in the Stockholm Declaration which proclaims, *inter alia*, that the environment is “essential to [man’s] well-being and to the enjoyment of basic human rights [including] the right to life itself”, and that “[t]o defend and improve the human environment for present and future generations has become an imperative goal for mankind”.³⁵² The Stockholm Declaration was the first step towards the global recognition of the human right to a healthy environment, the added value of which is discussed in sub-chapter 4.1.2. Principle 1 declares the following:

[m]an has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.³⁵³

In proclaiming the responsibility to protect and improve the environment not only for present, but also future generations, the Stockholm Declaration also introduced the dimension of intergenerational equity. In the context of this thesis, the principle of intergenerational equity is of particular importance, and it will be further discussed in sub-chapters 4.2 and 4.3. Principle 2 of the Stockholm Declaration is also highly relevant in the present context:

³⁵¹ Anton and Shelton 2011, p. 118.

³⁵² Stockholm Declaration, paras. 1 & 6.

³⁵³ *Ibid.*, Principle 1.

[t]he natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.³⁵⁴

The 1980's saw the connection between human rights and the environment become enshrined in legally binding instruments. Indeed, the African Charter on Human and Peoples' Rights (Banjul Charter), which was adopted in 1981, proclaims that "[a]ll peoples shall have the right to a general satisfactory environment favourable to their development".³⁵⁵ The Protocol of San Salvador, adopted in 1988, includes a more specific articulation than the Banjul Charter; in addition to proclaiming the right of individuals "to live in a healthy environment", it lays down that States have the duty to "promote the protection, preservation, and improvement of the environment".³⁵⁶

A noteworthy example of an international human rights agreement, as opposed to the above-mentioned regional ones, which explicitly refers to the environment, is the 1989 CRC, pursuant to which States are obligated to "[take] into consideration the dangers and risks of environmental pollution" when realising "the right of the child to the enjoyment of the highest attainable standard of health".³⁵⁷

Notwithstanding these provisions, "the right to a healthy environment remains limited within the core international human rights treaties".³⁵⁸ Importantly, however, although IHRL instruments adopted prior to the Stockholm Declaration do not include explicit references to the environment, they have been progressively, or teleologically, interpreted.³⁵⁹ Such interpretation, which has been done by both human rights treaty bodies and regional human rights mechanisms, enables the recognition of environmental dimensions of older human rights instruments.³⁶⁰ For instance, the UDHR proclaims that "[e]veryone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized".³⁶¹ The "order" referred to is generally

³⁵⁴ Stockholm Declaration, Principle 2.

³⁵⁵ African Charter on Human and Peoples' Rights, 27.6.1981, 1520 UNTS 217 (hereinafter Banjul Charter), Article 24.

³⁵⁶ Protocol of San Salvador, Article 11.

³⁵⁷ CRC, Articles 24 (1) & (2) (c).

³⁵⁸ Gilbert 2018, p. 149.

³⁵⁹ UN Doc. A/HRC/19/34, para. 26.

³⁶⁰ *Ibid.*

³⁶¹ UDHR, Article 28.

interpreted as to cover environmental issues.³⁶² As will be detailed in subsequent sections, it is through such progressive interpretation that the environmental dimensions of the right to adequate food can be identified and utilised. The recognition of environmental dimensions of human rights treaties through teleological interpretation is referred to as “greening” of IHRL.³⁶³

The link between human rights and environmental protection can also be identified through the examination of environmental instruments.³⁶⁴ A notable example of an environmental treaty which recognises the link between the environment and human rights is the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention).³⁶⁵ The Aarhus Convention recognises that “adequate protection of the environment is essential to human well-being and the enjoyment of basic human rights, including the right to life itself”.³⁶⁶ Moreover, it recognises that “every person has the right to live in an environment adequate to his or her health and well-being, and the duty [...] to protect and improve the environment for the benefit of present and future generations”.³⁶⁷ The Paris Agreement is another prominent example of an IEL instrument in which the relationship between human rights and environmental protection can be identified. Indeed, it acknowledges “that climate change is a common concern of humankind” and that “Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights”.³⁶⁸ Lastly, in the context of this thesis, it is also notable that the link can, to a lesser extent, be identified in the CBD, which affirms that “the conservation of biological diversity is a common concern of humankind”, and recognises the critical importance of conserving and sustainably using biodiversity for, *inter alia*, meeting the food demand of the increasing world population.³⁶⁹ Although the

³⁶² Commission on Human Rights, Sub-Commission on Prevention of Discrimination and Protection of Minorities, 46th session, Human Rights and the Environment, Final report presented by Mrs Fatma Zohra Ksentini, Special Rapporteur, 6 July 1994, UN Doc. E/CN.4/Sub.2/1994/9 (hereinafter UN Doc. E/CN.4/Sub.2/1994/9), para. 34.

³⁶³ Boyle 2012, p. 614. Greening is defined by the Cambridge Dictionary as “the process of beginning to pay attention to the protection of the natural environment”.

³⁶⁴ UN Doc. A/HRC/19/34, para. 27.

³⁶⁵ See Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 25.6.1998, 2161 UNTS 447 (hereinafter Aarhus Convention).

³⁶⁶ Aarhus Convention, Preamble.

³⁶⁷ *Ibid.*

³⁶⁸ Paris Agreement, Preamble.

³⁶⁹ CBD, Preamble.

CBD does not explicitly refer to human rights, the recognition of the importance of biodiversity to meeting food demand can be interpreted as an implicit reference to food security, and therefore ultimately to the right to food.

Evidently, as can be concluded from examining IHRL and IEL instruments, human rights and environmental protection are closely interrelated. Yet, since the conference in Stockholm in 1972, the exact nature of the relationship between human rights and environmental protection has been the subject of intense debate.³⁷⁰ Notably, twenty years after the adoption of the Stockholm Declaration, another declaration was adopted at the Rio Conference on environment and development.³⁷¹ As noted by Francioni, the Rio Declaration “substantially departed from the idea of a link between human rights and environmental protection”.³⁷² Principle 1 of the Rio Declaration proclaims that “[h]uman beings are at the centre of concerns for sustainable development”, adding that “[t]hey are entitled to a healthy and productive life in harmony with nature”.³⁷³ Francioni highlights the absence of human rights language in this wording, criticising the lack of progress in developing the link between human rights and environmental protection.³⁷⁴ Nevertheless, several actors have since significantly contributed to elucidating the connection between human rights and the environment. Key actors and their contributions are highlighted in the following sub-chapter, in which the evolving jurisprudence on the relationship between human rights and environmental protection, which has pathed the way towards the UN formally recognising the human right to a healthy environment, is discussed.

4.1.2. Towards Universal Recognition of the Human Right to a Healthy Environment

Charter-based UN human rights bodies, such as the UN Human Rights Council (HRC), produce material that plays an important role in terms of the guidance it provides to various actors, including States.³⁷⁵ In addition to their resolutions, statements and studies

³⁷⁰ UN Doc. A/HRC/19/34, para. 6.

³⁷¹ See Rio Declaration.

³⁷² Francioni 2010, p. 45.

³⁷³ Rio Declaration, Principle 1.

³⁷⁴ Francioni 2010, p. 45.

³⁷⁵ UN Doc. A/HRC/19/34, para. 55.

on the relationship between human rights and the environment, the charter-based human rights bodies have established so-called special procedures which in turn has enabled the production of a significant amount of material on the subject.³⁷⁶ The Ksentini report of 1994, mandated by the Sub-Commission on Prevention of Discrimination and Protection of Minorities and named after former Special Rapporteur Fatma Zohra Ksentini, is a prominent example of such a document.³⁷⁷ The Ksentini report is a comprehensive document elaborating the interconnection of human rights and the environment. It is described by the OHCHR as “a landmark precedent” that resulted in one main conclusion; that environmental rights are parts of existing human rights.³⁷⁸ The Special Rapporteur also highlighted that environmental issues are global and that they not only threaten planet Earth but “the whole of mankind, as well as future generations”.³⁷⁹ Furthermore, she emphasised that several international human rights instruments “should be implemented from an ecological standpoint”.³⁸⁰ Moreover, in the context of this thesis, it is notable that Ksentini remarked on the crucial importance of a healthy environment to food security and the right to food.³⁸¹

The HRC has adopted several resolutions on human rights and the environment.³⁸² In resolution 16/11 that was adopted in 2011, its first resolution of this kind, the HRC identifies the following key elements of the relationship between human rights and the environment:

that sustainable development and the protection of the environment can contribute to human well-being and the enjoyment of human rights [;]

that environmental damage can have negative implications, both direct and indirect, for the effective enjoyment of human rights [;]

that, while these implications affect individuals and communities around the world, environmental damage is felt most acutely by those segments of the population already in vulnerable situations [;]

³⁷⁶ UN Doc. A/HRC/19/34, para. 41.

³⁷⁷ See UN Doc. E/CN.4/Sub.2/1994/9.

³⁷⁸ UN Doc. A/HRC/19/34, para. 42.

³⁷⁹ UN Doc. E/CN.4/Sub.2/1994/9, para. 235.

³⁸⁰ *Ibid.*, para. 39.

³⁸¹ *Ibid.*, para. 188.

³⁸² N.B. Although the first resolution on “human rights and the environment” specifically came in 2011, several resolutions of relevance to the relationship between human rights and the environment were adopted prior to this.

that many forms of environmental damage are transnational in character and that effective international cooperation to address such damage is important in order to support national efforts for the realization of human rights [; and]

that human rights obligations and commitments have the potential to inform and strengthen international, regional and national policymaking in the area of environmental protection and promoting policy coherence, legitimacy and sustainable outcomes[.]³⁸³

Pursuant to resolution 16/11, the OHCHR conducted an analytical study on the relationship between human rights and the environment.³⁸⁴ The “study examines the key components of the relationship between human rights and the environment”.³⁸⁵ Indeed, it provides its readers with a concise overview of synergies between the two fields of international law. In 2012, just a few months after this study was made public, the mandate for the UN Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, more commonly referred to as the Special Rapporteur on human rights and the environment, was created,³⁸⁶ and John H. Knox was appointed. The creation of this mandate clearly demonstrates the importance of furthering the understanding of and utilising synergies between human rights and environmental protection.

In resolution 46/7, adopted in early 2021, the HRC reaffirms the importance of protecting the environment for the enjoyment of, *inter alia*, the right to adequate food, recognising that the decline in ecosystem services may ultimately have a negative impact on the effective enjoyment of all human rights.³⁸⁷ Moreover, the crucial importance of exercising human rights for the protection of the environment is recognised.³⁸⁸ In the context of this thesis, it is of particular interest that the HRC stresses the need to “[build] synergies in the protection of human rights and the protection of the environment”.³⁸⁹

³⁸³ Human Rights Council, 16th session, Human rights and the environment, 12 April 2011, UN Doc. A/HRC/RES/16/11 (hereinafter UN Doc. A/HRC/RES/16/11), Preamble.

³⁸⁴ See UN Doc. A/HRC/19/34.

³⁸⁵ UN Doc. A/HRC/19/34, para. 3.

³⁸⁶ See Human Rights Council, 19th session, Human rights and the environment, 19 April 2012, UN Doc. A/HRC/RES/19/10 (hereinafter UN Doc. A/HRC/RES/19/10), para. 2.

³⁸⁷ Human Rights Council, 46th session, Human rights and the environment, 30 March 2021, UN Doc. A/HRC/RES/46/7 (hereinafter UN Doc. A/HRC/RES/46/7), Preamble.

³⁸⁸ UN Doc. A/HRC/RES/46/7, Preamble.

³⁸⁹ *Ibid.*, para. 10.

Human rights treaty bodies have also made notable contributions. Specifically, both the CESCR and the CCPR have recognised the importance of a healthy environment for the realisation of the human rights under their respective jurisdictions.³⁹⁰ In the context of realising the right to adequate food, for instance, the CESCR refers to the importance of adopting appropriate environmental policies.³⁹¹ In 2018, the CCPR, in turn, clarified in its General Comment No. 36 on the right to life that pursuant to their obligation to protect life, States should take appropriate measures to address, *inter alia*, environmental degradation, as it may interfere with individuals' enjoyment of the right.³⁹² Moreover, the CCPR emphasises that “[e]nvironmental degradation, climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life”.³⁹³

Increasingly, UN human rights bodies are not only acknowledging, but emphasising the intertwinement of human rights and environmental issues. The existence of an intrinsic link is echoed by the African, Inter-American and European human rights systems.³⁹⁴ The Inter-American Court of Human Rights (IACtHR), for instance, has recognised that the link is “undeniable”.³⁹⁵ Gradually, these regional human rights systems have, through innovative and dynamic interpretation,³⁹⁶ identified a variety of ways in which environmental issues relate to human rights, thereby clarifying the environmental dimensions of the rights in question.³⁹⁷ Both the IACtHR and the African Commission have paid particular attention to the relationship between the environment and indigenous

³⁹⁰ UN Doc. A/HRC/19/34, para. 56.

³⁹¹ CESCR, General Comment No. 12, para. 4.

³⁹² CCPR, General Comment No. 36, para. 26.

³⁹³ *Ibid.*, para. 62.

³⁹⁴ See UN Doc. A/HRC/19/34, section VI.

³⁹⁵ Inter-American Court of Human Rights (hereinafter IACtHR), *Kawas-Fernández v. Honduras*, 3 April 2009 (Merits, Reparations and Costs), Series C No. 196, para. 148.

³⁹⁶ Pirjatanniemi 2018, p. 70.

³⁹⁷ UN Doc. A/HRC/19/34, para. 33.

and tribal peoples' rights.³⁹⁸ The European Court of Human Rights (ECtHR) has, in turn, especially focused on the impacts of environmental pollution on human rights.³⁹⁹

Relying on its General Comment No. 36 as well as the jurisprudence of the regional human right courts, the CCPR made a landmark decision in the 2019 case *Portillo Cáceres v. Paraguay*. In said case, for the first time in the CCPR's jurisprudence it specifically and unequivocally recognised that a State's failure to address environmental harm can constitute a violation of its obligation to protect the right to life under Article 6 of the ICCPR.⁴⁰⁰ It is anticipated that this decision may contribute to furthering the recognition of the crucial importance of addressing environmental issues as a key aspect of human rights protection.⁴⁰¹

The evolving jurisprudence on the relationship between human rights and environmental protection, and the greening of IHRL, has paved the way towards the global recognition of the human right to a healthy environment. As of 2021, over 155 States recognise a right to a healthy environment.⁴⁰² Moreover, evidence demonstrates that the legal recognition of such a right has helped improve the environment's health.⁴⁰³ Boyle argues that global recognition of the right to a healthy environment "would make more explicit the relationship between the environment, human rights, and sustainable development, and address the conservation and sustainable use of nature and natural resources".⁴⁰⁴ Importantly, however, and as noted by Knox, notwithstanding the clear advantages of recognising the human right to a healthy environment, explicit recognition of such a human right is not a precondition for applying human rights to environmental

³⁹⁸ UN Doc. A/HRC/19/34, paras. 34-35. For examples of relevant IACtHR cases see, *inter alia*, *Moiwana Community v. Suriname*, 15 June 2005 (Merits, Reparations and Costs), Series C No. 124; *Sawhoyamaya Indigenous Community v. Paraguay*, 29 March 2006 (Merits, Reparations and Costs), Series C No. 146. For examples of relevant African Commission cases see, *inter alia*, *Ogoni*; *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya*, 4 February 2010, No. 276/2003.

³⁹⁹ UN Doc. A/HRC/19/34, para. 37. For examples of relevant European Court of Human Rights (hereinafter ECtHR) cases see, *inter alia*, *Fredin v. Sweden*, 18 February 1991, No. 12033/86; *López Ostra v. Spain*, 9 December 1994, No. 16798/90; *Öneryildiz v. Turkey*, 30 November 2004, No. 48939/99.

⁴⁰⁰ CCPR, *Portillo Cáceres v. Paraguay*, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 2751/2016, 20 September 2019, UN doc. CCPR/C/126/D/2751/2016, para. 7.5.

⁴⁰¹ Reeh 2019.

⁴⁰² UN Doc. A/HRC/RES/46/7, Preamble.

⁴⁰³ United Nations General Assembly, 73rd session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 19 July 2018, UN Doc. A/73/188 (hereinafter UN Doc. A/73/188), para. 56.

⁴⁰⁴ Boyle 2012, p. 616.

protection.⁴⁰⁵ Indeed, this is demonstrated by jurisprudence as discussed above. Moreover, referring to the right to a healthy environment in the context of environmental dimensions of human rights “does not change the legal content of obligations that are based on existing human rights law”, and nor will global recognition of such a human right.⁴⁰⁶ Nevertheless, in 2018 the former Special Rapporteur on human rights and the environment emphasised that the time has come for the UN to formally recognise such a human right.⁴⁰⁷

In the autumn of 2020, over 1100 organisations came together to call upon the UN to formally recognise the human right to a healthy environment.⁴⁰⁸ Then, in early 2021, a joint statement, in which governments were invited to support the call for the global recognition of the right to a healthy environment, was delivered at the 46th session of the HRC.⁴⁰⁹ 69 States signed the statement, thereby expressing their intent to proceed with negotiations towards a resolution proclaiming the right to a healthy environment.⁴¹⁰ The following is an extract from the statement:

[t]here is a global consensus on the degradation of the environment and the consequences it has on human life. We are all reminded by the current pandemic that the dignity, life, and health of all humans must be both protected and promoted without any discrimination. It is our belief that a safe, clean, healthy and sustainable environment is integral to the full enjoyment of human rights. Therefore the possible recognition of the right at a global level would have numerous important implications on what we leave to our future generations.

According to Arnold Kreilhuber, Acting Director of UNEP’s Law Division at the time, the statement “represents an unprecedented level of support for the global recognition of the right to a healthy environment and a commitment to proceed with the process of formalising this recognition”.⁴¹¹ During that same HRC session, 15 UN agencies, including UNEP and the OHCHR, issued a joint statement in which they “declare that the time for global recognition, implementation, and protection of the human right to a safe,

⁴⁰⁵ Human Rights Council, 37th session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 24 January 2018, UN Doc. A/HRC/37/59 (hereinafter UN Doc. A/HRC/37/59), para. 13.

⁴⁰⁶ UN Doc. A/HRC/37/59, para. 16.

⁴⁰⁷ UN Doc. A/73/188, para. 37.

⁴⁰⁸ See Coalition for the right to a healthy environment 2020.

⁴⁰⁹ See Core Group Joint Statement on Human Rights and the Environment.

⁴¹⁰ See Co-Sponsors of Core Group Joint Statement on Right to a Healthy Environment.

⁴¹¹ UNEP 2021 (b).

clean, healthy and sustainable environment is now”.⁴¹² Then, on World Environment Day in June 2021, over fifty UN experts issued a joint statement, “[calling] on States to take urgent and timely action to recognize and implement the right [...] as a vital response to the current multi-faceted environmental crisis”.⁴¹³

All the above developments, from the adoption of the Stockholm Declaration almost 50 years ago, to the statements recently signed by organisations, experts and States, paved the way to the HRC, at its 48th session, formally recognising “the right to a clean, healthy and sustainable environment as a human right that is important for the enjoyment of human rights”.⁴¹⁴ This milestone resolution, adopted without any opposing vote, means that the human right to a healthy environment is now unambiguously established at the global level. Its adoption has been widely applauded, including by the UN High Commissioner for Human Rights, Michelle Bachelet,⁴¹⁵ and Boyd has emphasised the “life-changing potential” of this “historic breakthrough”.⁴¹⁶ Notably, the resolution reaffirms, *inter alia*, the importance of environmental protection to the realisation of the right to adequate food, as well as the impact of the decline in ecosystem services on the effective enjoyment of all human rights.⁴¹⁷ Moreover, it “[e]ncourages States [...] [t]o [build] synergies between the protection of human rights and the protection of the environment”, as well as “[t]o adopt policies for the enjoyment of the right to a clean, healthy and sustainable environment as appropriate, including with respect to biodiversity and ecosystems”.⁴¹⁸

In the context of this thesis, it is notable that healthy and sustainably produced food, healthy ecosystems and biodiversity, all constitute substantive elements of the right to a healthy environment.⁴¹⁹ According to UNEP, one of the major reasons why a healthy environment should be a human right is the impact of biodiversity decline on the

⁴¹² UNEP 2021 (c).

⁴¹³ OHCHR 2021 (a).

⁴¹⁴ See Human Rights Council, 48th session, The human right to a clean, healthy and sustainable environment, 18 October 2021, UN Doc. A/HRC/RES/48/13 (hereinafter UN Doc. A/HRC/RES/48/13), para. 1.

⁴¹⁵ OHCHR 2021 (b).

⁴¹⁶ Farge/Reuters 2021.

⁴¹⁷ UN Doc. A/HRC/RES/48/13, Preamble.

⁴¹⁸ *Ibid.*, para. 4 (b) & (c).

⁴¹⁹ Human Rights Council, 43rd session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 30 December 2019, UN Doc. A/HRC/43/53 (hereinafter UN Doc. A/HRC/43/53), para. 2.

adequacy of food.⁴²⁰ Although not a legally binding instrument, it is anticipated that the historic resolution will catalyse action to address environmental degradation, including biodiversity decline.⁴²¹ This is reflected in that the current Special Rapporteur on human rights and the environment recommends that the GBF explicitly acknowledges the right of all individuals to a healthy environment, since biodiversity and ecosystems constitute a key part of such a right.⁴²² Yet, the first draft of the GBF does not do so.⁴²³ Another important benefit of the UN formally recognising this human right is that it may bolster arguments in lawsuits involving human rights and environmental protection.⁴²⁴

30 years ago, Shelton argued that future international recognition of a human right to a healthy environment would contribute to resolving the relationship between human rights and environmental protection in a way that advances both goals.⁴²⁵ Today, it is clearer than ever that the recognition of such a human right is a necessary step towards harnessing the synergies between human rights and environmental protection; both of which are crucial to a sustainable development, as will be discussed in sub-chapter 4.1.5. At the time of writing, however, it remains to be seen whether the UN General Assembly, of which all 193 UN Member States are members, will follow in the footsteps of the HRC and adopt a similar resolution, thereby achieving universal recognition of the right to a healthy environment.

4.1.3. Establishing Links and Defusing Tensions

The above analysis illustrates that the synergistic conception of the relationship between human rights and environmental protection is widespread. Indeed, as phrased by Anton and Shelton, “the protection of the environment and the promotion of human rights are increasingly seen by many as intertwined, complementary goals”.⁴²⁶ In the mind of Christopher Weeramantry, former vice president of the ICJ, the link between human

⁴²⁰ UNEP 2021 (d).

⁴²¹ UNEP 2021 (b).

⁴²² Boyd and Keene 2021, p. 17.

⁴²³ See CBD/WG2020/3/3, Annex.

⁴²⁴ Farge/Reuters 2021.

⁴²⁵ Shelton 1991, p. 106.

⁴²⁶ Anton and Shelton 2011, p. 119.

rights and environmental protection was so obvious already in the 1990's that he wrote the following in his separate opinion in the *Gabčíkovo-Nagymaros Project* case:

[t]he protection of the environment is [...] a vital part of contemporary human rights doctrine, for it is a *sine qua non* for numerous human rights such as the right to health and the right to life itself. It is scarcely necessary to elaborate on this, as damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments.⁴²⁷

Nevertheless, it should be noted that not all scholars have always encouraged linking the two issues.⁴²⁸ In 1991, Shelton acknowledged that there are arguments both for and against establishing a strong link between human rights and environmental protection and underlined the importance of recognising both synergies and conflicts. She emphasised that human rights and environmental protection represent “different, but overlapping, societal values”.⁴²⁹ Furthermore, Shelton recognised that the strength of the link varies according to the context:

[t]he two fields share a core of common interests and objectives, although obviously not all human rights violations are necessarily linked to environmental degradation. Likewise, environmental issues cannot always be addressed effectively within the human rights framework, and any attempt to force all such issues into a human rights rubric may fundamentally distort the concept of human rights.⁴³⁰

Although the above was written 30 years ago, the points are still valid. In 2011, Anton and Shelton noted that some authors have argued that the value systems of human rights and environmental protection are so incompatible that conflict is a more probable outcome than mutual reinforcement.⁴³¹ In their relatively recent book, Dupuy and Viñuales, too, emphasise that there is not always a strong link between the two issues.⁴³² Moreover, they argue that the relationship between human rights and environmental protection is not a conflict free one. Pointing to the wording of the Stockholm Declaration,⁴³³ Dupuy and Viñuales emphasise that “[the] synergistic conception has

⁴²⁷ International Court of Justice, *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, 25 September 1997, Separate Opinion of Vice-President Weeramantry, p. 88.

⁴²⁸ Anton and Shelton 2011, p. 119.

⁴²⁹ Shelton 1991, p. 105.

⁴³⁰ *Ibid.*

⁴³¹ Anton and Shelton 2011, p. 119.

⁴³² Dupuy and Viñuales 2018, p. 386.

⁴³³ See Stockholm Declaration, Principle 1.

deeply influenced international practice”.⁴³⁴ This is reflected in that, despite its comprehensiveness, the OHCHR’s analytical study failed to include any clear references to potential conflicts between human rights and environmental protection; indeed, all three of the approaches put forward are synergistic. Recognising and addressing conflicts between the two areas of international law is necessary if one is to successfully utilise potential synergies. Dupuy and Viñuales identified three types of tensions that can arise from the relationship between human rights and environmental protection. These are tensions between the pillars of sustainable development, tensions between conservation and the rights of indigenous and tribal peoples, and tensions between environmental interventionism and human rights.⁴³⁵ Applying a human rights-based approach (HRBA) to biodiversity conservation has promising potential to defuse such tensions. Therefore, the added value of employing such an approach is discussed in the following sub-chapter.

4.1.4. Applying a Human Rights-Based Approach to Pollinator Conservation

In its resolution 46/7 on human rights and the environment, the HRC calls upon States to apply an HRBA to biodiversity conservation and encourages them to take such an approach into consideration in the GBF.⁴³⁶ It is promising that the first draft of the GBF lays down that the framework “will be implemented taking a rights-based approach”.⁴³⁷ This sub-chapter examines the added value of applying an HRBA to pollinator conservation.

The UN Sustainable Development Group defines the HRBA as follows:

a conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights. It seeks to analyse inequalities which lie at the heart of development problems and redress discriminatory practices and unjust distributions of power that impede development progress and often result in groups of people being left behind.⁴³⁸

⁴³⁴ Dupuy and Viñuales 2018, p. 358.

⁴³⁵ *Ibid.*, p. 361.

⁴³⁶ UN Doc. A/HRC/RES/46/7, para. 12 & Preamble.

⁴³⁷ CBD/WG2020/3/3, Annex, para. 7.

⁴³⁸ United Nations Sustainable Development Group 2021.

In the context of biodiversity conservation, HRBAs can be described as follows:

[the integration of] rights norms, standards, and principles into policy, planning, implementation, and outcomes assessment to help ensure that conservation practice respects rights in all cases, and supports their further realisation where possible.⁴³⁹

An HRBA can thus be understood as a tool used to harmonise conservation with human rights, thereby defusing potential conflicts between the environmental and social pillars of sustainable development.⁴⁴⁰

For example, the designation of protected areas for biodiversity conservation has left, and continues to leave,⁴⁴¹ many indigenous and tribal peoples displaced, thus violating several of their fundamental human rights, including the right to food.⁴⁴² Such action, i.e., the removal of indigenous and tribal peoples from their traditional lands, is known as “fortress conservation”.⁴⁴³ The premise for fortress conservation is based on the erroneous assumption that in order for conservation efforts to succeed, humans cannot live in the designated areas.⁴⁴⁴ Applying an HRBA to conserving biodiversity can defuse such conflicts between biodiversity conservation efforts and the rights of indigenous and tribal peoples.⁴⁴⁵

Environmental human rights defenders (EHRDs) constitute another particularly vulnerable group in the context of biodiversity conservation. EHRDs are defined as follows:

individuals and groups who, in their personal or professional capacity and in a peaceful manner, strive to protect and promote human rights relating to the environment, including water, air, land, flora and fauna.⁴⁴⁶

⁴³⁹ Campese 2009, p. 8.

⁴⁴⁰ Greiber 2009, p. 1.

⁴⁴¹ Tauli-Corpuz et al. 2020, p. 5.

⁴⁴² UN Doc. A/75/161, para. 39.

⁴⁴³ Tauli-Corpuz et al. 2020, p. 1.

⁴⁴⁴ Boyd and Keene 2021, p. 4.

⁴⁴⁵ *Ibid.*

⁴⁴⁶ United Nations General Assembly, 71st session, Report of the Special Rapporteur on the situation of human rights defenders, 3 August 2016, UN Doc. A/71/281 (hereinafter UN Doc. A/71/281), para. 7.

Often indigenous or tribal peoples themselves,⁴⁴⁷ EHRDs are increasingly threatened, attacked and murdered because of the work they do to protect the environment.⁴⁴⁸ For instance, EHRD Homero Gómez González was murdered near the Monarch Butterfly Biosphere Reserve in Mexico, in January 2020.⁴⁴⁹ He died because he was trying to protect the pollinators' habitat. The employment of an HRBA is of utmost importance from the perspective of protecting EHRDs and increasingly, various actors are calling for the placement of EHRDs at the centre of biodiversity conservation.⁴⁵⁰

In early 2018, Knox presented the Framework Principles on Human Rights and the Environment to the 37th session of the HRC.⁴⁵¹ These sixteen principles summarise the principal human rights obligations that relate to the enjoyment of a safe, clean, healthy and sustainable environment.⁴⁵² In the context of the importance of applying an HRBA to biodiversity conservation, it is notable that the fourth principle highlights that “States should provide a safe and enabling environment” for EHRDs.⁴⁵³ The fifteenth principle, in turn, which is the framework principle that is most firmly based in the CBD,⁴⁵⁴ reaffirms the importance of States complying “with their obligations to indigenous peoples and members of traditional communities”.⁴⁵⁵ According to Morgera, the fifteenth principle “reflects the cross-fertilization between [IHRL] and international biodiversity law”.⁴⁵⁶ Knox’s sixteenth and last principle is also relevant to this discussion; “States

⁴⁴⁷ UN Doc. A/71/281, para. 8.

⁴⁴⁸ See Human Rights Council, 46th session, Report of the Special Rapporteur on the situation of human rights defenders, 24 December 2020, UN Doc. A/HRC/46/35 (hereinafter UN Doc. A/HRC/46/35).

⁴⁴⁹ Agren/The Guardian 2020.

⁴⁵⁰ Bille Larsen et al. 2021, p. 2.

⁴⁵¹ See UN Doc. A/HRC/37/59, Annex, Framework principles on human rights and the environment (hereinafter Framework principles on human rights and the environment).

⁴⁵² Framework principles on human rights and the environment, para. 2.

⁴⁵³ *Ibid.*, principle 4. On the rights of human rights defenders in general, see United Nations General Assembly, 53rd session, Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms, 8 March 1999, UN Doc. A/RES/53/144, Annex. On the rights of environmental human rights defenders specifically, see also Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, 4.3.2018, Article 9.

⁴⁵⁴ Morgera 2018, p. 697.

⁴⁵⁵ Framework principles on human rights and the environment, principle 15. On the rights of indigenous peoples, see United Nations General Assembly, 61st session, United Nations Declaration on the Rights of Indigenous Peoples, 2 October 2007, UN Doc. A/RES/61/295, Annex.

⁴⁵⁶ Morgera 2018, p. 699.

should respect, protect and fulfil human rights in the actions they take to address environmental challenges and pursue sustainable development”.⁴⁵⁷

The knowledge and ability of indigenous and tribal peoples is crucial to successful and cost-efficient biodiversity conservation.⁴⁵⁸ Notably, this is recognised in the CBD; indeed, Parties are obligated to:

[...] respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application [; and]

[p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.⁴⁵⁹

The importance of indigenous peoples’ knowledge is also recognised in the Nagoya Protocol.⁴⁶⁰ Moreover, “the need for [...] the full and effective participation of indigenous peoples and local communities in the implementation of the framework” is acknowledged in the first draft of the GBF.⁴⁶¹ In the context of defusing tensions between indigenous peoples’ rights and biodiversity conservation, it is notable that Victoria Tauli-Corpuz, former UN Special Rapporteur on the Rights of Indigenous Peoples, indicated to the IACtHR in the *Kaliña and Lokono Peoples v. Suriname* case that “[IEL] and [IHRL] should not be considered separate, but rather interrelated and complementary, bodies of law”.⁴⁶²

⁴⁵⁷ Framework principles on human rights and the environment, principle 16.

⁴⁵⁸ Boyd and Keene 2021, p. 4; Tauli-Corpuz et al. 2020, p. 2.

⁴⁵⁹ CBD, Articles 8 (j) & 10 (c). In relation to the implementation of these provisions, see Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Seventh Meeting, April 2004, CBD/COP/DEC/VII/16, Annex, F. Akwé: Kon Voluntary Guidelines for the conduct of cultural, environmental and social impact assessment regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities, as well as Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Thirteenth Meeting, December 2016, CBD/COP/DEC/XIII/18, Annex, Mo’otz Kuxtal Voluntary Guidelines for the development of mechanisms, legislation or other appropriate initiatives to ensure the “prior and informed consent”, “free, prior and informed consent” or “approval and involvement”, depending on national circumstances, of indigenous peoples and local communities for accessing their knowledge, innovations and practices, for fair and equitable sharing of benefits arising from the use of their knowledge, innovations and practices relevant for the conservation and sustainable use of biological diversity, and for reporting and preventing unlawful appropriation of traditional knowledge.

⁴⁶⁰ Nagoya Protocol, Articles 7 & 12.

⁴⁶¹ CBD/WG2020/3/3, Annex, para. 7.

⁴⁶² IACtHR, *Kaliña and Lokono Peoples v. Suriname*, 25 November 2015 (Merits, Reparations and Costs), Series C No. 309, para. 174.

EHRDs, in turn, play a vital role in the promotion and protection of human rights that depend on biodiversity and other elements of the environment.⁴⁶³ It is therefore considered crucial that an HRBA is applied, not only from the perspective of safeguarding the rights of indigenous and tribal peoples as well as those of EHRDS, but also for the effectual conservation of biodiversity.⁴⁶⁴ In the context of this thesis, applying an HRBA to relevant aspects of pollinator conservation is considered necessary to maximise the potential of pollinator conservation under IEL to support the realisation of the right to food under IHRL.

Gilbert is among those advocating applying an HRBA to natural resources management.⁴⁶⁵ He clarifies the basis of an HRBA to the management of natural resources as follows:

[a] human rights-based approach to natural resources management is not based on any specific human rights treaty, or any specific provision, but rather emerges as part of an enlarged approach to different elements of human rights law scattered across different treaties and instruments.⁴⁶⁶

He further provides a proposition for an HRBA to natural resources management.⁴⁶⁷ According to his proposal, such an approach is comprised of the overarching principles of the right to self-determination over natural resources and of non-discrimination and equality, as well as several fundamental, participatory, cultural and environmental rights and fundamental freedoms.⁴⁶⁸ In the context of this thesis, it is notable that he lists the right to food as one of the relevant fundamental rights.⁴⁶⁹ The sum of relevant provisions constitutes a strong legal foundation upon which an HRBA to natural resources

⁴⁶³ See Human Rights Council, 40th session, Recognizing the contribution of environmental human rights defenders to the enjoyment of human rights, environmental protection and sustainable development, 2 April 2019, UN Doc. A/HRC/RES/40/11.

⁴⁶⁴ N.B. The benefits of the HRBA approach to biodiversity conservation are particularly evident in the context of the novel coronavirus, SARS-CoV-2, which has manifested the interconnectedness between planetary and human health. In the Amazonia, for instance, the COVID-19 pandemic has both aggravated the loss of biodiversity and further reduced the protection of indigenous peoples and their human rights, prompting calls for an HRBA to both facilitate the recovery from the COVID-19 pandemic and prevent future pandemics. On this, see Tigre 2021; Gruetzmacher et al. 2021.

⁴⁶⁵ See Gilbert 2018. N.B. As previously explained, pollinators are biological resources, which in turn constitute a category of natural resources. Therefore, arguments advocating an HRBA to natural resource management are applicable in the context of pollinator conservation.

⁴⁶⁶ Gilbert 2018, pp. 179-180.

⁴⁶⁷ *Ibid.*, pp.181-182, Box 1.

⁴⁶⁸ *Ibid.*

⁴⁶⁹ *Ibid.*

management can be supported.⁴⁷⁰ The right to self-determination, proclaimed in common Article 1 of the ICESCR and the ICCPR, lays down that “[a]ll peoples may, for their own ends, freely dispose of their natural wealth and resources”.⁴⁷¹ This is one of the most obvious examples of a reference to natural resources in an IHRL provision and it demonstrates the pertinence of an HRBA to the management of natural resources.⁴⁷²

According to Boyd, “States should apply a rights-based approach to all aspects of conserving, protecting, restoring, using and benefitting from healthy ecosystems and biodiversity”.⁴⁷³ Not only does the employment of such an approach clarify States’ obligations, but it, *inter alia*, “catalyses ambitious action” and “empowers people to become involved in designing and implementing solutions”.⁴⁷⁴ In a similar vein, Gilbert argues that “[t]he contribution of a human rights-based approach to the protection of natural resources is manifold”.⁴⁷⁵ In his view, one of the key benefits of employing such an approach is the facilitation of civil society engagement in natural resources litigation.⁴⁷⁶ This clearly demonstrates the added value of utilising IHRL in the context of pollinator conservation, as does the potential of IHRL to establish links between the many silos of IEL.⁴⁷⁷ Indeed, an HRBA can serve as a valuable tool in transcending the fragmentation of IEL.⁴⁷⁸ Addressing the fragmentation issue of IEL is, as discussed in sub-chapter 2.5, crucial to optimising pollinator conservation, thereby increasing its potential to support the realisation of the right to food.

Boyd and Keene recently wrote that “[i]n addition to being morally and legally required, human rights-based conservation is the most effective, efficient, and equitable path forward to safeguarding the planet”.⁴⁷⁹ In line with their statement, the above analysis does, indeed, indicate that employing an HRBA is absolutely necessary if we are to successfully protect biodiversity and thereby safeguard the human rights that are dependent on it – the right to food included.

⁴⁷⁰ Gilbert 2018, p. 181.

⁴⁷¹ ICESCR, Article 1 (2); ICCPR Article 1 (2).

⁴⁷² Gilbert 2018, p. 180.

⁴⁷³ UN Doc. A/75/161, para. 66.

⁴⁷⁴ *Ibid.*

⁴⁷⁵ Gilbert 2018, p. 177. See also Gumplová 2021.

⁴⁷⁶ Gilbert 2018, p. 177.

⁴⁷⁷ *Ibid.*

⁴⁷⁸ *Ibid.*

⁴⁷⁹ Boyd and Keene 2021, p. 4.

Notably, and in relation to the analysis conducted in sub-chapter 4.1.2, the global recognition and implementation of the human right to a healthy environment “can be a powerful tool to mainstream biodiversity and embed a rights-based approach across policies and processes”.⁴⁸⁰ The employment of an HRBA, in turn, is anticipated to catalyse the necessary action to protect biodiversity.⁴⁸¹ As noted by Boyd, “history demonstrates [...] the powerful role of human rights in sparking transformative societal changes”.⁴⁸² It is therefore crucial that the GBF incorporates such an approach.⁴⁸³

Notwithstanding the evident importance of an HRBA in the context of pollinator conservation and the right to food, the application of such an approach should not be regarded as an all-encompassing, nor a flawless, solution.⁴⁸⁴ Juanatey has examined the potential value of an HRBA as a tool to address environmental issues that negatively affect the right to food.⁴⁸⁵ Her research indicates that there are gaps in the approach in this context.⁴⁸⁶ In light of her findings, she proposes sustainable development as a complementary framework to the HRBA.⁴⁸⁷ Against this background, the added value of considering the relationship between pollinator conservation and the right to food within the sustainable development framework is explored in the following sub-chapter.

4.1.5. Employing the Sustainable Development Framework

A joint report published by the OHCHR and UNEP in 2012 highlights that “human rights and the environment [...] both form integral and indivisible parts of sustainable development”.⁴⁸⁸ Moreover, it emphasises that “[w]ithout integrating human rights and environmental protection, sustainable development and the green economy will not succeed”.⁴⁸⁹ Recalling the third analytical approach identified by the OHCHR, whereby human rights and the environment should be integrated under the concept of sustainable

⁴⁸⁰ Human Rights in Biodiversity working group 2021, p. 6.

⁴⁸¹ UN Doc. A/75/161, para. 82.

⁴⁸² *Ibid.*

⁴⁸³ Boyd and Keene 2021, p. 3.

⁴⁸⁴ Campese 2009, p. 2.

⁴⁸⁵ See Juanatey 2018.

⁴⁸⁶ Juanatey 2018, pp. 31-32.

⁴⁸⁷ *Ibid.*, p. 17.

⁴⁸⁸ OHCHR and UNEP 2012, p. 6.

⁴⁸⁹ *Ibid.*

development,⁴⁹⁰ the added value of considering the relationship between pollinator conservation and the right to food within the sustainable development framework is examined in this sub-chapter.

Sustainable development is defined in the influential 1987 Report of the World Commission on Environment and Development: Our Common Future (Brundtland Report) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁴⁹¹ In 2015, the UN adopted the seventeen SDGs,⁴⁹² intended to carry on the momentum generated by their predecessors, the eight Millennium Development Goals.⁴⁹³ Each SDG is accompanied by both a number of targets, set to be reached by 2030, and indicators. Four goals considered particularly relevant in the context of this thesis are:

- SDG 2: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”;
- SDG 12: “Ensure sustainable consumption and production patterns”;
- SDG 15: “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”; and
- SDG 16: “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels”.⁴⁹⁴

All the SDGs “are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental”.⁴⁹⁵ As emphasised by Scharlemann et al.:

⁴⁹⁰ UN Doc. A/HRC/19/34, para. 9.

⁴⁹¹ United Nations General Assembly, 42nd session, Report of the World Commission on Environment and Development, 4 August 1987, UN Doc. A/42/427, Annex, Chapter 2, para. 1.

⁴⁹² See UN Doc. A/RES/70/1.

⁴⁹³ See United Nations General Assembly, 56th session, Road map towards the implementation of the United Nations Millennium Declaration, Report of the Secretary-General, 6 September 2001, UN Doc. A/56/326, Annex.

⁴⁹⁴ UN Doc. A/RES/70/1, goals 2, 12, 15 & 16. See, in particular, targets 2.1, 2.2, 2.3, 2.4, 2.5, 12.2, 12.4, 15.1, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.3 & 16.7.

⁴⁹⁵ *Ibid.*, Preamble.

because decisions and actions to advance any one SDG will likely affect the achievement of the others, we need a better understanding of the interactions between SDGs, in particular trade-offs, synergies and unintended consequences.⁴⁹⁶

Moreover, harnessing synergies between the SDGs and addressing them concurrently is likely to be more cost-efficient.⁴⁹⁷ 2030, the year when the SDGs are supposed to be met, is not that far away. Approaches that consider, and contribute to, multiple SDGs at the same time are likely to enhance both the effectiveness and efficiency of action taken to address the goals.⁴⁹⁸

The question of whether sustainable development is a legal objective has been marked by considerable ambivalence.⁴⁹⁹ Referring to the definition of the concept contained in the Brundtland Report as cited above, Barral argues that “[t]hough symbolic, this definition remains relatively unhelpful when it comes to providing clues for the legal characterization of the notion”.⁵⁰⁰ The concept was brought into the legal sphere by the adoption of the Rio Declaration in 1992.⁵⁰¹ Despite not being legally binding, the principles contained in the Rio Declaration are, as emphasised by Barral “formulated in strong legal terms”.⁵⁰² Following the conference in Rio, the legal status of the concept of sustainable development has evolved and strengthened. As noted by Juanatey, international legal scholars have used the concept innovatively, and it is now considered to have transcended its previous status as a legal norm into its own branch of international law.⁵⁰³

International sustainable development law (ISDL) is defined as follows:

the body of legal principles, treaties and legislation, and also legal instruments, which govern the area of intersection between social, economic and environmental law for sustainable development.⁵⁰⁴

⁴⁹⁶ Scharlemann et al. 2020, p. 1574.

⁴⁹⁷ *Ibid.*

⁴⁹⁸ *Ibid.*

⁴⁹⁹ See Barral 2012.

⁵⁰⁰ Barral 2012, p. 378.

⁵⁰¹ *Ibid.*, p. 379.

⁵⁰² *Ibid.* See Rio Declaration, Principles 2-7, 10, 11, 13, 15 & 17-19.

⁵⁰³ Juanatey 2018, p. 18.

⁵⁰⁴ Cordonier Segger 2004, p. 62.

Together, IEL, IHRL and international economic law are considered to constitute the three dimensions of ISDL.⁵⁰⁵ From this perspective, the international law instruments addressing pollinator conservation (IEL) and the right to food (IHRL) contribute to addressing the ISDL pillars. One could compare these instruments to a set of tools that, when utilised in a synergistic way, could contribute to coherently meeting the SDGs. As argued by Kreilhuber and Kariuki, “[t]he rule of law is [...] critical to the achievement of sustainable development objectives”.⁵⁰⁶ Robinson emphasises that in order to realise the SDGs, the environmental rule of law must be strengthened by States, both domestically and internationally.⁵⁰⁷ Notably, the global nature of both IEL and IHRL make these legal arenas well suited to complement and reinforce one another. The added value of ISDL is that it brings together the three branches of international law, thus providing the foundation for balance between them.⁵⁰⁸ As argued by Juanatey, “sustainable development may work as a factor of convergence, as it provides a framework that includes both human rights and environmental protection and that considers the needs of future generations”.⁵⁰⁹ And, as emphasised by Ituarte-Lima, given the negative impact of, *inter alia*, biodiversity loss on the enjoyment of human rights, “[i]t is now more urgent than ever to act effectively upon the connections between environmental and human rights law”.⁵¹⁰

The added value of considering the relationship between pollinator conservation and the right to food within the sustainable development framework is clear. The interconnected nature of environmental protection and human rights necessitates that the issues are addressed concurrently. As emphasised by the OHCHR and UNEP, sustainable development’s “three pillars are indivisible and can only progress if all are considered in a mutually-reinforcing manner”.⁵¹¹ The sustainable development framework, with the structures created by the SDGs and ISDL, provides coherence and therefore has the potential to facilitate concurrent action, including from a legal standpoint, towards multiple goals in a balanced way. Notably, the relationship between the SDGs and the

⁵⁰⁵ Juanatey 2018, p. 18.

⁵⁰⁶ Kreilhuber and Kariuki 2020, p. 593.

⁵⁰⁷ Robinson 2018, p. 29.

⁵⁰⁸ Cordonier Segger 2004, p. 62.

⁵⁰⁹ Juanatey 2018, p. 17.

⁵¹⁰ Ituarte-Lima 2020, p. 22.

⁵¹¹ OHCHR and UNEP 2012, p. 34.

GBF, when the latter is adopted, is intended to be a mutually reinforcing one,⁵¹² and therefore the added value of both frameworks may be amplified.

Given the need to address sustainable development in an integrated way, minimising trade-offs and maximising synergies between pollinator conservation and the right to food would appear to be crucial. Indeed, as highlighted by the Swedish International Development Cooperation Agency, “[u]nderstanding and acting upon synergies between biodiversity and human rights can play a key role in the transformations required for sustainability”.⁵¹³ In light of the recognised need to harness synergies between pollinator conservation and the right to food, the potential of pollinator conservation under IEL to support the realisation of the right to food under IHRL is examined in the following sub-chapter. Thereafter, in the last sub-chapter of this thesis, the extent to which the right to food under IHRL can be applied as a legal tool to support pollinator conservation is analysed.

4.2. Safeguarding Pollinators to Realise Future Generations’ Right to Food

The OHCHR emphasises that “environmental protection must be ensured to protect human rights and sustain and improve human well-being”.⁵¹⁴ This is reflected in the first framework principle on human rights and the environment, which lays down that “States should ensure a safe, clean, healthy and sustainable environment in order to respect, protect and fulfil human rights”.⁵¹⁵ Among other threats to human rights, the loss of biodiversity is highlighted by the OHCHR as a prominent one.⁵¹⁶ Moreover, as noted in sub-chapter 2.2, it is evident that the full realisation of the right to food is dependent on biodiversity and ecosystem services.⁵¹⁷ Recalling the first analytical approach identified by the OHCHR, according to which “the environment is a precondition to the enjoyment

⁵¹² CBD/WG2020/3/3, Annex, para. 4.

⁵¹³ Swedish International Development Cooperation Agency 2017, p. 1. See also Naeem et al. 2016.

⁵¹⁴ UN Doc. A/HRC/19/34, para. 22.

⁵¹⁵ Framework principles on human rights and the environment, Principle 1.

⁵¹⁶ UN Doc. A/HRC/19/34, para. 20.

⁵¹⁷ UN Doc. A/HRC/34/49, para. 5.

of human rights”,⁵¹⁸ in this sub-chapter, the potential of pollinator conservation under IEL to support the realisation of the right to food under IHRL is examined.

In order to illustrate the importance of effectual pollinator conservation to the realisation of the right to food, it is necessary to analyse the normative content of the right in relation to pollinators and the pollination services that they provide to our food systems. Thereby, it is necessary to recall the definitions of the right to adequate food and food security:

the right of every individual, alone or in community with others, to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations.⁵¹⁹

[f]ood security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.⁵²⁰

Recalling the analysis in sub-chapter 3.4.1 of this thesis, four elements are encompassed in the right to adequate food, namely availability, accessibility, adequacy and sustainability. Food security, in turn, as discussed in sub-chapter 3.4.2, is comprised of six pillars: availability, access, utilisation, stability, agency and sustainability. When breaking down the right to adequate food and the concept of food security into these components, it becomes clear that the contribution of pollinators and the crop pollination services that they provide is manifold. Moreover, as will be shown, parallels can be drawn between pollinators and several of the Right to Food Guidelines. As highlighted in POA 2.0, “[p]ollinator-friendly measures have the potential to increase productivity and sustainability and contribute to the long-term viability and profitability of food production systems”.⁵²¹ Notwithstanding the importance of the indirect way in which pollination is key to ensuring food security and safeguarding the right to food, through it being essential for the maintenance and promotion of biodiversity,⁵²² which in turn underpins our food systems,⁵²³ the subsequent analysis focuses on the direct ways in which pollination is of

⁵¹⁸ UN Doc. A/HRC/19/34, para. 7.

⁵¹⁹ UN Doc. A/HRC/25/57, para. 2.

⁵²⁰ UN Doc. WSFS 2009/2, para. 2, footnote 1.

⁵²¹ IPI POA 2.0, para. 11.

⁵²² SCBD 2012.

⁵²³ Bélanger and Pilling/FAO 2019, p. 3.

fundamental importance in this context. As will be shown, safeguarding pollinators is vital to addressing all elements of both the right to adequate food and food security.

Firstly, pollination is vital to the availability of food. As highlighted in the introduction of this thesis, seventy-five per cent of the world's most important food crops are to some extent reliant on pollinators.⁵²⁴ Simply put, it is highly likely that without pollinators food would not be available to all, because not enough food would be produced. Closely related to this is the importance of pollination to the accessibility of food. As previously noted, the accessibility element of food entails both physical and economic accessibility.⁵²⁵ The same argument used to justify the importance of pollination to the availability of food is applicable in the context of the physical accessibility of food. As for the economic accessibility of food, the importance of pollination becomes evident when considering that animal-mediated crop pollination has been valued at several hundreds of billions of US dollars.⁵²⁶ In one study, the annual monetary value of a single pollinator was estimated at 120 US dollars.⁵²⁷ In the absence of pollinators, food prices are likely to rise as a result of increased food production costs.⁵²⁸ Such a development would entail that less people could afford nutritious and sufficient food, thus deepening inequalities between the rich and the poor. Conserving pollinators is therefore crucial from the perspective of ensuring economic access to food. In the context of the economics of pollination, it is notable that an estimated 500 billion US dollars is spent annually by governments on subsidies with potentially adverse effects on biodiversity.⁵²⁹ This is between five and six times the amount spent on protecting biodiversity.⁵³⁰

Pollination is also key to ensuring the agency dimension of food security. As noted above, in the absence of pollinators, a plethora of foods will either no longer be possible to produce, or production will be decrease considerably, and/or the cost of producing them will rise. Thereby, the capacity of individuals to choose what they eat, what food to

⁵²⁴ See Klein et al. 2007.

⁵²⁵ CESCR, General Comment No. 12, para. 13.

⁵²⁶ Porto et al. 2020, p. 1425.

⁵²⁷ See Cane 1997.

⁵²⁸ Marshman, Blay-Palmer and Landman 2019, p. 4.

⁵²⁹ Perry and Karousakis/Organisation for Economic Cooperation and Development 2020, p. 3.

⁵³⁰ *Ibid.* For a comprehensive review on the economics of biodiversity, see Dasgupta 2021.

produce themselves and how to produce, process and distribute it will weaken significantly. These capacities are all essential ingredients of the agency dimension.⁵³¹

The elements of utilisation and adequacy are also largely dependent on pollination; crops mediated by pollinators provide micronutrients which are vital to human health.⁵³² As previously explained, if the decline in pollinators continues, there will be a shift in the production and thereby consumption of crops; nutrient-poor crops will replace nutrient-rich ones. For instance, fewer pollinators means less nutritious foods such as fruits, vegetables and nuts.⁵³³ The effects of this are likely to be felt the most in regions that are already vulnerable to micronutrient deficiencies.⁵³⁴ Guideline 10 of the Right to Food Guidelines covers nutrition.⁵³⁵ In the context of the importance of safeguarding pollinators to ensuring the utilisation and adequacy dimensions, it is particularly notable that “States should take measures to maintain, adapt or strengthen dietary diversity”, “are encouraged to take steps [...] to prevent [...] unbalanced diets”, and “are encouraged to involve all relevant stakeholders [...] to increase the production and consumption of healthy and nutritious foods, especially those that are rich in micronutrients”.⁵³⁶ In order for States to fully realise the right to adequate food, it is thus considered essential that pollinators are safeguarded so as to satisfy the dietary needs of individuals, which the CESCR clarifies is a core part of food adequacy.⁵³⁷

⁵³¹ HLPE 2020, p. 8.

⁵³² See Chaplin-Kramer et al. 2014; Eilers et al. 2011.

⁵³³ Potts et al./IPBES 2016, p. 250.

⁵³⁴ On this, see Chaplin-Kramer et al. 2014.

⁵³⁵ Right to Food Guidelines, Guideline 10.

⁵³⁶ *Ibid.*, Guidelines 10.1, 10.2 & 10.3.

⁵³⁷ CESCR, General Comment No. 12, para. 8.

Pollination, performed by a diversity of pollinators, is crucial to the resilience of global crop production.⁵³⁸ Thereby, pollination is fundamental to the stability dimension of food security. Similarly, the sustainability dimension of the right to adequate food and of food security, implying access to food not only for present, but future generations, is also highly relevant to this discussion. As previously noted, the Right to Food Guidelines recognise that protecting ecological sustainability, as well as the carrying capacity of ecosystems, is key to the realisation of the right to food.⁵³⁹ UNEP recently emphasised that “food security is threatened by the loss of pollinators”.⁵⁴⁰ Indeed, the effects of pollinator decline on food production are already being felt.⁵⁴¹ However, as emphasised by UNEP and the OHCHR, “[b]iodiversity loss [...] has severe intergenerational repercussions for children and for future generations, who will inherit the irreversible results of environmental degradation”.⁵⁴² Maintaining biodiversity and protecting pollinators is key to the transition to sustainable agriculture.⁵⁴³

Notwithstanding the significance of the threat that pollinator decline poses to the food security of present generations, particularly children,⁵⁴⁴ it is primarily future generations’ right to adequate food that will be jeopardized if pollinators are not successfully conserved. Indeed, the degradation of nature poses a major risk to the realisation of adequate food for future generations.⁵⁴⁵ Given the mounting evidence of the importance of pollinators to global food security, it is reasonable to conclude that effectual pollinator conservation is a prerequisite to future generations’ ability to enjoy the right. Therefore, it is essential that intergenerational equity is considered in measures to safeguard pollinators. In the context of advancing the right to food, Hilal Elver, former UN Special Rapporteur on the right to food, highlights, *inter alia*, the need to increase the attention

⁵³⁸ See, *inter alia*, Greenwood and Vasiliev 2020; Rader et al. 2016; Senapathi et al. 2015; Albrecht et al. 2012; Blüthgen and Klein 2011.

⁵³⁹ Right to Food Guidelines, Guideline 8.E.

⁵⁴⁰ UNEP 2021 (a), p. 14.

⁵⁴¹ See, *inter alia*, Reilly et al. 2020.

⁵⁴² UNEP and OHCHR 2021, key message 2.

⁵⁴³ SCBD 2020, p. 161.

⁵⁴⁴ On the effects of environmental degradation on the rights of children, including their right to food, see Human Rights Council, 37th session, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 24 January 2018, UN Doc. A/HRC/37/58 (hereinafter UN Doc. A/HRC/37/58).

⁵⁴⁵ HLPE 2020, p. 9.

given to future generations and to invest in agroecology.⁵⁴⁶ Importantly, however, the needs of future generations should not be used to justify violations of present generations' right to food.⁵⁴⁷ In this context it is notable that the first draft of the GBF lays down that the framework "will be implemented [...] recognizing the principle of intergenerational equity".⁵⁴⁸

In the words of Walker, "[t]here can be no more doubting the need for pollinators if humans are to be fed adequately".⁵⁴⁹ This sub-chapter has shown that conserving pollinators, and thereby maintaining crop pollination services, is, indeed, essential to safeguarding food security and to the realisation of the right to adequate food, especially in the context of safeguarding future generations' ability to enjoy said right. Huang, Tu and D'Odorico emphasise that "[t]he collapse of plant-pollinator networks is highly irreversible and therefore addressing the human drivers of pollinator decline is of great importance to [...] ensure food security".⁵⁵⁰ In light of the irreversibility of damage in this context, it is evident that the realisation of future generations' right to adequate food depends on precautionary and preventive measures taken by States today to safeguard pollinators.

Guideline 8D of the Right to Food Guidelines emphasises, *inter alia*, the following:

States, taking into account the importance of biodiversity [...] should consider specific national policies, legal instruments and supporting mechanisms to prevent the erosion of and ensure the conservation and sustainable use of genetic resources for food and agriculture[.]⁵⁵¹

It can be concluded that pollinator conservation through IEL, if and when effectual, has the potential to directly and significantly support the realisation of the right to adequate food. If global pollinator conservation efforts are, on the other hand, fruitless, the risk of food insecurity and jeopardization of future generations' ability to enjoy the right to adequate food looms large. As discussed in sub-chapter 2.5, current measures under IEL

⁵⁴⁶ Human Rights Council, 43rd session, Report of the Special Rapporteur on the right to food, 21 January 2020, UN Doc. A/HRC/43/44, paras. 58 & 84. N.B. Pollination is a key element of agroecology. At the same time, agroecological strategies can help safeguard pollinators. On this, see Henriquez-Piskulich et al. 2021.

⁵⁴⁷ Juanatey 2018, p. 32.

⁵⁴⁸ CBD/WG2020/3/3, Annex, para. 7.

⁵⁴⁹ Walker 2020, p. 199.

⁵⁵⁰ Huang, Tu and D'Odorico 2021, p. 1286.

⁵⁵¹ Right to Food Guidelines, Guideline 8.D.

to address the decline in pollinators have so far proven to be insufficient in the sense that pollinators are still in rapid decline.⁵⁵² However, this does not mean that the potential of pollinator conservation under IEL to support the realisation of the right to adequate food should be disregarded. Rather, the insufficiency of IEL in this respect should be addressed in order to strengthen the impact of it. As noted by Strakos and Sanches:

the historical development of the concept of food security shows how the way forward to end hunger and malnutrition requires political and legal engagement rather than complicated technical solutions.⁵⁵³

Notably, applying behaviour-change theories could help close the implementation gaps.⁵⁵⁴ Moreover, the GBF has the potential to catalyse the necessary action to address the lack of implementation. At the same time, the language of IHRL itself can be utilised to protect components of the environment that are preconditions to the realisation of human rights. Within IEL, the weakness of enforcement mechanisms to ensure accountability constitutes a crucial gap in terms of addressing the urgent biodiversity crisis.⁵⁵⁵ The framework of IHRL can facilitate ways of holding States and other actors accountable.⁵⁵⁶ As emphasised by Boyle, using human rights to protect the environment “may serve to secure higher standards of environmental quality”.⁵⁵⁷ Against this background, in the following sub-chapter, the extent to which the right to adequate food under IHRL can be used as a legal tool to support pollinator conservation is analysed.

4.3. The Right to Food as a Legal Tool to Support Pollinator Conservation

4.3.1. Future Generations as Rights-Holders?

The ICESCR was adopted prior to the Stockholm Declaration and makes no explicit reference to the environment.⁵⁵⁸ However, as previously discussed, progressive interpretation allows for the recognition of environmental dimensions of the rights

⁵⁵² See van Klink et al. 2020.

⁵⁵³ Strakos and Sanches 2017, p. 40.

⁵⁵⁴ Marselle et al. 2021, p. 620.

⁵⁵⁵ UN Doc. A/75/161, para. 67.

⁵⁵⁶ *Ibid.*

⁵⁵⁷ Boyle 2012, p. 613.

⁵⁵⁸ See ICESCR.

proclaimed in it. Thereby, environmental dimensions of the right to adequate food can be identified, thus creating the possibility to use the right as a legal basis for environmental protection. In this sub-chapter, recalling the second analytical approach identified by the OHCHR, in line with which human rights can be used as tools to protect the environment and address environmental issues,⁵⁵⁹ the extent to which the right to adequate food can be applied as a legal tool to support pollinator conservation is analysed.

Knox emphasises that “the obligations of States to respect human rights, to protect human rights from interference and to fulfil human rights apply in the environmental context no less than in any other”.⁵⁶⁰ Similarly, UNEP and the OHCHR highlight that “failure to take action to prevent biodiversity and habitat loss” constitutes a violation of States’ obligations to respect, protect and fulfil human rights.⁵⁶¹ In the previous sub-chapter, it was established that failure to safeguard pollinators will primarily jeopardize future generations’ ability to enjoy the right to adequate food. From a moral perspective, it is clear that “present generations have a compelling moral obligation” towards future generations to halt the decline in biodiversity.⁵⁶² However, looking at the issue from a legal perspective is, unsurprisingly, not as straightforward.

In this context, the greening of IHRL and the growing body of case law wherein human rights have been used as legal tools to protect the environment, as discussed in sub-chapter 4.1.2 of this thesis, is notable. However, as emphasised by Pirjatanniemi, these developments have not considered the rights of future generations.⁵⁶³ Given the recognition that the decline in pollinators predominantly threatens future generations’ ability to enjoy the right to food, a key question in evaluating the extent to which the right to food can be applied as a legal tool to support pollinator conservation, is thus whether future generations, in a strictly legal sense, are considered rights-holders.

According to Brown Weiss, “[i]ntergenerational equity calls for equality among generations in the sense that each generation is entitled to inherit a robust planet that on balance is at least as good as that of the previous generations”.⁵⁶⁴ In 1989, she famously

⁵⁵⁹ UN Doc. A/HRC/19/34, para. 8.

⁵⁶⁰ UN Doc. A/HRC/37/59, para. 12.

⁵⁶¹ UNEP and OHCHR 2021, key message 1.

⁵⁶² Schlickeisen 1994, p. 219.

⁵⁶³ Pirjatanniemi 2018, p. 71.

⁵⁶⁴ Brown Weiss 1990, p. 200.

argued that the moral obligations of present generations to future generations can be morphed into legally enforceable obligations, emphasising that intergenerational equity is deeply rooted in international law.⁵⁶⁵ In line with this argument, provisions in several IHRL instruments can be interpreted as implicit references to future generations. For instance, the first sentence of the preamble of the UDHR reads that “recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world”.⁵⁶⁶ Notably, the very same wording is found in the first sentence of the ICESCR’s preamble.⁵⁶⁷ Brown Weiss highlights that the wording “of all members of the human family” extends the proclamation to encompass all generations, including those not yet born.⁵⁶⁸ Moreover, the principle of non-discrimination, in Article 2 (2) of the ICESCR,⁵⁶⁹ can be interpreted as extending the rights proclaimed in the Covenant to future generations.⁵⁷⁰ Indeed, as highlighted by Slobodian, “[i]ntergenerational equity is based on the principle of nondiscrimination”.⁵⁷¹ She argues that future generations are especially vulnerable to discrimination, as they, literally, lack a voice.⁵⁷² In accordance with the eleventh framework principle on human rights and the environment, “States should establish and maintain substantive environmental standards that are non-discriminatory, non-retrogressive and otherwise respect, protect and fulfil human rights”.⁵⁷³

Another important point to be made when considering whether future generations can be considered rights-holders is that the division between present and future generations is not as sharp as one might think.⁵⁷⁴ Whilst it is true that many of those who will be the most severely affected by our present (in)actions may not have been born yet, children are born every day and as soon as a child is born, that human being indisputably possesses human rights. Future generations may thus be considered as part of a continuum.⁵⁷⁵

⁵⁶⁵ See Brown Weiss 1989.

⁵⁶⁶ UDHR, Preamble.

⁵⁶⁷ ICESCR, Preamble.

⁵⁶⁸ Brown Weiss 1990, p. 201.

⁵⁶⁹ ICESCR, Article 2 (2).

⁵⁷⁰ Slobodian 2020, p. 580.

⁵⁷¹ *Ibid.*, p. 582.

⁵⁷² *Ibid.*

⁵⁷³ Framework principles on human rights and the environment, Principle 11.

⁵⁷⁴ UN Doc. A/HRC/37/58, para. 68.

⁵⁷⁵ *Ibid.*

In the specific context of the right to food, and as previously noted, the CESCR has clarified that the sustainability dimension of the right to adequate food implies the accessibility of food not only for present, but also future generations.⁵⁷⁶ Thus, future generations can be considered rights-holders in relation to the right to food, and States therefore bear the duty to meet their obligations to future generations. As highlighted by Lewis, “future generations are theoretically capable of possessing human rights, and [...] the obligations of States under human rights law should be considered to extend to future impacts”.⁵⁷⁷ In practice, however, there are several legal barriers to overcome. Indeed, recognising that future generations possess human rights is one thing; operationalising their rights within the context of a legal order is another.⁵⁷⁸

4.3.2. Overcoming Legal Obstacles to Operationalise Future Generations’ Rights

Firstly, as future generations have no voice of their own, the question of who would have legal standing to be a plaintiff representing them is evident.⁵⁷⁹ As highlighted by Pirjatanniemi, “[w]ithout a guardian with legal standing, access to justice remains only a fiction for future generations”.⁵⁸⁰ A second issue is that the human rights legal framework, as emphasised by Lewis, “is not well equipped to facilitate claims for future harm”.⁵⁸¹ Indeed, the standard procedure is that first a human rights violation occurs and then a claim is brought – not the other way around.⁵⁸² Thirdly, there is the issue of the collective nature of the rights of future generations.⁵⁸³ IHRL is characterised by a personal-injury-based approach.⁵⁸⁴ This approach gives rise to the so-called link requirement. As emphasised by Dupuy and Viñuales:

⁵⁷⁶ CESCR, General Comment No. 12, para. 7.

⁵⁷⁷ Lewis 2016, p. 218.

⁵⁷⁸ Pirjatanniemi 2018, p. 71.

⁵⁷⁹ Lewis 2016, p. 218.

⁵⁸⁰ Pirjatanniemi 2016, p. 19.

⁵⁸¹ Lewis 2016, p. 218.

⁵⁸² *Ibid.*

⁵⁸³ Pirjatanniemi 2016, p. 17.

⁵⁸⁴ Dupuy and Viñuales 2018, p. 386.

[t]he scope for environmental protection in all existing rights, as interpreted by their respective adjudicatory bodies, is conditioned upon the establishment of a “link” between environmental degradation and the impairment of a protected right.⁵⁸⁵

Francioni argues that the individualistic approach “is ill-suited to addressing [...] the diffused effects that [environmental] degradation has on society as a whole”.⁵⁸⁶ According to Dupuy and Viñuales, it is doubtful that there is much room for integrating the rights of future generations within such an approach.⁵⁸⁷

Environmental liability litigation as a means of remedying biodiversity loss is, despite its promising potential, surprisingly uncommon.⁵⁸⁸ Human rights-based biodiversity litigation appears to be even rarer. However, in a lawsuit of particular relevance in the context of this thesis, namely *José María Villalta Flórez-Estrada v. Ministry of Agriculture and Livestock*, the Supreme Court of Costa Rica ordered the Ministry of Agriculture and Livestock to conduct a scientific study on the effects that the use of neonicotinoid pesticides may have on health, biodiversity and the environment in the country.⁵⁸⁹ The court further ruled that if the study found risks of serious damage to health, biodiversity or the environment, then the ministry must adopt corresponding measures.⁵⁹⁰ The ruling of this landmark case was based on the impact of neonicotinoids on honey bees as evidenced by, *inter alia*, scientific studies from the EU and the US, and the serious risk that the decline in honey bees poses to food security.⁵⁹¹ It was considered that this issue, if left unaddressed, may ultimately jeopardize the right to food of Costa Rican citizens.⁵⁹² The *José María Villalta Flórez-Estrada v. Ministry of Agriculture and Livestock* is a promising legal precedent because it shows that the right to food can be leveraged to compel a State to take concrete action towards safeguarding pollinators. However, to the best of the present author’s knowledge, the rights of future generations

⁵⁸⁵ Dupuy and Viñuales 2018, p. 387.

⁵⁸⁶ Francioni 2010, p. 44.

⁵⁸⁷ Dupuy and Viñuales 2018, p. 386.

⁵⁸⁸ See Phelps et al. 2021. However, see Jiang et al./ClientEarth 2021 for ten landmark cases for biodiversity.

⁵⁸⁹ See Supreme Court of Costa Rica, *José María Villalta Flórez-Estrada v. Ministry of Agriculture and Livestock*, 6 December 2019, No. 24513-2019.

⁵⁹⁰ *Ibid.*

⁵⁹¹ *Ibid.*

⁵⁹² *Ibid.*

were not explicitly referred to in this case.⁵⁹³ This is unsurprising; at the time of writing, the occurrence of plaintiffs taking legal standing for specifically future generations' rights within the sphere of human rights-based biodiversity litigation appears to be very uncommon.

Notably, in the context of applying human rights as legal tools in order to protect the environment for the sake of future generations, parallels can be drawn to the relatively recent surge in climate change litigation cases,⁵⁹⁴ where increasingly, plaintiffs are applying human rights arguments.⁵⁹⁵ In such human rights-based climate litigation cases, plaintiffs have represented the interests of future generations, and in several jurisdictions, this has resulted in establishment of the existence of obligations to future generations.⁵⁹⁶ Notwithstanding the extent of the challenges posed by the legal obstacles discussed above, it would therefore appear that they are surmountable.

It is beyond the scope of this thesis to examine all relevant case law in the context of using human rights as legal tools to protect the environment for the sake of future generations. Therefore, acknowledging that there are other important and relevant legal precedents, the subsequent analysis focuses on the landmark *State of the Netherlands v. Urgenda Foundation (Urgenda)* case, which is a prime example of successful application of human rights as legal tools in order to protect the environment for the sake of future generations.⁵⁹⁷ The aim of the subsequent analysis is thus merely to determine whether applying the right to food as a legal tool to protect pollinators for the sake of future generations could, in theory, have a successful outcome.

In the *Urgenda* case, initiated in 2012, the Urgenda Foundation, a non-governmental organisation, together with 886 formal co-plaintiffs, sued the Dutch government for not doing enough to live up to its climate commitments, claiming, *inter alia*, that the

⁵⁹³ N.B. As this case is only available in Spanish, further analysis of the case to ensure that it is comprehensively understood would be of value.

⁵⁹⁴ See UNEP 2020.

⁵⁹⁵ Setzer and Byrnes 2020, p. 1.

⁵⁹⁶ Slobodian 2020, p. 580.

⁵⁹⁷ See Supreme Court of the Netherlands, *State of the Netherlands v. Urgenda Foundation*, 20 December 2019, ECLI:NL:HR:2019:2007, No. 19/00135 (hereinafter *Urgenda* in the Supreme Court of the Netherlands).

government's negligence constituted a violation of several human rights of present and future Dutch citizens.⁵⁹⁸ After seven years of litigation, the Supreme Court of the Netherlands ruled in 2019 that the decision of the lower courts could be upheld, reaffirming that the Dutch State must cut its greenhouse gas (GHG) emissions to at least 25 per cent below 1990 levels by 2020.⁵⁹⁹ This case is widely accredited for being a trailblazer.⁶⁰⁰ The District Court of The Hague stated the following in its judgment of 24 June 2015:

the possibility of damages for those whose interests Urgenda represents, including current and future generations of Dutch nationals, is so great and concrete that given its duty of care, the state must make an adequate contribution, greater than its current contribution, to prevent hazardous climate change.⁶⁰¹

This is evidence that *actio popularis* claims, i.e., claims “[alleging] general human rights violations unconnected to any specific victim applicant”,⁶⁰² in the context of the impact of environmental degradation on future generations’ human rights can be admissible. Although largely based on Dutch law, the *Urgenda* case is also considered relevant from an international law perspective.⁶⁰³ The judgment clearly establishes that pursuant to their obligations arising from Articles 2 and 8, on the rights to life and respect for private and family life, of the European Convention on Human Rights, States Parties have a positive obligation to take appropriate measures to address climate change.⁶⁰⁴ It is notable that the *Urgenda* case did not concern a specific action of the Dutch government, but rather its inaction.⁶⁰⁵ The historic judgment transformed Dutch climate change policy.⁶⁰⁶ This clearly demonstrates the potential added value of utilising human rights as legal tools to protect the environment. Lambrecht and Ituarte-Lima highlight that the case was

⁵⁹⁸ See District Court of The Hague, *Urgenda Foundation v. the State of the Netherlands*, 24 June 2015, ECLI:NL:RBDHA:2015:7196, No. C/09/456689 (hereinafter *Urgenda* in the District Court of The Hague).

⁵⁹⁹ See *Urgenda* in the Supreme Court of the Netherlands.

⁶⁰⁰ Wewerinke-Singh and McCoach 2021, p. 275.

⁶⁰¹ *Urgenda* in the District Court of The Hague, para. 4.89.

⁶⁰² Pirjatanniemi 2018, p. 75.

⁶⁰³ Nollkaemper and Burgers 2020, p. 811.

⁶⁰⁴ Wewerinke-Singh and McCoach 2021, p. 282.

⁶⁰⁵ Minnesma 2020, p. 144.

⁶⁰⁶ *Ibid.*, p. 148.

“innovative in operationalising legal concepts and principles in a climate change context”.⁶⁰⁷

In an online webinar held in March 2021, David R. Boyd, UN Special Rapporteur on the environment and human rights, and César Rodríguez-Garavito, Faculty Director and Chair of the Center for Human Rights and Global Justice at the School of Law at New York University, discussed whether human rights-based biodiversity litigation is emerging.⁶⁰⁸ In discussing the success factors behind the historic *Urgenda* case, they noted that the combination of IEL (in this case the UNFCCC), IHRL (in this case the rights to life and respect for private and family life), a strong scientific background (in this case a report published by the Intergovernmental Panel on Climate Change) and the existence of State commitments to take action (in this case provisions in the Paris Agreement) constitutes the recipe necessary for successful litigation. Based on this insight, one could argue that, hypothetically, if plaintiffs in country X were to initiate a lawsuit claiming that, pursuant to their obligations arising from future generations’ right to adequate food, State X is not doing enough to protect pollinators, successful claims could depend on a recipe made up of the following elements:

1. the CBD (IEL element);
2. the right to adequate food (IHRL element);
3. the IPBES⁶⁰⁹ report on pollinators (strong scientific background element); and
4. provisions in the forthcoming GBF⁶¹⁰ (existence of State commitments to take action element).

The preliminary elements outlined above provide the framework for further analysis of the potential of leveraging future generations’ right to food to compel a State to do more to protect pollinators. When comparing the *Urgenda* case to the hypothetical case as

⁶⁰⁷ Lambrecht and Ituarte-Lima 2016, p. 57.

⁶⁰⁸ The webinar was recorded and is available on Youtube. See Youtube, Center for Human Rights and Global Justice, Is There a Rights Turn in Biodiversity Litigation? Lessons from Climate and Environmental Advocacy. Available at: <https://www.youtube.com/watch?v=R0qJacrs-z4>. Last accessed: 7 November 2021 (hereinafter Youtube, biodiversity litigation webinar).

⁶⁰⁹ N.B. IPBES is considered to be the sister of the Intergovernmental Panel on Climate Change, see Futhazar, Pesche and Maljean-Dubois 2018, p. 405.

⁶¹⁰ N.B. It is anticipated that the GBF, once adopted, will be considered the biodiversity regime’s equivalent of the Paris Agreement, see Willige/ThePrint 2021.

outlined above, it is notable that the right to life (*Urgenda* case) and the right to food (hypothetical case) are, as discussed in sub-chapter 3.2, both fundamental rights, inherently linked to human dignity. Given the fundamental nature of both these human rights, coupled with the fact that the right to food is a precondition of the right to life, it seems reasonable to argue that such a hypothetical lawsuit should not be regarded as any less urgent than a lawsuit concerning a violation of the right to life itself.

It is interesting to note that the positions of the regional human rights courts regarding whether *actio popularis* claims can be considered admissible differ greatly, with the ECtHR's position being far more conservative than those of its Inter-American and African counterparts.⁶¹¹ In the context of examining the possibility of using the right to food as a tool to protect the environment, it is notable that in the *Ogoni* case, the African Commission clearly stated that it was in favour of *actio popularis*.⁶¹² However, despite the possibility of public interest litigation in some regional human rights courts, it seems unlikely that plaintiffs taking legal standing on behalf of future generations in these courts would prevail.⁶¹³ As argued by Pirjatanniemi, “[t]heir interests are simply too abstract for the legal regimes to cope with”.⁶¹⁴ Notably, however, at the time of writing there is an unprecedented case pending before the ECtHR. In September 2020, four children and two young adults from Portugal filed a lawsuit against 33 countries which are considered to be the major GHG emitters in within Europe, claiming that inadequate GHG emissions reductions are violating their right to life.⁶¹⁵ Much is at stake and the outcome is critical; if the plaintiffs are successful, the case will set a revolutionary precedent on human rights-based climate litigation in a regional human rights court. Recalling that future generations may be considered part of a continuum, this case is highly relevant in the context of future generations rights; indeed, the principle of intergenerational equity was referred to in the application.⁶¹⁶ The mere fact that the ECtHR has deemed this case admissible is evidence of how an increasing sense of urgency can change the direction of jurisprudence, and that

⁶¹¹ Pirjatanniemi 2018, p. 75.

⁶¹² *Ogoni*, para. 49.

⁶¹³ Pirjatanniemi 2018, p. 75.

⁶¹⁴ *Ibid.*

⁶¹⁵ See ECtHR, Application form.

⁶¹⁶ *Ibid.*, para. 8.

such a change in direction, in comparison to the generally slow pace in which international law is developed, can happen quite quickly.

Notwithstanding the apparent limits and the uncertainty regarding the possible future positions of the regional human rights courts in this context, the *Urgenda* case is evidence that operationalising future generations rights, through *actio popularis* claims and by invoking, *inter alia*, the precautionary principle, is possible. Furthermore, the fact that the HRC has now formally recognised the human right to a healthy environment is likely to strengthen any future lawsuits wherein it is argued that failure to prevent environmental degradation constitutes a violation of a State's duty to realise the human rights of future generations. Indeed, as highlighted by Boyd, constitutional recognition of this right has been used in several cases that, whilst not the primary target of the case, nevertheless have produced outcomes beneficial to biodiversity.⁶¹⁷

As previously noted, given the mounting evidence of the need to safeguard pollinators to realise the right to adequate food, a broader and stronger application of the precautionary principle to pollinator conservation is warranted.⁶¹⁸ Regarding environmental standards, Knox clarifies that States should take precautionary measures to protect against harm, particularly when there are threats of serious or irreversible damage.⁶¹⁹ In the *Urgenda* case, the District Court of the Hague found that there was sufficient scientific evidence of the need to reduce GHG emissions to justify compelling the Netherlands to take adequate action to prevent irreversible climate change.⁶²⁰ As highlighted in sub-chapter 4.2, in the event of plant-pollinator networks collapsing, the damage is highly irreversible.⁶²¹ Moreover, the sufficiency of the scientific evidence of pollinator decline as well as the severity of the negative impact of such a collapse on food security and biodiversity has been stressed multiple times in this thesis. In terms of using the right to food as a legal tool to compel States to adequately address the decline in pollinators, there is thus little room for doubt that invoking the precautionary principle is warranted.

⁶¹⁷ See Youtube, biodiversity litigation webinar.

⁶¹⁸ See Drivdal and van der Sluijs 2021.

⁶¹⁹ Framework principles on human rights and the environment, para. 33 (c).

⁶²⁰ *Urgenda* in the District Court of The Hague, para. 2.60.

⁶²¹ Huang, Tu and D'Odorico 2021, p. 1286.

Pursuant to their obligations arising from the right to adequate food as proclaimed in the ICESCR, States have a positive obligation to take measures to protect pollinators. Indeed, as emphasised by UNEP and the OHCHR, “States [...] have the duty to take meaningful, effective and urgent action to [...] address the direct drivers of biodiversity loss”.⁶²² The human rights duties arising from the decline in biodiversity are, as emphasised by Boyd, “legally enforceable obligations, not policy options or mere aspirations, reflecting existing commitments pursuant to [IHRL]”.⁶²³ Recalling the outcome of the *Urgenda* case, hypothetically, if a “right-to-food-based” lawsuit claiming that, on the basis of intergenerational equity, a State is not doing enough to protect pollinators were to be initiated, successful litigation may result in a court ordering the State in question to take adequate and concrete action towards protecting pollinators. Such action could, perhaps, include taking legal measures to protect pollinator habitats, banning or limiting the use of pesticides that are harmful to pollinators, or committing to spending more on protecting pollinators, and less on subsidies that are harmful to them. As affirmed by the CESCR in its General Comment No. 12, “the right to adequate food [...] [requires] the adoption of appropriate [...] environmental [...] policies”,⁶²⁴ and as illustrated by the *Urgenda* case, a State’s negligence and inaction can be considered a violation of human rights.

It can be concluded that a State’s failure to take adequate action to conserve pollinators can constitute a violation of their obligations arising from the right to adequate food of future generations. In theory, then, future generations’ right to food can be used as a legal tool to support pollinator conservation. The *José María Villalta Flórez-Estrada v. Ministry of Agriculture and Livestock* case demonstrates that it is possible to use the right to food as a legal tool to protect pollinators. The extent to which specifically future generations’ right to food can be used as a legal tool so safeguard pollinators remains unclear. However, it is promising that legal precedent, as exemplified by the historic *Urgenda* case, clearly indicates that in national courts it is possible to successfully use human rights as legal tools to protect the environment for the sake of future generations. It remains to be seen whether the regional human rights courts will follow suit. Nevertheless, the legal precedent set by human rights-based climate litigation, at the very

⁶²² UNEP and OHCHR 2021, key message 1. See also Framework principles on human rights and the environment, para. 5.

⁶²³ UN Doc. A/75/161, para. 66.

⁶²⁴ CESCR, General Comment No. 12, para. 4.

least, opens the possibility of leveraging future generations' human rights in biodiversity litigation. Invoking the principles of precaution and intergenerational equity appears to be key to successful litigation in the context of taking legal standing for future generations. Indeed, the former principle is the *sine qua non* to preserve biodiversity for future generations.⁶²⁵

A key point to be made when considering the possibility of future human rights-based biodiversity litigation invoking the principle of intergenerational equity is that IHRL is flexible. In the words of Pirjatanniemi:

[e]ven the fiercest critics of the international human rights jurisprudence tend to admit that human rights law has shown incredible ability to adjust itself to new circumstances. This phenomenon is, in fact, well exemplified by the way that environmental concerns have been integrated into the body of human rights law.⁶²⁶

Gilbert predicts with confidence “that IHRL will play an increasingly significant role when it comes to the protection and conservation of biodiversity”.⁶²⁷ Based on the above analysis, it does not seem far-fetched to anticipate the wider application of human rights as tools to protect specific components of biodiversity. On the contrary, it seems a legitimate prognosis, especially given the emerging human rights-based climate litigation trend, that a surge in human rights-based biodiversity litigation may not be far behind. Given the potential of human rights to strengthen accountability, such a development would certainly be warranted, because, as emphasised by Boyd and Keene, “the human rights of children and future generations depend on the rapid implementation of transformative biodiversity conservation measures over the next three decades”. Christmann argues that the decline in pollinators poses such an urgent crisis that it deserves a similar level of attention as climate change.⁶²⁸ Given the insight that writing this thesis has given her, the present author aligns herself with this opinion. In the face of a socio-ecological crisis that, if not adequately addressed, is likely to have far-reaching and dire consequences for our descendants, innovative legal approaches are needed. The time to act is now.

⁶²⁵ Kreilhuber and Kariuki 2020, p. 596.

⁶²⁶ Pirjatanniemi 2018, p. 68.

⁶²⁷ Gilbert 2018, p. 167.

⁶²⁸ Christmann 2019, p. 723.

5. Conclusions

“In our time, man's capability to transform his surroundings, if used wisely, can bring to all peoples the benefits of development and the opportunity to enhance the quality of life. Wrongly or heedlessly applied, the same power can do incalculable harm to human beings and the human environment.”

The above is an extract from the preambular paragraphs of the Stockholm Declaration. Whilst written almost fifty years ago, the message it conveys is arguably even more critical today. The severity of the threats posed by anthropogenic environmental degradation to human rights has never been more apparent. However, whilst human activity is the very thing that is driving our planet, and humanity with it, to the point of destruction, we also have the power to change direction towards a world where humanity can flourish whilst respecting and conserving nature's diversity.

Safeguarding pollinators is crucial to both conserving biodiversity and achieving food security. Recognising this, I have examined the relationship between pollinator conservation under IEL and the right to adequate food under IHRL. This thesis has illuminated how pollinators link the two seemingly incompatible goals of food security and biodiversity conservation. In doing so, this thesis has brought together two branches of international law that, when considered separately, lack teeth. The analysis has illustrated that through bringing the two branches of international law together, identifying synergies and defusing tensions between them, one can construct a combination of IEL and IHRL that has the potential to bite.

In chapter two, I analysed the extent to which pollinators are protected under IEL. The analysis, although anchored in science, demonstrated that a broader and stronger application of the precautionary principle to pollinator conservation is warranted. Indeed, notwithstanding the uncertainty as to the extent of pollinator decline, there is enough scientific evidence to suggest that pollinators are declining worldwide and that, if left unaddressed, this trend is likely to have a significant negative impact on both biodiversity and food security, on a global scale. Although the CBD is considered the principal IEL treaty in the context of pollinator conservation, due to the multitude of threats to pollinators, the relevant legal framework is diverse. Given the importance of safeguarding

pollinators, it is considered vital that IEL should adequately cover all threats to pollinators, and just as important that cooperation and collaboration between the relevant instruments takes place in order to minimise fragmentation.

Pursuant to their obligations arising from the CBD, States are obligated to protect and conserve pollinators. Despite all of the CBD's provisions being legally binding, due to the lack of enforcement mechanisms the biodiversity regime is plagued by huge implementation and enforcement gaps. The non-binding IPI and the regional and national pollinator initiatives, for their part, are considered valuable in the context of promoting action to safeguard pollinators, but at the time of writing they do not appear to have been implemented adequately. The deficiencies of both the CBD and the initiatives are demonstrated by the fact that pollinators are still declining at alarming rates. These implementation gaps urgently need to be addressed.

The third chapter of this thesis covered the right to food under IHRL. It illustrated that realisation of the universal right is of critical importance to the enjoyment of other fundamental human rights, including the right to life itself. The right to food is proclaimed in several international and regional IHRL treaties. Out of these, the treaty dealing most comprehensively with the right to food is the ICESCR. Availability, accessibility, adequacy and sustainability are the four core elements encompassed in the right to food. These elements are closely intertwined with the six pillars of food security, i.e., availability, access, utilisation, stability, agency and sustainability. To ensure food security, all these pillars must be addressed. The concept of food security is closely related to, but not synonymous with, the right to food. Accountability is the most important characteristic that distinguishes the two; whilst the right to food imposes legal obligations on States, food security does not. Although economic, social and cultural rights have often been argued non-justiciable, today, such claims are not tenable. Indeed, all levels of obligations of the right to food have been found to be justiciable.

In chapter four, the sections of IEL and IHRL as analysed in chapters two and three were brought together. Prior to addressing the two main research questions of this thesis, the relationship between IEL and IHRL was charted, and critical aspects of the relationship were examined for the purpose of granting the reader a comprehensive overview of the many elements that come into play. In the context of minimising trade-offs and

maximising synergies between pollinator conservation and the right to food, the global recognition of the human right to a healthy environment is considered to be a breakthrough and it will likely bolster any future human rights-based biodiversity litigation. The employment of an HRBA and the application of the sustainable development framework are both considered critical to harnessing synergies between pollinator conservation and the right to food, thereby reconciling biodiversity conservation with food security.

The potential of pollinator conservation under IEL to support the realisation of the right to food under IHRL was analysed in sub-chapter 4.2. I illustrated, through breaking down both the concept of food security and the right to food into the elements discussed in chapter 3, that without pollinators and the vital pollination services that they provide, the risk to global food security and the threat to future generations' right to food would loom large. Therefore, pollinator conservation under IEL, if and when effectual, has the potential to directly and significantly support the realisation of the right to food. Recognising the demonstrated insufficiency of the CBD and the pollinator initiatives to tackle the rapid decline in pollinators, I suggested turning to IHRL for aid and using the right to food as a legal tool to support pollinator conservation.

In the last sub-chapter of this thesis, I sought to answer the question of to what extent the right to food under IHRL can be applied as a legal tool to support pollinator conservation. Although the analysis was not able to conclude with a definitive answer to this question, it has shown that the right to food can be leveraged to protect pollinators. Given my finding that it is primarily future generations' right to food that will likely be jeopardized unless pollinators are effectually conserved, an inevitable question in examining the extent to which the right can be used as a legal tool to protect pollinators was to establish whether future generations can be considered rights-holders, and if so, whether operationalising their rights in the context of a legal order was theoretically possible. In addition to the rather clear-cut moral duty to future generations to conserve pollinators, I found that human rights obligations to future generations also apply in a legal sense. However, the extent to which operationalising future generations' right to food in the context of the impact of pollinator decline on said right remains unclear. Nevertheless, the analysis illustrated that, given the legal precedent set by human rights-based climate change litigation, in theory, "right-to-food-based pollinator litigation" on behalf of future

generations could be successful. For this to occur, however, there are several significant legal obstacles to surmount, and it would be naïve to underestimate the challenges posed by them. Even so, innovative legal approaches to solve the world's most complex environmental issues, including the pollinator crisis, are called for. Utilising the power of human rights, including through leveraging human rights in environmental litigation, can bring benefits to both human beings and the planet.

I noted in the introduction to this thesis that the analytical approaches used to analyse the relationship between human rights and the environment are capable of coexisting. Having now conducted the analysis, I not only reaffirm that they can coexist, but think that they should, as they can all bring added value to the complex equation that is the relationship between pollinator conservation and the right to food. It is through the sum of complementary approaches that synergies can be harnessed. Indeed, successful reconciliation of biodiversity conservation with food security will be a tapestry woven by many threads.

In comparison to climate change, the biodiversity crisis has been given little attention. This needs to change. 2020 was supposed to be a milestone year for international action on biodiversity. However, the biodiversity conference plans were, like so many others, thwarted by the devastating COVID-19 pandemic. And so, the international community still has significant opportunities ahead to take the necessary steps towards protecting biodiversity, thereby safeguarding future generations' right to food. With the Kunming Declaration now adopted and the adoption of the GBF just around the corner, States and other stakeholders need to stand ready to turn their ambitious commitments into concrete action.

The vision of a world without pollinators is abysmal. Time is not on our side, and just as in the context of the climate emergency, the sheer urgency of the situation should galvanise humanity into action. The protection of pollinators must be prioritised if biodiversity conservation is to be reconciled with food security; it is imperative that they are safeguarded if humans are to live in harmony with nature. This thesis has demonstrated that utilising the potential power of international law by harnessing synergies between pollinator conservation under IEL and the right to food under IHRL can play a vital role in facilitating this. Indeed, considering IEL and IHRL as intertwined

and complementary to one another can serve to amplify the positive impact of both areas of law.

Based on this thesis' analysis, it seems reasonable to conclude that, from an international law perspective, it is possible to reconcile biodiversity conservation with food security. The tools needed to do so are in our hands. We just need to find the creativity, courage and determination to use them. Given that the pollinator crisis, if not adequately addressed, may ultimately jeopardize our descendants' right to life, as it will almost certainly jeopardize their right to food, we must ask ourselves whether to bee, or not to bee, for that is the question.

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