



Special Rapporteur on human rights and the environment

21 September 2020

Original: English

Human rights depend on a healthy biosphere: good practices

Supplementary information on the report of the Special Rapporteur, David R. Boyd, on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment

The following information is supplementary to the report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment (A/75/161). It is available in English only on the website of the Office of the High Commissioner for Human Rights

<https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/Annualreports.aspx>.

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I. Introduction

1. Due to a restrictive word limit, the following good practices could not be included in the main body of the Special Rapporteur's report on the importance of healthy ecosystems and biodiversity for human rights (A/75/161). However, these good practices are vitally important because they demonstrate the availability of effective actions to simultaneously protect human rights while conserving, protecting, restoring and sustainably using nature. Drawn from every continent and featuring more than 150 States (plus the European Union) and a wide range of actors, the following examples are intended to inspire others to take ambitious action to address the global nature emergency. It should be noted that these examples are illustrative rather than exhaustive, meaning many more good practices are being implemented. The Special Rapporteur is grateful for the detailed and helpful submissions received in response to his questionnaire on human rights and healthy ecosystems from Austria, Colombia, Croatia, Cuba, Ecuador, the European Union, Finland, Germany, Ghana, Indonesia, Ireland, Italy, Kazakhstan, Kyrgyzstan, the Maldives, Mexico, Monaco, North Macedonia, Panama, Singapore, the Slovak Republic, Slovenia, Spain, Sweden, Togo and the United Kingdom as well as more than forty insightful submissions from Indigenous peoples, national human rights institutions, UNDP, civil society organizations and academics.¹

2. The vitally important role of Indigenous peoples and local communities in conserving biodiversity and ensuring its sustainable use is highlighted throughout this Annex. Protecting healthy ecosystems and biodiversity goes hand in hand with maintaining cultural diversity, alleviating poverty, fulfilling human rights and promoting sustainable development.

II. Legal protection for ecosystems and biodiversity

A. International Law

3. International environmental law establishes norms and standards for protecting the diversity and abundance of life on Earth through global treaties, including the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat, the Convention for the Protection of the World Cultural and Natural Heritage, the United Nations Convention on the Law of the Sea, and International Convention for the Regulation of Whaling, and others. Regional environmental treaties are also important, including the Agreement on the Conservation of African-Eurasian Migratory Waterbirds, the Agreement on the Conservation of Polar Bears, the European Union's directives on the conservation of natural habitats, wild fauna and flora (92/43/EEC) and on the conservation of wild birds (2009/147/EC), and the Bern Convention on the Conservation of European Wildlife and Natural Habitats.

4. These international legal instruments have contributed to many positive outcomes for ecosystems and biodiversity, including: (a) the establishment of protected areas and laws governing the management of these areas; (b) laws governing wildlife management and providing special protection for endangered species; (c) increased priority for conservation issues on governments' agendas; (d) technical guidance adopted by conferences of parties (COPs) and other treaty bodies that strengthens national laws, policies, and action plans; (e) coordinated collection of data; (f) increased cooperation

¹ Submissions are available at <https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/HealthyEcosystems.aspx>.

among and between governmental and nongovernmental stakeholders; (g) capacity building and financial assistance for conservation initiatives through treaties' funding mechanisms; and (h) cases where harmful developments were blocked or modified when governments were confronted with their international obligations in national or international judicial proceedings or through compliance mechanisms.² Specific examples of positive outcomes include the worldwide recovery of many whale species following the moratorium on commercial whaling imposed pursuant to the International Convention for the Regulation of Whaling, the improved conservation status of jaguars and other wild South American cat species after a CITES ban on trade in their pelts in 1975, and the recovery of bald eagles and peregrine falcons in the United States.

5. The right to a healthy environment has a vital role to play in protecting ecosystems and biodiversity and is explicitly included in regional treaties ratified by 126 States. This includes 52 States that are parties to the African Charter on Human and Peoples' Rights, 45 States that are parties to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention), 16 States that are parties to the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador) and 16 States that are parties to the Arab Charter on Human Rights. As at 1 September 2020, nine States had ratified the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement); this recent treaty requires, however, 11 ratifications to enter into force. Ten States adopted the non-binding Declaration on Human Rights of the Association of South-East Asian Nations. Many Small Island Developing States signed the non-binding Male' Declaration on the Human Dimensions of Climate Change in 2007.

6. The Aarhus Convention and the Escazú Agreement not only recognize the fundamental importance of the right to a healthy environment but offer essential procedural tools to secure the implementation and protection of this right. The key tools common to both agreements include the right of access to environmental information, the right to participate in decisions that will affect the environment, and the right of access to justice and effective remedies when these rights are threatened or violated. For example, the compliance mechanism provided by the Aarhus Convention has been used to increase access to justice for civil society related to contraventions of national law in cases involving wildlife and nature conservation.³ The Escazú Agreement has already been cited in an important decision of the Supreme Court of Mexico that prevented a proposed development from destroying a mangrove forest.⁴

7. International courts and tribunals also play key roles in protecting ecosystems and biodiversity, illustrated by the 2014–2015 Serengeti highway rulings by the East African Court of Justice; the key role of the Court of Justice of the European Union in enforcing the EU Nature Directives; decisions and advisory opinions from the Inter-American Court of Human Rights; and several cases decided by the International Court of Justice.⁵ In a recent case before the European Court of Justice, the Court recognised the importance of ecological connectivity. The case dealt with an open-cast coal mining project in the Spanish Natura 2000 site 'Alto sil', causing a loss of habitat for the brown bear in a

² A. Trouwborst et al. "International Wildlife Law: Understanding and Enhancing its Role in Conservation" *Bioscience*, 2017, 67(9): 784-90.

³ Aarhus Convention Compliance Committee, 2014, Findings and Recommendations with regard to communication ACCC/C/2011/63 concerning compliance by Austria. ECE/MP.PP/C.1/2014/3.

⁴ Supreme Court of Justice of Mexico, decision No. CCLXXXVIII/2018, in Amparo Review 307/2016.

⁵ A. Trouwborst et al. "International Wildlife Law: Understanding and Enhancing its Role in Conservation" *Bioscience*, 2017, 67(9): 784-90.

corridor area. The mining operations were also found capable of producing a barrier that would fragment the habitat of the capercaillie, a type of grouse.⁶

8. In 2017 the African Commission on Human and Peoples' Rights called on all state parties to recognise sacred natural sites and territories, customary governance systems, and the rights of the custodian communities.⁷ Sacred natural sites and territories are places of ecological, cultural and spiritual significance to Indigenous communities, and play a critical role in protecting and sustaining biodiversity and ecosystem integrity. The Commission expressed concern about the continued rapid growth of environmentally damaging industrial activity and infrastructure development causing irreparable damage in these sacred sites.

9. In 2017, the Inter-American Court of Human Rights issued an important advisory opinion in which it concluded that “the right to a healthy environment, unlike other rights, protects the components of the environment, such as forests, rivers and seas, as legal interests in themselves, even in the absence of the certainty or evidence of a risk to individuals. This means that it protects nature and the environment, not only because of the benefits they provide to humanity or the effects that their degradation may have on other human rights, such as health, life or personal integrity, but because of their importance to the other living organisms with which we share the planet that also merit protection in their own right.”⁸

10. In 2020, the Inter-American Court applied this principle in a case where Argentina violated the rights of Indigenous peoples by failing to prevent illegal logging and deforestation.⁹ The Inter-American Court concluded that the Indigenous people's right to a healthy environment was violated by the degradation of the forests and biodiversity. The Court required Argentina to submit a plan to provide the Indigenous community with access to its traditional territory, with a particular focus on the conservation of waters, and the protection and recovery of forests.¹⁰

B. Constitutions

11. Constitutions represent the supreme law of all States and also reflect a society's most cherished values. There are 110 States where the right to a safe, clean, healthy and sustainable environment enjoys constitutional protection.¹¹ It is especially encouraging that many States now include provisions relating to the importance of nature, ecosystems, and biodiversity in their national constitutions. Constitutional provisions related to protecting species, flora and fauna, ecosystems, nature, and biodiversity are found in more than sixty constitutions including Andorra, Angola, Azerbaijan, Bahrain, Bhutan, the Pluri-national State of Bolivia, Brazil, Bulgaria, Cambodia, Cabo Verde, China, Croatia, Cuba, Czech Republic, Dominican Republic, Ecuador, Equatorial Guinea, Egypt, Eswatini, Fiji, Finland, Georgia, Germany, Guatemala, Guyana, Haiti, Hungary, India, Kazakhstan, Kenya, Kosovo, Kyrgyz Republic, Laos, Lithuania, Luxembourg, Maldives, Mongolia, Montenegro, Namibia, Nepal, North Macedonia, Panama, Papua New Guinea, Philippines, Portugal, Russia, Sao Tome and Principe, Serbia, Slovakia, South Africa,

⁶ Case C-404/09 Commission v Spain (2011) ECR I-11853. (European Court of Justice).

⁷ ACHPR/Res. 372.

⁸ Advisory Opinion 23/17, 15 November 2017, para 62.

⁹ Indigenous Communities Members of the Lhaka Honhat Association v. Argentina (2020).

¹⁰ Maria Antonia Tigre, “The Inter-American Court Recognizes the Right to a Healthy Environment,” *Insights* 14(24) American Society of International Law, 2 June 2020.

¹¹ A/HRC/43/53.

South Sudan, Sri Lanka, Sudan, Surinam, Switzerland, Tajikistan, Togo, Uganda, Ukraine, Venezuela, Zambia and Zimbabwe.

12. The Constitution of the Republic of Croatia prescribes that nature and environment conservation are among the highest values of the constitutional order of Croatia (Article 3). The 2010 Kenyan Constitution requires that the “State shall protect genetic resources and biological diversity” (Article 69(e)). Namibia’s Constitution says “The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following: “... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future ...” (Article 95). Given the importance of natural forests for biodiversity, it is worth noting that Bhutan’s Constitution requires that 60 percent of the land remain forested forever (Art 5(3)).

13. Several constitutions impose commitments on governments to prevent extinction. In Brazil, the Constitution places a duty on the government to “defend and to preserve the environment for present and future generations.” Part of this duty requires them to “protect the fauna and the flora, prohibiting, as provided by law, all practices that jeopardize their ecological functions, cause extinction of species or subject animals to cruelty” (Article 225). The Constitution of the Maldives tasks the state with the fundamental duty to “protect and preserve the natural environment, biodiversity, resources and beauty of the country for the benefit of present and future generations.” It adds that the State shall “undertake and promote desirable economic and social goals through ecologically balanced sustainable development and shall take measures necessary to foster conservation, prevent pollution, the extinction of any species and ecological degradation.”

14. The 1987 Constitution of the Philippines states that: "The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature" (Article II Sec 16). To improve the implementation and enforcement of this provision, the Supreme Court of the Philippines instituted the Writ of Kalikasan (nature) as a legal remedy wherein complaints and petitions on environmental cases (destruction of ecosystems, endangered biodiversity) may be filed and heard in courts pursuant to expedited and simplified judicial processes.¹² Courts may issue Temporary Environmental Protection Orders against corporations for monitoring and investigation while a petition is being heard. This may lead to the payment of fines or damages by a guilty party or revocation of their contracts with the government.

15. In 2018, China amended its Constitution to incorporate the concept of an ecological civilization. This dramatic shift has already sparked the strengthening of China’s environmental laws and policies. While China still faces substantial environmental challenges, the incorporation of the visionary ecological civilization concept in its Constitution reflects an ambitious vision for the future.¹³

16. The Constitutions of the Plurinational State of Bolivia and Ecuador refer to the rights of non-human species. Ecuador’s ground-breaking Constitution contains comprehensive provisions relating to the rights of *Pachamama* or Mother Earth (Articles 71-74). Recognizing the rights of nature could potentially reduce environmental harm, thus benefiting human rights.

¹² Supreme Court of the Philippines. 2010. Rules of Procedure in Environmental Cases, Resolution A.M. No. 09-6-8-SC.

¹³ M. Halskov Hansen et al. 2018, “Ecological Civilization: Interpreting the Chinese past, projecting the global future,” *Global Environmental Change*, 53: 195-203.

C. Environmental Legislation

17. It is important that legislation be enacted and implemented at the domestic level to respect, protect and fulfil the right to a safe, clean, healthy and sustainable environment. There are 101 States where this right has been incorporated into national legislation. Especially good practices can be seen in Argentina, Brazil, Colombia, Costa Rica, France, the Philippines, Portugal and South Africa, where the right to a healthy environment is not only included in the constitution but also serves as a unifying principle that permeates legislation, regulations and policies. In total, more than 80 per cent of States Members of the United Nations (156 out of 193) legally recognize the right to a safe, clean, healthy and sustainable environment. The Special Rapporteur has collected the texts of the constitutional and legislative provisions that recognize this right.¹⁴

18. Almost all States have specific laws to protect wild species of fauna and flora and/or regulate their sustainable use, as well as laws to manage activities, such as fishing, hunting, mining, agriculture and forestry that could harm ecosystems or biodiversity.

19. The addition of the right to a healthy and ecologically balanced environment to Costa Rica's constitution in 1994 sparked the strengthening of laws to protect biodiversity. The 1997 General Environmental Law strengthens protection for forestry reserves, national parks, ecological reserves, national wildlife refuges, wetlands and natural monuments. The Costa Rican Biodiversity Law of 1998 focuses on three objectives: conservation of biodiversity, sustainable use of resources, and the fair and equitable sharing of the benefits arising from the utilization of genetic resources. This law recognizes the intrinsic value of nature: "Respect for all forms of life. All living things have the right to live, independently of actual or potential economic value." Costa Rica is one of the most biodiverse countries in the world.

20. In Croatia, the Nature Protection Act prescribes the objectives and tasks of nature protection such as:

- conserve and restore biodiversity by conserving wild species and natural habitat by establishing an adequate system of protection, management and control;
- preserve landscape diversity in a state of natural balance and harmonious relationships with human activity;
- ensure the sustainable use of natural resources without significantly damaging nature;
- contribute to the conservation of soil; the preservation of the quality and quantity of water; the preservation of the atmosphere and the production of oxygen; and the preservation of the climate;
- prevent or mitigate adverse human activities and disturbances in nature as a result of technological development and activities.

21. Other relevant laws in Croatia include the Ordinance on Ecological Networks and Responsibilities of Public Institutions for Managing Ecological Network Areas, Act on the Prevention and Management of the Introduction and Spread of Alien and Invasive Alien Species, Act on Transboundary Movement and Trade in Wild Species, Regulation on the Amount of Compensation for Damage Caused by Illegal Actions on Protected Animal Species, and Act on Genetically Modified Organisms.¹⁵

¹⁴ See www.ohchr.org/EN/Issues/Environment/SREnvironment/Right2HE/Pages/national.aspx.

¹⁵ Submission from Croatia.

22. In 2017, Monaco enacted Law No. 1.456 on the Environment Code, which includes the following principles:

- everyone has the right to live in a healthy, balanced environment that is respectful of health and biodiversity (Art. L. 120-1);
- prevention, according to which every person must prevent harm to the environment or, failing that, limit the consequences thereof (Art. L. 120-2);
- the precautionary principle, according to which the lack of scientific and technical certainty shall not delay the adoption of measures necessary to prevent a risk of serious or irreversible damage to the environment or health (Art. L. 120-3);
- the polluter-pays principle, according to which the costs of all kinds resulting from the prevention, reduction and control of pollution on the one hand and damage to the environment on the other, must be borne by the polluter (Art. L. 120-5).¹⁶

23. Laws in France and the Netherlands provide useful examples of national requirements for due diligence by businesses to address environmental and human rights (including child labour). Effective due diligence should include access to remedies and complaint mechanism which enable third parties to highlight concerns and seek redress, consistent with the UN Guiding Principles on Business and Human Rights.¹⁷ France requires large companies to conduct due diligence on the environmental and human rights implications of operations and supply chains, including children’s environmental health rights.¹⁸ The Netherlands enacted child labour due diligence legislation, requiring companies to assess whether their goods have been produced using child labour, create a prevention plan and submit a statement detailing due diligence efforts to the Government.¹⁹ Finland is in the process of developing a binding regulatory framework based on due diligence requirements that companies will be required to meet in their operations both in Finland and abroad.²⁰

24. In Italy, the involvement of local communities and environmental non-government organizations (ENGOS) in protected areas creation and management is guaranteed by the law on protected areas (Law No. 394/1991). ENGOS are entitled to propose the creation of a new protected areas, or the enlargement of an existing one; and they participate, as full members, in several national organizations involved in the governance of protected areas.²¹

25. Nepal’s Forest Act 2019 and National Park and Wildlife Conservation Act (1973, amended 2017) incorporate rights-based approaches. The tenure rights of local communities are recognized, and without consent from local communities, the government cannot make land-use changes or issue licenses to the private sector in community forests, the national forest or buffer zones. The Environmental Protection Act 2019 guaranteed the rights to compensation in the case of environmental harm, including harm to ecosystems. The National Forest Resource Assessment Report 2015 has shown

¹⁶ Submission from Monaco.

¹⁷ Submission from Client Earth. The recent 2018 OECD Due Diligence Guidance for Responsible Business Conduct describes the relationship between remediation and due diligence. See <https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf>

¹⁸ S. Cossart, 2017, “The French law on duty of care: A historic step towards making globalization work for all”, *Business and Human Rights Journal*, 2 (2), 317–323.

¹⁹ See www.eerstekamer.nl/behandeling/20170207/gewijzigd_voorstel_van_wet.

²⁰ See https://tem.fi/-/yritysvastuulain-selvitys-kaynnistyy?languageId=en_US

²¹ Submission from Italy.

that due to the community forestry campaign, the deforestation rate is falling and forest cover is increasing. The Forest Act 2019 allocates at least 50% of the income of the community forest to the poor and women's groups for their livelihoods.

26. China's Environmental Protection Law provides that "In the development and utilization of natural resources, the development shall be rational to protect biological diversity and ecological safety, and the relevant ecological protection and rehabilitation management plans shall be developed and implemented in accordance with the law" (article 30).

27. North Macedonia's Law on Nature Protection regulates protection of natural habitats, biodiversity and natural heritage sites, implementing responsibilities under the EU's main instruments for nature protection on the conservation of natural habitats, wild fauna and flora (92/43/EEC) and on the conservation of wild birds (2009/147/EC).²²

28. The Ecological Code of the Republic of Kazakhstan not only highlights the importance of biodiversity conservation, but also requires the government to participate in a "global partnership to preserve, protect and restore the health and integrity of the Earth's ecosystem" (Article 4(9)). Other legislative acts aimed at protecting biodiversity and ecosystems in Kazakhstan include the Water Code; the Land Code; the Law on Specially Protected Natural Areas; the Law on Protection, Reproduction and Use of Wildlife; and the Law on Plant Quarantine.²³ Environmental laws in Kazakhstan were strengthened in 2019 to increase penalties for non-compliance.

29. In the Philippines, the National Integrated Protected Areas System Act (Republic Act 7586) provides for the classification and administration of all designated protected areas (such as national parks, protected landscape/seascapes, resource reserves, strict nature reserves, and wildlife sanctuary) to maintain essential ecological processes and life-support systems, to preserve genetic diversity, to ensure sustainable use of resources found therein, and to maintain their natural conditions to the greatest extent possible (Sec 4.1). Importantly, the law stipulates that the government has "no power to evict indigenous communities from their present occupancy nor resettle them to another area without their consent...".

30. Laws that recognize the land rights of Indigenous peoples and local communities have recently been passed by Kenya (the Community Land Act of 2016), Mali (Agricultural Land Law of 2017) and Zambia (Forest Act of 2015). The Malian law, by protecting customary tenure systems, creates space for communities to self-manage their resources, based on collective rights and according to rules defined by each community. Indigenous peoples and local communities are more likely to invest in the good management of forests, soil and water if they have clear user rights and security against eviction. They are more likely to invest in improving yields on existing land and less likely to extend cultivation into marginal or forest areas. Forests that are legally owned and/or designated for use by Indigenous peoples and local communities deliver a wide range of ecological and social benefits, including lower rates of deforestation and forest degradation, greater investments in forest restoration and maintenance, improved biodiversity conservation, lower carbon emissions and more carbon storage, reduced conflict, and poverty reduction.²⁴

31. Ecuador has a law, on the Organic Law of Rural Lands and Ancestral Territories, which advances the rights of peasants, small-scale farmers, Indigenous peoples, and Afro-Ecuadorian and Montubio nationalities to conserve their communal property and manage

²² Submission from North Macedonia.

²³ Submission from Kazakhstan.

²⁴ See Global Assessment Report on Biodiversity and Ecosystem Services, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019.

these lands in perpetuity. The law highlights the importance of respect for different forms of life, values, traditions and cultural practices (Art. 7).²⁵

32. In the Democratic Republic of the Congo, the 2002 Forest Code and a regulatory framework completed in 2016 recognize Indigenous peoples' and local communities' rights to manage their traditional forests. Indigenous peoples and local communities can now acquire Local Community Forest Concessions of up to 50,000 hectares in their traditional territories, empowering them to use, manage, and conserve these ecosystems.

33. Liberia's Community Rights Law (2008) empowers communities to access, manage, use and benefit from forests for their sustenance, livelihoods and community development. While implementation of the law has had some challenges, it has led to new programs and measures that support conservation and sustainable livelihood activities in forest communities.

34. In the Philippines, the Indigenous Peoples Rights Act of 1997 is a landmark law recognizing and promoting the rights of Indigenous peoples. A key provision authorizes the granting of Certificates of Ancestral Land/Domain Titles for the ancestral lands of Indigenous individuals or Indigenous groups (a tribe, village, or community). The law also requires the free, prior and informed consent of Indigenous peoples for projects and other activities that are proposed for ancestral lands or domains.

III. Procedural environmental rights

A. Access to Information

35. Bulgaria created a Biodiversity Information System project to assist in the implementation of its Biodiversity Act and Biodiversity Strategy 2020. The system is intended to improve information on the status of, and threats to, species and ecosystems, which will increase awareness and improve management.

36. Brazil has a comprehensive set of information systems, standards, and norms for managing wildlife, fisheries and forest resources.²⁶ All information is freely available on the internet, including monitoring systems for the wood supply chain and trade in fauna and flora listed under the Convention on International Trade in Endangered Species (CITES).²⁷ This information is intended to ensure transparency and accountability.

37. Many States, including Australia, Azerbaijan, China, El Salvador, France, Georgia, Guatemala, the Philippines, Qatar and Switzerland, as well as the State of Palestine, report having taken measures to improve children's environmental education, including information related to ecosystems and biodiversity.²⁸ Environmental leadership workshops have been established for Indigenous youth in Mountain Province, Philippines.

38. Italy publishes an annual report on the state of natural capital, required by Law No. 221/2015, which highlights the fundamental role played by nature in contributing to the national economy. For example, the 2019 report assessed the value of marine, agricultural and forest ecosystems, and quantified the impacts of some pressures on them, such as climate change and land use. These reports represent Italian progress towards SDG 15.9

²⁵ Submission from Ecuador.

²⁶ See <http://www.ibama.gov.br/sistemas>

²⁷ Sinaflor, <http://www.ibama.gov.br/sinaflor>. Siscites, <http://www.ibama.gov.br/sistemas/siscites>

²⁸ See https://sustainabledevelopment.un.org/content/documents/24291OHCHR_ChildRights_Report_HLPF_July19.pdf; submissions from Azerbaijan, El Salvador, Georgia, Guatemala and Qatar.

of the 2030 Agenda: "integrate the values of ecosystems and biodiversity into national planning and local and development processes", and towards the Aichi biodiversity targets under the Convention on Biological Diversity.²⁹

39. In Russia, reindeer herders and their communities in Yakutia pioneered the first nomadic kindergarten in 1992, emphasizing education about nature and traditional customs and lifestyles. The initiative was designed so that teachers moved with the herders as they travelled across the tundra. Local authorities supported the initiative and allocated money for teachers' salaries, but all other expenses were covered by the communities. By the end of the 1990s, there were 7 nomadic schools in Yakutia, while other Arctic regions of Russia have more recently adopted this program, attracting support from UNESCO.³⁰

B. Public Participation

40. Peru has a progressive Forestry and Wildlife Act (Law No. 29763) that includes a duty for every person "to contribute to the conservation" of the nation's forest and wildlife heritage, the right to participate in decision-making related to nature, the right of Indigenous peoples to free, prior and informed consent, priority for gender equality and reducing inequality for marginalized populations, and respect for traditional knowledge.

41. WWF-Indonesia is helping to build recognition of women's role in marine and coastal resource management to counter the exclusion of women from governance mechanisms, decision making, budget allocations and even conservation initiatives, despite their vital role in natural resource management. Rural and Indigenous women play a vital role as 'ecological keepers' by managing ecological and economic assets for families and communities. They fish and gather shells in tidal and mangrove areas, which they sell to support their livelihood. WWF-Indonesia is supporting initiatives by Indigenous and rural women that empower them as economic and ecological actors: local markets and organic/local produce; entrepreneurship; freshwater and coastal fisheries; Indigenous agricultural practices and training.³¹

42. The Committee on the Elimination of all forms of Discrimination Against Women has commended States for taking action to empower women in the conservation and sustainable use of biodiversity. For example, the Committee applauded Samoa for the focus on rural women in its National Biodiversity Strategy and Action Plan 2015-2020.³² The Committee complimented Argentina for its Rural Lands Act (No. 26.727 of 2011), which emphasizes the need to protect biodiversity and ensures that women have equal rights to access land, enter into contracts, and administer assets.³³

43. The Maldives has undertaken several measures to amplify the participation of women in the political arena, with the goal of increasing their role in all spheres of life including restoring declining biodiversity and degraded ecosystems, For example, amendments to the Decentralisation Act (Law No: 7/2010) reserve one-third of seats in

²⁹ Submission from Italy.

³⁰ Story contributed by Polina Shulbaeva, Russian Indigenous coordinator for the International Indigenous Forum on Biodiversity at the Convention on Biological Diversity process, and the Center for Support of Indigenous Peoples of the North. See Arctic Council and Sustainable Development Working Group (n.d.) Arctic Preschool Education. Arctic Council and Sustainable Development Working Group.

³¹ Submission from WWF.

³² CEDAW/C/WSM/CO/6, 2018.

³³ CEDAW/C/ARG/CO/7, 2016.

local councils for women, allocate budgets to women's development councils, and more clearly define their role.³⁴

44. In North Macedonia, public participation in environmental decision-making processes has led to some environmentally harmful projects being cancelled. For example, a hydroelectric project was proposed which would have been partially located in Mavrovo National Park, damaging ancient beech forests and the habitat of the endangered Balkan lynx. Citizen and civil society involvement led to the project being cancelled and the State has now proposed the designation of the park as a UNESCO World Heritage Site. Several proposed mining projects in environmentally sensitive areas were also cancelled due to the objections of local communities. The Environmental Impact Assessment process has also avoided adverse impacts on ecosystems and human rights. For example, a proposed railway route was changed after the impact assessment revealed that it would endanger natural habitats (forests and caves), endangered bird species, and a biodiversity hotspot (Demir Kapija).³⁵

45. Finland's Ministry of the Environment involves representatives of the Sámi Parliament in decision-making related to the protection and sustainable use of biological diversity in the Sámi homeland area. In addition, there is a legal obligation for authorities to negotiate with the Sámi Parliament in all far-reaching and important measures, which may directly and in a specific way affect the status of the Sámi as an Indigenous people.³⁶

46. Ecuador's Process of Promotion of Rights and Consultation of Children and Adolescents at the national level reached around 70,000 children aged 7 to 17. Among the priority issues identified by young persons were the need to protect trees, animals and biodiversity, and punish those responsible for harming nature. The voices of youth were then incorporated in the "National Plan for the Comprehensive Protection of Children and Adolescents to 2030" and the "Comprehensive Policy for the Promotion and Protection of the Rights of Persons Defending Human Rights and Nature."³⁷

47. GRABE-BÉNIN is a civil society organization committed to protecting the environment through promoting traditional knowledge, supporting Indigenous and local communities in the protection of sacred natural sites, and empowering women and small-scale farmers. GRABE-BÉNIN carries out many activities that benefit ecosystems and biodiversity, including environmental education, agroecology, seed banks, medicine gardens, reforestation, and cultural ceremonies, all in the context of sacred community forests.³⁸ With support from the United Nations Development Programme, GRABE-BÉNIN has implemented a programme to protect sacred forests and promote Indigenous and community conserved areas and territories (ICCAs) with the communities of Gbévozoun and Gnanhouizounmè.

48. The Global Youth Biodiversity Network is an interconnected and interdisciplinary network of young people from every region of the world, who share the common goal of preventing and halting the loss of biodiversity. Members are active in international forums to promote their rights and perspectives, including conferences of the parties to the Convention on Biological Diversity and other treaties.

³⁴ Submission from the Maldives.

³⁵ Submission from North Macedonia.

³⁶ Submission from Finland.

³⁷ Submission from Ecuador.

³⁸ Submission from GRABE-Benin.

C. Access to Justice

49. Germany provides non-governmental organisations with the right to participate in a broad range of administrative and/or regulatory procedures in the field of nature conservation and landscape management. Examples are Section 63 of the Federal Nature Conservation Act and the respective provisions contained in the nature protection laws of some of the federal entities – the *Länder*. German law provides a right to challenge the outcomes of these procedures in court (see the Environmental Appeals Act, Section 64 of the Federal Nature Conservation Act and the respective provisions contained in the nature protection laws of some of the *Länder*). Specific examples can also be found in Germany’s 2017 National Report on the Implementation of the Aarhus Convention.³⁹

50. In Mexico, the constitution establishes legal mechanisms for the protection of fundamental human rights including the right to a healthy environment. For example, a group of young people filed a lawsuit asserting that their constitutional right to a healthy environment was violated by the government’s approval of a major tourism development in Tamaulipas, because the project would damage a mangrove forest. The Supreme Court of Justice agreed that the right to a healthy environment had been violated and ordered construction of the project to be stopped and the mangroves restored. The Court determined that the human right to a healthy environment recognized in the Article 4 of the Mexican constitution has two dimensions: “The first dimension considers the objective, intrinsic value of nature, regardless of the services it provides to society and human rights. The second, recognizes the anthropocentric value of nature and its relationship to the realization of other human rights. Correspondingly, the transgression of either of the two dimensions of the human right to a healthy environment results in a violation of this right”.⁴⁰ The Supreme Court of Justice affirmed that “nature is legally entitled to be protected *per se*” and that “no other human right is required to be infringed to determine a violation to the right to a healthy environment”.⁴¹

51. The United States Supreme Court, in a case involving the legality of a development that would destroy the last known habitat of an endangered fish called the snail darter, reached the powerful conclusion that “the plain intent of Congress in enacting [the Endangered Species Act] was to halt and reverse the trend toward species extinction, whatever the cost.”⁴²

52. In the United States, civil society organizations including Earthjustice and the Center for Biological Diversity routinely file lawsuits asserting that the federal government has violated the US Endangered Species Act through its actions or omissions. These lawsuits are frequently successful and have contributed to major improvements in the protection of endangered species and their critical habitat.⁴³ In Canada, Ecojustice has a similarly successful track record of protecting endangered species and their habitat through public interest litigation.⁴⁴

53. The China Biodiversity Conservation and Green Development Foundation filed a lawsuit alleging that a company had damaged the Tengger Desert through excessive

³⁹ Submission from Germany.

⁴⁰ Supreme Court of Justice of Mexico, decision No. CCLXXXVIII/2018, in Amparo Review 307/2016, p. 43.

⁴¹ Supreme Court of Justice of Mexico, decision No. CCLXXXVIII/2018, in Amparo Review 307/2016, p. 44.

⁴² Tennessee Valley Authority v. Hiram Hill et al., 437 U.S. 153 (1978).

⁴³ K. Suckling et al., 2012, On Time, On Target: How the Endangered Species Act is Saving America’s Wildlife, Center for Biological Diversity.

⁴⁴ Canada (Fisheries and Oceans) v. David Suzuki Foundation, 2012 FCA 40 (CanLII), Western Canada Wilderness Committee v. Canada (Fisheries and Oceans), 2014 FC 148 (CanLII).

discharges of wastewater. The court of first instance and the appeals court both found that the Foundation did not have standing to sue, but were over-ruled by the Supreme People's Court. A key element of the Supreme Court's decision was that the purpose of the Foundation, as set forth in its charter, to "extensively mobilize the whole society to care about and support the protection of biodiversity," is consistent with the goals of the Convention on Biological Diversity.⁴⁵

54. The Supreme Court of India has been very active in cases involving human rights, the protection and conservation of ecosystems and biodiversity, and the rights of animals. The State has a clear obligation under Part IV, Article 48A of the Constitution of India to protect and improve the environment and safeguard forests and wildlife. There is a similar fundamental duty for citizens under Article 51A(g). The Supreme Court has noted these and read them along with other fundamental rights, particularly Articles 14 and 21 (life), to develop a constitutional framework of interconnected rights, obligations and duties related to nature conservation and ecological protection.

55. In the longstanding *Godavarman* case, originally filed in 1995, the Supreme Court of India has passed many orders requiring the government to protect forests, parks, wildlife sanctuaries and other areas, and conserve their biodiversity.⁴⁶ The Court stated "Conservation includes preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment." In 2017, in response to a public interest lawsuit, the Supreme Court ordered a national inventory of almost 200,000 wetlands.⁴⁷

56. In cases involving endangered Asiatic lions and Asiatic wild buffaloes, the Supreme Court of India established and applied a 'species best interest standard', meaning that government decisions must prioritize the survival and recovery of species threatened by extinction. In the Court's words, "we must focus our attention to safeguard the interest of species, as species has equal rights to exist on this earth."⁴⁸ Similarly, the Court has stated that "When we look at the rights of animals from the national and international perspective, what emerges is that every species has an inherent right to live and shall be protected by law, subject to the exception provided out of necessity."⁴⁹ In another milestone judgment, the Court held that mining could not proceed without the prior consent of the Dongria Kondh communities. In 2013, all 12 Dongria Kondh villages voted to reject a proposed mine in the Niyamgiri Hills.⁵⁰

57. According to Pakistan's Islamabad High Court, "Protecting, preserving and conserving the animal species and preventing it from harm is a constitutional obligation of the State and the authorities. It is a right of each animal, a living being, to live in an environment that meets the latter's behavioural, social and physiological needs. ... It is the constitutional and statutory obligation of the State and its functionaries to ensure that these rights are not infringed. It is also a natural right of every animal to be respected because it is a living being, possessing the precious gift of 'life'.⁵¹

58. Colombia's Constitutional Court has developed an extensive jurisprudence related to what it describes as the nation's "ecological constitution." The Court has concluded

⁴⁵ China Biodiversity Conservation and Green Development Foundation vs. Ningxia Ruitai Science and Technology Co., Ltd., Supreme People's Court of the People's Republic of China, Zui Gao Fa Min Zai No.47 (Civil Ruling), January 28, 2016.

⁴⁶ T.N. Godavarman Thirumulpad v. Union of India, Writ Petition 202 of 1995.

⁴⁷ Balakrishnan v. Union of India, 2017.

⁴⁸ Centre for Environmental Law, World Wide Fund-India v. Union of India and Others. (2013) 8 SCC 234, para 47.

⁴⁹ Animal Welfare Board of India v. A. Nagaraja and others' (2014) 7 Supreme Court Cases 547.

⁵⁰ Orissa Mining Corporation v. Minister of Environment and Forests, 2013, 6 SCC 476.

⁵¹ High Court of Islamabad (Pakistan), Islamabad Wildlife Management Board v. Metropolitan Corporation Islamabad et al., W.P. No. 1155/2019, Decision 21/05/2020.

that because Colombia is so rich in biodiversity, it has a special responsibility to protect the environment for the common good of humankind. The right to a healthy environment is central, because humans “need to have a healthy environment to live a dignified life in decent conditions.” However, the Court goes much further, emphasizing “the interdependence that connects us to all living beings on earth; that is, recognizing ourselves as integral parts of the global ecosystem - - the biosphere --, rather than from normative categories of domination, simple exploitation, or utility.” This understanding has its roots in the cultural and ethnic pluralism that defines Colombian society. Because of the deep interdependence between Indigenous and ethnic cultures and nature, “the conservation of biodiversity necessarily leads to the preservation and protection of the ways of life and cultures that interact with it.” Moreover, “The protection and preservation of cultural diversity is essential to the conservation and sustainable use of biological diversity and vice versa.” The Constitutional Court found that the negative effects of illegal logging and mercury contamination from mining on ecosystems and the health of the inhabitants of the Atrato River region violated their fundamental rights to life, health, water, food security, a healthy environment and culture.⁵²

59. Hungary’s Ombudsman for Future Generations contributed to a recent decision of the Constitutional Court that Natura 2000 areas must be effectively protected by the government in order to safeguard biodiversity. The Ombudsman also relied upon Article P) of Hungary’s Fundamental Law as the basis for concluding that the government had a constitutional obligation to save one of the last habitats of a critically endangered endemic mammal, the rat-mole. The National Park Directorate subsequently designated the largest Hungarian habitat of the rat-mole as a “protected natural area with national significance”.⁵³

60. The Mexican National Human Rights Commission recognises that the human right to a healthy environment in Mexico is founded on constitutional provisions (Article 4) and the international human rights treaties to which the Mexican State is a party. The National Human Rights Commission explained that the contents of this right are, in part, developed through international treaties to which Mexico is party, including the Convention on Biological Diversity, Ramsar Convention and UN Framework Convention on Climate Change. These international commitments “broaden [the right to a healthy environment’s] scope of protection” in relation to biological diversity, climate change and hydrological regimes. As a consequence, the government of Mexico has obligations to address both the direct drivers harming biodiversity, and indirect drivers such as conflict and inequality.⁵⁴

61. Orders issued by India’s National Green Tribunal have been the catalyst for implementation of the Biological Diversity Act, 2002, a law enacted to fulfil India’s obligations under the Convention on Biological Diversity. The law is built on objectives for the conservation of biological diversity, its sustainable use, and to ensure fair and equitable sharing of benefits arising out of the utilisation of biological resources and associated knowledge. For its implementation, the Act provides a three-tier structure consisting of a National Biodiversity Authority, State Biodiversity Boards and local Biodiversity Management Committees at local body levels. The primary responsibility of

⁵² All quotes in this paragraph are from the Constitutional Court of Colombia, 2016, Rio Atrato Case, Decision T-622/16.

⁵³ Submission from Hungary’s Ombudsman for Future Generations. Due to the increased popularity of the rat-mole, it was elected Hungary’s “mammal of the year” for 2018.

⁵⁴ Mexico National Human Rights Commission. General Recommendation No. 26, On the lack of management programs in federal nature protected areas and their relation to the enjoyment of various human rights, 13 April 2016.

the Committees is to document local biodiversity and associated knowledge through People's Biodiversity Registers.

62. As of 2016, less than 4 percent of local bodies across the country had a Biodiversity Management Committee (9,700 out of 270,573). Only 14 percent of those committees had created People's Biodiversity Registers (1,388 out of 9,700). An Indian environmental activist filed a petition with the National Green Tribunal seeking implementation of the structure envisioned in the Biological Diversity Act, 2002. In 2018, the National Green Tribunal passed multiple orders directing the Ministry of Environment, Forest and Climate Change, the National Biodiversity Authority and the State Biodiversity Boards to comply with their legal obligations. By mid-2019, there were 155,838 Biodiversity Management Committees and 6,868 People's Biodiversity Registers. In other words, in less than two years following the Tribunal's order, the number of Biodiversity Management Committees rose by more than 1500 percent and the number of People's Biodiversity Registers quintupled.

D. Environmental Human Rights Defenders

63. Since the adoption of the UN Declaration on Human Rights Defenders in 1998, initiatives have developed at the local, national, regional and global levels. UNEP adopted an Environmental Defenders policy in 2018, and launched the 'Environmental Rights Initiative' in 2019, which provides support to individuals. In 2019 an agreement was concluded between the Office of the High Commissioner for Human Rights and UNEP to assist States and non-state actors to protect human rights, recognising the close link between environmental concerns and human rights. The year 2019 also saw the launch of a global Indigenous peoples' campaign against criminalization,⁵⁵ the emergence of the "Defend the Defenders Coalition,"⁵⁶ and the Zero Tolerance Initiative.⁵⁷

64. The Zero Tolerance Initiative, a collaboration between Indigenous peoples, Afro-descendent communities and supportive organizations to address the root causes of violence, calls for a range of urgent actions from States, businesses and investors to better protect land defenders, including:

- recognise and respect the human rights of rural communities, and the collective rights of Afro-descendants and Indigenous peoples, by implementing the UN Declaration on the Rights of Indigenous Peoples and the UN Declaration on the Rights of Peasants;
- adopt, and appropriately resource, public policies to address the root causes of violence and intimidation, including: impunity and corruption, shrinking civic space; connections between legal and illegal economies; land trafficking; and organized land expropriations;
- act positively to safeguard traditional livelihoods and the ecosystems on which they depend;
- provide direct financial, technical and legal support for Indigenous peoples, Afro-descendants, and other collective rights holders to defend their territories, including through issuing titles, land demarcation, and to develop capacity for monitoring, ground-truthing and collective protection and risk prevention.

⁵⁵ See <https://www.indigenousrightsinternational.org/index.php/en/>

⁵⁶ See <https://www.landcoalition.org/en/explore/our-work/human-rights/defend-defenders-coalition/>

⁵⁷ See <https://www.zerotoleranceinitiative.org/>

65. The European Union funds a human rights defenders' mechanism.⁵⁸ The mechanism received EUR20 million for 2015-2019 and was renewed in 2019 with an additional EUR15 million until 2021. This program has provided support to more than 30,000 human rights defenders and their families since 2015. The European Union has specifically highlighted and supported the work of Indigenous peoples and human rights defenders in the area of land-related rights, responding to challenges such as land grabbing and climate change. As a result of this project, the situation for hundreds of environmental human rights defenders around the world has improved.

66. In 2018, Peru approved a new National Human Rights Plan 2018-2021.⁵⁹ This plan requires the design and implementation of policies to safeguard human rights defenders, including a registry of incidents that protects the identities of victims. In 2019 a new protocol to guarantee the protection of human rights defenders was established with four key elements:

(a) an explanation of the concepts of the defence of human rights and of human rights defenders, consistent with United Nations declarations and resolutions;

(b) the obligation of the Ministry of Justice and Human Rights to prepare and publish a comprehensive report on the risks facing human rights defenders, with particular emphasis on the situation of persons working on environmental issues;

(c) the obligation of the Ministry of Justice and Human Rights to design and put in place an early warning procedure that guarantees the implementation of timely protection actions when defenders are threatened or attacked;

(d) the promotion of the defence of human rights through training and awareness-raising activities for government agencies.⁶⁰

67. Civil society organizations noted these positive steps but also called for additional financial and human resources to ensure timely and effective implementation of protective measures.

IV. Conservation

68. The UN Convention on Biological Diversity sets out three main objectives: conservation of biological diversity, sustainable use of its components, and equitable sharing of benefits from the use of genetic resources. Among the key tools used to achieve conservation are protected areas, special protection for species at risk of extinction, and restoration of damaged ecosystems.

A. Protected Areas

69. Costa Rica and France lead a High Ambition Coalition for Nature, advocating for bold targets and actions to be included in the post 2020 global biodiversity framework, such as a target to protect 30 percent of all of the planet's lands and waters by 2030, and 50 percent by 2050. The Coalition also includes Armenia, Botswana, Cameroon, Colombia, Finland, Gabon, Grenada, Luxembourg, Marshall Islands, Monaco, Mongolia, Mozambique, Rwanda, Senegal, Seychelles, Spain, Switzerland, Uganda and the United Arab Emirates.

⁵⁸ See ProtectDefenders.eu

⁵⁹ Supreme Decree No. 002-2018-JUS.

⁶⁰ Ministerial Resolution No. 0159-2019-JUS.

70. The States that already protect at least 25 per cent of their land in national parks and other forms of protected areas where ecosystem health and biodiversity and prioritized include Andorra, Austria, the Bahamas, Belize, Benin, Bhutan, the Plurinational State of Bolivia, Botswana, Brazil, Brunei Darussalam, Bulgaria, Cambodia, the Congo, Costa Rica, Croatia, the Dominican Republic, France, Germany, Greece, Guinea, Japan, Luxembourg, Malta, Monaco, Morocco, Namibia, New Zealand, Nicaragua, Palau, Poland, Sao Tome and Principe, Senegal, Seychelles, Slovakia, Slovenia, Spain, Sri Lanka, Togo, Trinidad and Tobago, the United Kingdom of Great Britain and Northern Ireland, the United Republic of Tanzania, the Bolivarian Republic of Venezuela, Zambia and Zimbabwe.⁶¹ In total, over 15 per cent of the world's land – more than 25 million square kilometres (the size of North America) – is now protected, which should help to conserve biodiversity.⁶²

71. Sixteen States already have protected at least 25 per cent of their marine territory: Australia, Belgium, Brazil, Chile, France, Gabon, Germany, Jordan, Lithuania, Monaco, the Netherlands, New Zealand, Palau, Slovenia, the United Kingdom and the United States.⁶³

72. There are more than 700 biosphere reserves globally in 124 States, established as part of UNESCO's World Network of Biosphere Reserves. Biosphere Reserves represent a good practice in achieving both healthy ecosystems and healthy communities, and emphasize the central importance of education about sustainable development. Examples include the Clayoquot Sound Biosphere Reserve in Canada, the Maya Biosphere reserve in Guatemala, the Mono Transboundary Biosphere Reserve straddling Benin and Togo, the La Selle-Jaragua-Bahoruco-Enriquillo Transboundary Biosphere Reserve shared by Dominican Republic and Haiti, Mount Hakusan in Japan, Mount Olympus in Greece, Ngaremeduu in Palau, and the Dana Biosphere Reserve in Jordan.

73. Several trans-frontier conservation areas have been established by the Southern African Development Community, supported by the non-profit Peace Parks Foundation. The objective is to develop a network of trans-frontier areas where shared ecosystems are sustainably co-managed and conserved to foster socio-economic development for the benefit of local people. The programme includes actions aimed at enhancing local livelihoods and reducing the vulnerability of ecosystems and people to the effects of climate change.

74. The Lubombo Trans-frontier Conservation Area was established in 2014. Co-managed by Eswatini, Mozambique and South Africa, it connects the Lubombo Mountains to coastal wetlands, incorporating nature and game reserves, forest parks, and other conservation sanctuaries and forming a large protected area that covers more than 10,000 square kilometres. Communities that have allocated their land for conservation and natural-resource management benefit from outreach programmes that generate income, such as beekeeping and chili-pepper production or supporting the maintenance of community eco-lodges, campsites and trail networks. Other projects include the implementation of permaculture, climate-smart agriculture and conservation agriculture. The spread of beekeeping through the community outreach programmes has led to a decline in poaching and illegal honey harvesting in the nature reserves.

75. The Kavango Zambezi Transfrontier Conservation Area (Kaza TFCA), established in 2011, spans an area of more than 500,000 square km across five southern African countries: Angola, Botswana, Namibia, Zambia and Zimbabwe. Comprised of 36 national

⁶¹ See <https://data.worldbank.org/indicator/ER.LND.PTLD.ZS>.

⁶² James E.M. Watson et al., "The performance and potential of protected areas", *Nature*, vol. 515, pp. 67–73.

⁶³ See <https://data.worldbank.org/indicator/ER.MRN.PTMR.ZS>.

parks, game reserves, forest reserves and wildlife management areas, the goal of the Kaza TFCA is to sustainably manage its ecosystems and cultural components while generating socio-economic benefits to improve the livelihoods of communities within the region.

76. The Congo Basin Sustainable Landscapes program works in partnership with Cameroon, Central African Republic, the Democratic Republic of Congo, Equatorial Guinea, Gabon, and the Republic of Congo to protect the Congo Basin and its rich biodiversity. The Congo Basin is home to 70 percent of Africa's forests and a vast number of species.⁶⁴ The program seeks to ensure that people who depend on the forest for their livelihoods are fully engaged and empowered in the process of land use planning, including conservation initiatives.⁶⁵

77. As part of implementing the Wild Birds Directive⁶⁶ and the Habitats Directive,⁶⁷ the European Union created a network of protected areas called Natura 2000 that has played a key role in safeguarding and restoring European biodiversity. The general aim of the Habitats Directive (Article 2 (1)) is to "contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the EU Treaty applies." Measures to achieve this goal "shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest" (Article 2(2)). Covering over 18% of the EU's land area and almost 6% of its marine territory, Natura 2000 is the largest coordinated network of protected areas in the world.

78. As part of efforts to secure conservation of a contiguous block of more than 10 million hectares of Chaco, Pantanal and Chiquitano forests in Bolivia and Paraguay, the Guaraní Government of Charagua established a new Indigenous conserved area. The Ñembi Guasu Conservation Area (The Great Refuge, in the Guaraní language), has an area of 1,207,850 hectares, and is now one of the largest protected areas in Bolivia. It is located in a transition zone between the Chaco forest and the Chiquitano dry forest. Ñembi Guasu houses a great biological and cultural diversity, including the Ayoreos Indigenous community who are in voluntary isolation. Ñembi Guasu acts as one of the largest blocks of ecosystem and cultural connectivity in South America, linking the best-preserved portions of the Grand Chaco and the Great Pantanal. This Indigenous conserved area connects 5.9 million hectares of protected areas in Bolivia with 4.6 million hectares of protected areas in Paraguay.

79. There is a growing global network of Indigenous and Community Conserved Areas (ICCAs) and Indigenous Conserved and Protected Areas (ICPAs), in countries from Australia (e.g. Budj Bim Indigenous Protected Area) and Canada to the Philippines and Senegal. Indigenous peoples and local communities play a central role in the designation and management of these lands, highlighting the critical linkage between conservation of both biological and cultural diversity.

80. In 2016, the Philippines Department of Environment and Natural Resources, in partnership with the National Commission on Indigenous Peoples, launched the Philippine ICCA Project with support from UNDP and financing from the Global Environmental Facility. Indigenous and Community Conserved Areas (ICCAs) are area-based designations that provide contemporary expressions of the ancient and ongoing relationships between Indigenous peoples (and also non-Indigenous local communities) and their local environments, with a particular emphasis on conservation and cultural

⁶⁴ See <https://www.thegef.org/news/six-countries-one-forest-one-future>

⁶⁵ See <https://www.thegef.org/blog/congo-basin-critical-health-our-planet>

⁶⁶ Council Directive 79/409/EEC on the conservation of wild birds.

⁶⁷ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

outcomes linked to basic human rights. Since 2016, the project has demarcated more than 150,000 hectares of ICCAs in key biodiversity areas, inventoried vital flora and fauna living within these areas, documented communities' traditional resource management methods, and supported ten biodiversity-friendly small businesses that benefitted 50,000 individuals (46% of whom are women). The government included ICCAs in the Expanded National Integrated Protected Areas System Act Law of 2018, clarifying that Indigenous peoples and local communities have the authority to “govern, maintain, develop, protect and conserve such areas in accordance with their indigenous knowledge, systems, practices and customary laws,” with full support from government agencies.⁶⁸

81. In Malaysia, the Access to Biological Resources and Benefit Sharing Bill 2017 and Sabah Biodiversity Enactment 2000 contain provisions to ensure that Indigenous and local communities are recognized as the legitimate custodians of ecosystems and biodiversity within their territories. Malaysia's National Policy on Biodiversity (2016-2025), Sabah Biodiversity Strategy (2012-2022) and Sabah Plan of Action for Heart of Borneo (2014-2020) all include goals and actions to increase the number of Indigenous and Community Conserved Areas (ICCAs). Provisions for Honorary Wildlife Rangers in the Sarawak Wildlife Protection Ordinance 1998 and Honorary Wildlife Wardens in the Sabah Wildlife Conservation Enactment of 1997 also empower local communities to be involved in efforts to protect biodiversity and ecosystems. The international recognition of 55 Important Bird and Biodiversity Areas in Malaysia protects landscapes important for biodiversity, cultural values, and forest dependent communities.

82. Canada is committed to protecting 25 percent of its lands and oceans by 2025 (up from 17 and 14 percent, respectively, in 2020). Canada also pledged to plant two billion trees as part of a nature-based climate solutions initiative with co-benefits for biodiversity. Canada's vast boreal forests, wetlands, and peatlands store extraordinary amounts of carbon, estimated as 12 percent of the world's land-based carbon reserves. The Canadian government is working with Indigenous people to conserve large swaths of the boreal forest.

83. In 2018 Canada's federal government invested \$1.3 billion to support protected areas and species at risk — the biggest single conservation investment in Canadian history. The investment supported the creation of Thaidene Nene National Park Reserve and Territorial Protected Area in the Northwest Territories. Thaidene Nene—the Land of the Ancestors— covers over 2.6 million hectares of boreal forest and tundra including large areas of endangered caribou habitat. Lutsel K'e Dene First Nation has already put in place an Indigenous Guardians program (the Nihat'Ni Dene) and a trust fund supports their co-management of the area. There are more than 40 Indigenous Guardian programs in place across Canada, empowering Indigenous peoples to protect their rights and biodiversity.

84. Other examples of Indigenous led-conservation in Canada include Pimachiowin Aki, Tallurutiup Imanga and Tuvaijuittuq. Pimachiowin Aki is a UNESCO World Heritage Site in the boreal forests of Manitoba and Ontario, designated in 2018.⁶⁹ Pimachiowin Aki, covering almost 30,000 square kilometres, is the first mixed UNESCO World Heritage Site in Canada, recognized for both its cultural and natural values. Tallurutiup Imanga National Marine Conservation Area, designated in 2019, covers 108,000 square kilometres of northern Canada. An Inuit Impact and Benefit Agreement established a cooperative management board and an Inuit stewardship program for the

⁶⁸ Submission from United Nations Development Programme.

⁶⁹ Pimachiowin Aki (n.d.) Pimachiowin Aki. Winnipeg and Ontario: Pimachiowin Aki. Available at: <https://pimaki.ca/>

area.⁷⁰ Together with the 319,411 square kilometer Tuvaijuittuq marine protected area, Tallurutiup Imanga brought Canada's total marine protected areas to 14%, exceeding the 2020 commitment of protecting 10% of all marine waters.

85. In Algeria, 44% of the land is in five cultural parks, including Tassili N'Ajjer and Ahaggar parks, which together comprise one of the largest protected areas in the world. UNDP, with support from the Global Environment Facility, is assisting Algeria to develop policies that employ traditional knowledge and adaptive management to conserve ecosystems and biodiversity while safeguarding livelihoods and rights. The project also includes the Amazigh, an Indigenous people in Algeria whose traditional nomadic lifestyle includes deep connections to biodiversity.⁷¹

86. China has established an Ecological Conservation Red Line, referring to an area covering roughly one-quarter of the country that is intended to be strictly protected in order to maintain important ecological functions and protect ecologically sensitive areas. A particular priority is placed on protecting lands that are important for natural carbon storage and other ecosystem services.⁷²

87. Slovenia has designated 37.5 percent of its land area as Natura 2000 sites, the highest level in the European Union. Including other types of nature conservation areas, Slovenia has protected over 40 percent of its territory. Nature conservation planning in Slovenia is carried out through the National Nature Protection Programme, which also serves as the State's National Biodiversity Strategy and Action Plan. In 2020, the National Assembly adopted the new Programme for the period 2020 – 2030 (ReNPVO20-30), identifying the key strategies for conserving biodiversity, including the Natura 2000 Site Management Programme, the Strategy for the Management of Populations of Large Carnivores, and the Strategy for the Management of Non-native Invasive Species.⁷³ The creation of parks increased health and happiness as well as helping the tourism industry, which, in turn, boosted the country's overall wealth.⁷⁴

88. Costa Rica, Panama, Colombia and Ecuador are participants in a project called the Marine Corridor of the Tropical Eastern Pacific that is intended to protect ecological health and cultural diversity in a number of UNESCO World Heritage Sites. Panama, Colombia, Ecuador, Peru and Chile also cooperate on a regional information network that supports integrated coastal management, coordinated by the Permanent Commission for the South Pacific.⁷⁵

89. Tanzania recently passed a new Wildlife Conservation Act that emphasizes the need for greater wildlife corridor conservation between its protected areas. Similarly, the Kenya Wildlife Service has crafted a national wildlife corridor policy and identified the nation's key wildlife corridors.⁷⁶

⁷⁰ Parks Canada (2019) National Marine Conservation Areas: Tallurutiup Imanga National Marine Conservation Area Inuit Impact and Benefit Agreement. Quebec: Parks Canada. Available at: <https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnmca/tallurutiup-imanga/entente-agreement>

⁷¹ Submission from United Nations Development Programme.

⁷² J. Gao et al. 2020, "China's Ecological Conservation Redline: A Solution for Future Nature Conservation," *Ambio*, 49:1519–1529.

⁷³ Submission from Slovenia.

⁷⁴ Daniel T. Cross, 2018. "A giant of environmentalism: tiny Slovenia," *Sustainability Times*, 29 Sept. 2018. See <https://www.sustainability-times.com/environmental-protection/a-giant-of-environmentalism-tiny-slovenia/>

⁷⁵ Submission from Colombia.

⁷⁶ Ojwang', G.O., Wargute, P.W., Said, M.Y., Worden, J.S., Davidson, Z., Muruthi, P. et al. (2017). *Wildlife Migratory Corridors and Dispersal Areas: Kenya Rangelands and Coastal Terrestrial Ecosystems*. Nairobi: Kenya Wildlife Service.

90. A project funded by UNDP and the Global Environment Facility enabled Costa Rica to approve its first national policy for the protection of wetlands, encompassing approximately 600,000 hectares of internationally important wetlands. These wetlands are also essential for the livelihoods of local communities because they provide water purification, flood control, groundwater replenishment and spawning grounds for fish.

91. Santa Rosa National Park in Costa Rica was established in 1971 on reclaimed ranch lands. Since its designation in 1971, the park has been protected from hunting, human disturbance and logging, with the result that the former pasturelands are returning to forest. Long-term monitoring of mantled howler monkeys and white-faced capuchins indicates that populations of these primates have recovered as the forests have been re-established. Overall, Costa Rica has reversed deforestation in recent decades, increasing the portion of its land area that is forested from one-quarter to more than half of the country.

92. Pursuant to Cambodia's Environmental Governance Reform for Sustainable Development program, large areas of forests have been designated as protected areas and biodiversity conservation corridors to be managed by the Ministry of the Environment. As a result, Cambodia's protected areas system now covers 39 percent of the country's surface area. However, concerns have been raised about the impacts of these measures upon forest dependent people.

93. In 1778, the Bogd Khan Mountain, just south of Ulaanbaatar, was designated as a strictly protected area, making it the oldest national park in the world. Since 1992, Mongolia has expanded its protected areas system. The national system currently includes 20 strictly protected areas covering eight percent of the country, 32 national parks covering almost eight percent, 36 nature reserves (2.3 percent), and 14 national monuments (another 0.9 per cent). At 19 percent, Mongolia has already reached the Aichi target. Mongolian law also authorizes the designation of locally protected areas, which cover another 12 percent of its territory.

94. Since 2006, São Tomé and Príncipe has designated two new protected areas, the São Tomé Obô Natural Park and the Príncipe Natural Park. Through the creation of these parks, São Tomé and Príncipe has designated 30% of its total land as protected territory.

95. Argentina has also created at least 13 new terrestrial protected areas (which together cover more than 1 million hectares) and 2 new marine protected areas covering 12 million hectares of the Argentine Sea, which has been heavily impacted by fishing activity and oil exploration.⁷⁷

96. A growing trend is the creation of protected areas on private land, where title may be held individually or collectively. In Latin America, there are more than 4,000 private protected areas covering more than five million hectares of land.⁷⁸ For example, in Peru, there are more than 100 private protected areas covering roughly 400,000 hectares. In Colombia, more than 385 families are participating in private nature reserves to enhance the buffer areas around La Cocha Lagoon, a Ramsar Site. South Africa offers tax incentives for landowners who agree to designate portions of their land for inclusion in national parks, nature reserves and other protected areas.

97. The European Union's biodiversity policy highlights the connections between healthy ecosystems and poverty eradication, and insists that these two challenges be addressed together. The rights-based approach is at the heart of the external dimension of the European Union's biodiversity policy, in line with the European Consensus for

⁷⁷ Submission from Argentine National Human Rights Institution.

⁷⁸ SPDA, 2019. Áreas De Conservación Privada En El Perú. Avances y propuestas a 20 años de su creación. Sociedad Peruana de Derecho Ambiental, Lima, Perú.

Development.⁷⁹ Three key commitments of the European Union's 2030 Biodiversity Strategy, with a budget of 20 billion Euros, are to achieve the following targets by 2030: (1) legally protect at least 30 percent of the region's land and marine area, as well ecological corridors connecting these areas, (2) strictly protect at least one-third of the European Union's protected areas, including all remaining old-growth and primary forests, and (3) effectively manage all protected areas, applying clear conservation objectives and monitoring progress. At least ten per cent of today's agricultural land will be transformed into "high-diversity" landscapes with the creation of features such as buffer strips, hedges, ponds and fallow land, while 25 percent of agricultural land is to be managed organically by 2030. Additional commitments include reducing the use of chemical pesticides by 50 percent, planting three billion trees by 2030 and reversing the decline in pollinators. The European Union will also establish legally binding targets to restore degraded and carbon-rich ecosystems such as meadows, wetlands, peatlands, bogs, marshes, grasslands and forests, while restoring 25,000 km of river to free-flowing status by removing dams and other barriers.

98. The European Union has developed the Biodiversity for Life initiative to implement a rights-based approach to strengthening the linkages between biodiversity and ecosystem conservation on the one hand and poverty eradication.⁸⁰ This approach is reflected in a series of strategic documents on biodiversity conservation for Africa, Asia and Latin America (respectively "Larger than Elephants"⁸¹, "Larger than Tigers"⁸², and "Larger than Jaguars"⁸³).

B. Species at risk

99. Many States have enacted laws specifically intended to protect species that are at risk because of human activities. These laws generally have five key elements including 1) a scientific process to identify and designate species at risk 2) protection of designated species from direct harm 3) protection of critical habitat for designated species 4) plans to ensure the recovery of species at risk and 5) provisions to ensure implementation and enforcement. One of the earliest and most successful examples is the Endangered Species Act of the United States.

100. States implementing the International Convention for the Regulation of Whaling, which effectively ended commercial whaling, enabled many species of whales to enjoy extraordinary recoveries, including humpback whales and grey whales. Other whale species, such as the North Atlantic right whale, continue to be endangered because of collisions with ships and entanglement with fishing gear.

101. Efforts to protect migratory species are ongoing not only for whales but also for terrestrial and freshwater species. For example, Monarch butterflies migrate from Canada to Mexico annually, traveling over 5,000 kilometres. A variety of initiatives, from the international to the local, are being implemented to protect the endangered Monarch butterflies and their habitat, including the Monarch Joint Venture, an Integrated Monarch

⁷⁹ The New European Consensus on Development: Our World, Our Dignity, Our Future. 2017. See <https://www.consilium.europa.eu/media/24011/european-consensus-for-development-st09459en17.pdf>

⁸⁰ See <https://europa.eu/capacity4dev/b4life/>

⁸¹ See <https://op.europa.eu/en/publication-detail/-/publication/d5aa8385-7b19-11e7-b2f2-01aa75ed71a1>

⁸² See <https://op.europa.eu/en/publication-detail/-/publication/93b375bc-4769-11e8-be1d-01aa75ed71a1/language-en>

⁸³ See https://ec.europa.eu/international-partnerships/system/files/brochure-jaguars-summary-20191014_en.pdf

Monitoring Program, the Mayors' Monarch Pledge, the Monarch Butterfly Biosphere Reserve (a UNESCO World Heritage site in Mexico) and more than a million urban gardeners creating habitat for pollinators including these butterflies.⁸⁴

102. In 2012, because of a decline in sturgeon populations, a year-round ban on commercial fishing of sturgeon species was introduced in five States bordering the Caspian Sea (Azerbaijan, Iran, Kazakhstan, Turkey and Turkmenistan). The moratorium, which incorporates an exception for scientific purposes, is expected to last 15-20 years in order to restore sturgeon populations.⁸⁵

103. Palau created the world's first shark sanctuary, later extended to all marine mammals.

104. Belgium has a federal plan targeting the preservation of pollinators, particularly bees. The plan includes about 30 actions and measures dealing with six main issues: risk assessment (including pesticide risk analysis); integration of pollinator management into other policies and measures (including economic measures); orientation of markets in favour of pollinators; monitoring of honey bees and wild bees; animal-health policy; and the traceability of hives (for honey bees only). Addressing these issues is relevant for the right to food and the right to a healthy and sustainable environment.

105. Within Austria's national Biodiversity Campaign "vielfaltleben" (living diversity) more than 50 species protection projects have been carried out jointly with NGOs and landowners that contributed to the improvement of the status of endangered species and their habitats. For example, the population of lapwings in the province of Vorarlberg has increased tenfold because of actions by farmers to take care of the birds' nests. More than 150 municipalities have joined the local biodiversity network of vielfaltleben by signing biodiversity declarations and establishing local biodiversity programmes. A number of projects to conserve and restore species and their habitat is financed and carried out by the Austrian Rural Development Programme. Among others, the increasing population of the Great Bustard (one of the world's heaviest flying birds) has become a great success.⁸⁶

106. Mexico created an environmental police unit in 2016 to enhance enforcement of environmental laws and regulations. There are 1,600 specially trained police officers who, among other tasks, patrol protected areas. The environmental police's station in a critical protected area for monarch butterflies dramatically improved habitat protection, as illegal timber harvesting fell 94 percent. Other conservation success stories related to stronger protected areas policies and the environmental police actions are growing populations of Golden eagles and jaguars and the reintroduction of the Californian condor.⁸⁷ Jaguar populations reportedly increased to 4,800 in a 2018 census. The maguey bat, an important pollinator of native plants such as the agave tequileros, pulqueros and mezcaleros, has recovered sufficiently that it is no longer listed as endangered, though it continues to be subject to special protection.⁸⁸

107. Panama is also implementing a jaguar recovery program, financed by the Global Environmental Facility. The program integrates environmental compensation from private companies with scientific information from Fundación Yaguará to recover natural corridors and restore historic jaguar ecosystems.⁸⁹

⁸⁴ Submission from Centre for International Sustainable Development Law

⁸⁵ Agreement on the Conservation and Sustainable Use of Aquatic Biological Resources of the Caspian Sea.

⁸⁶ Submission from Austria.

⁸⁷ Submission from Mexico.

⁸⁸ See the book entitled "Mexico's Natural Heritage: One Hundred Success Stories", available at https://www.biodiversidad.gob.mx/pais/cien_casos/pdf/Cien%20casos.pdf

⁸⁹ Submission from Panama.

108. Zimbabwe's National Elephant Management Plan (2015-2020) includes anti-poaching units that have reduced poaching in vital habitat including Matusadona National Park.⁹⁰

C. Restoration

109. More than 120 countries have submitted land degradation neutrality commitments pursuant to the Land Degradation Neutrality Target Setting Programme established under the auspices of the United Nations Convention to Combat Desertification. Regional land restoration goals include the Latin American Initiative 20x20, which aims to restore 20 million hectares of degraded land by the end of 2020; the African Forest Landscape Restoration Initiative, which aims to rehabilitate 100 million hectares of degraded land by 2030; the Agadir Commitment for the Mediterranean, which aims to restore at least 8 million hectares of degraded forest ecosystems by 2030; ECCA30, an initiative of countries in Europe, Caucasus and Central Asia that aims to restore 30 million hectares of degraded land by 2030; and the Great Green Wall for the Sahara and the Sahel initiative, which aims to restore 100 million hectares by 2030.

110. The Great Green Wall is an extraordinary restoration initiative involving Algeria, Benin, Burkina Faso, Cameroon, Cabo Verde, Chad, Djibouti, Egypt, Eritrea, Ethiopia, the Gambia, Ghana, Libya, Mali, Mauritania, the Niger, Nigeria, Senegal, Somalia, the Sudan and Tunisia. The Great Green Wall will help to combat climate change, drought, famine, conflict and migration. Senegal has already planted more than 12 million drought-resistant trees. In Ethiopia, 15 million hectares of degraded land have been restored and hundreds of millions of trees planted. In the Niger, 5 million hectares of land have been restored, producing an additional 500,000 tonnes of grain annually, enough to feed 2.5 million people.⁹¹

111. Brazil's Forest Act and Native Vegetation Protection Law highlight the importance of connectivity for landscape restoration and habitat conservation.⁹² In Brazil, restoration projects seek to reconnect fragmented ecosystems, such as the Atlantic rainforest and isolated populations of endangered species, such as the golden lion tamarin.⁹³

112. Indonesia established a permanent prohibition against clearing primary forests and peatlands for land-use activities such as palm oil plantations and logging. After the major wildfires of 2015, Indonesia established the Peat Restoration Agency to carry out restoration of 2.67 million hectares of peatland.

113. Farmer managed natural regeneration is a low-cost land restoration technique used amongst poor subsistence farmers to increase food and timber production and resilience to climate extremes. New or regrown trees and shrubs are integrated into fields or grazing pastures, restoring soil quality, inhibiting erosion and evaporation, rehabilitating groundwater, and increasing biodiversity. This technique has proven effective in Ethiopia,

⁹⁰ P. Bax. 2019. "Africa's Biggest Conservation Success Was Once a Poachers' Paradise," Bloomberg, 6 Jan. 2019, <https://www.bloomberg.com/news/articles/2019-01-07/africa-s-biggest-conservation-success-was-once-a-poachers-paradise> S. Mhofu. 2017. "Zimbabwe Anti-poaching Unit Scores Success," VOA News, 20 Feb. 2017 <https://www.voanews.com/africa/zimbabwe-anti-poaching-unit-scores-success>

⁹¹ See www.greatgreenwall.org.

⁹² Garcia, L.C., Santos, J.S., Matsumoto, M., Silva, T.S.F., Padovezi, A., Sparovek, G. et al. (2013). Restoration challenges and opportunities for increasing landscape connectivity under the new Brazilian Forest Act. *Natureza & Conservação* 11(1), 181-185.

⁹³ Newmark, W.D., Jenkins, C.N., Pimm, S.L., McNeally, P.B. and Halley, J.M. (2017). Targeted habitat restoration can reduce extinction rates in fragmented forests. *Proceedings of the National Academy of Sciences* 114(36), 9635-9640.

Ghana, Indonesia, Kenya, Mali, Niger, Rwanda, Senegal, Timor Leste, and Uganda, among other States. Farmer managed natural regeneration can double crop yields, provide building timber and firewood, fodder and shade for livestock, wild foods for nutrition and medication, and increase incomes and living standards for farming families and their communities.

114. In the 1980s, Niger was devastated by drought, causing periodic famine and forcing women to travel long distances for firewood and water. Over the past twenty years, farmer managed natural regeneration has been used to rehabilitate five million hectares of degraded farmland in Niger, boosting food security, enhancing access to water, alleviating poverty, and improving environmental quality. The annual increase in income is estimated at \$900 million per year in Niger.⁹⁴

115. Restoring natural infrastructure, such as wetlands, can substantially reduce risks associated with natural disasters. The Netherlands restored natural floodplains on the Ijssel, Lek, Rhine and Waal Rivers to reduce flood risks. Thailand restored mangroves at the Krabi River Estuary, a Ramsar site, to protect vulnerable coastal communities against tropical storms and rising sea levels. China has reconnected marshes, lakes and other wetlands to the Yangtze River, improving water quality and boosting fish populations. Senegal has planted tens of millions of mangrove trees in the Casamance and Sine Saloum regions. Other examples of wetland restoration include peatlands in Belarus, Everglades restoration in the United States and Aotearoa/New Zealand's Arawai Kākāriki wetland restoration programme.

116. Nature Iraq (BirdLife in Iraq), a CSO, has worked to restore large areas of the Mesopotamian marshes that were drained in the 1990s. Between 40 percent and 60 percent of the drained area has been re-inundated, and with ongoing management efforts, some of these marshes are once again providing water, food, shelter and income for the Indigenous Marsh Arab peoples.⁹⁵

117. Cuba has integrated nature-based solutions to address climate change and protect biodiversity, particularly in its coastal areas. A priority has been the rehabilitation of coastal wetlands (mangrove forests, swamp forests and marshes) and marine ecosystems, such as seagrasses and coral reefs. Projects are developed with the broad involvement of communities and local governments. A leading example is a Living Mangrove Project to reduce the vulnerability of communities to floods, erosion, and saline intrusion in the Artemisa and Mayabeque Provinces. Results achieved thus far include thousands of hectares of restored mangrove ecosystems benefitting hundreds of thousands of coastal residents.⁹⁶

118. Mauritius has established community-based programmes aimed at restoring important ecosystems, including coral reefs and mangrove forests. At least five vulnerable coastal communities have participated in training programmes and created coral nurseries. Mangrove forests in Mauritius that have been rehabilitated are now protected by the Fisheries and Marine Resources Act.

119. Jordan, Singapore and Grenada are attempting to restore coral reefs damaged by bleaching, development and pollution. Coral reefs are hotspots of biodiversity, providing essential habitat for a broad range of fish species. Transplanted reefs in Jordan's Gulf of Aqaba, which may be up to 6,000 years old, are showing promising signs of growth as well as resilience to increasing ocean temperatures and acidification. Singapore has also had success in relocating coral colonies, while Grenada is adapting to climate change by

⁹⁴ Submission from World Vision.

⁹⁵ Submission from BirdLife International.

⁹⁶ Submission from Cuba.

transplanting corals in an effort to create natural reefs that limit the erosion of beaches and shorelines.

120. When wolves were reintroduced to Yellowstone National Park in the United States after being extirpated from the region for 70 years, ecosystems rebounded. Because of the absence of wolves, elk had degraded landscapes by over-grazing plants and small trees. The reintroduction of wolves forced elk to change their behavior, avoiding places where they were threatened by wolf predation. This enabled vegetation to recover, improving habitat conditions for birds, otters, and many other species.⁹⁷

121. Rwanda is rehabilitating Akagera National Park after years of war, land conversion and poaching had damaged wildlife populations and wildlife habitat. Populations of leopards, lions, Cape buffalo, elephants, and rhinoceros are rebounding, creating valuable tourism opportunities.

122. Mexico created a Marine Protected Area at Cabo Pulmo in response to demands by local fishers, who had witnessed a dramatic decline in fish populations. Just ten years after the creation of this protected area, an underwater desert had been transformed into a kaleidoscope of life and color. The total fish biomass in the reserve increased by more than 460% and large predators like groupers, sharks and jacks returned. Nature's recovery led to a profitable diving tourism industry within the reserve, while local fishers in surrounding areas reaped the benefits of a healthier, more sustainable marine ecosystem.⁹⁸

123. In recognition of the special importance of mangrove ecosystems, Colombia developed a policy known as the "National Programme for the Sustainable Use, Management and Conservation of Mangrove Ecosystems", as well as extensive regulations. Any project, work or activity that is not related to the subsistence or customary uses of the communities that have traditionally been related to this ecosystem is prohibited. Mangrove restoration projects are being designed, managed and implemented in partnership with Indigenous communities (e.g. Eperaara Siapidaara people of the Department of Cauca).⁹⁹

124. The Wetlands Reserve Program (now the Agricultural Conservation Easement Program) in the United States paid farmers to restore and conserve wetlands, with funding linked to the duration of the commitment. From 1992-2013, approximately 1.1 million hectares were enrolled in the program, with investment of \$4.5 billion.

125. A rangeland restoration project in South Africa, funded by the Global Environment Facility, has benefits for the Mnisi community adjacent to Kruger National Park as well as wildlife. The Mnisi community depend upon raising livestock for their livelihood. As part of this restoration project, funds are invested in improving grazing conditions. This increases income and the likelihood that cattle farmers will become engaged conservation partners who help prevent wildlife crime. As a Mnisi elder stated, "Help look after our cattle and we'll help look after the rhinos."¹⁰⁰

126. Belgium's maillage vert et bleu initiative focuses on reconnecting natural areas to preserve biodiversity. Wildlife corridors enable species to move from one green space to another and allow aquatic species to travel freely through connected waterbodies. This

⁹⁷ FAO and UNEP. 2020. The State of the World's Forests: Forests, Biodiversity and People.

⁹⁸ See <https://ocean.si.edu/conservation/solutions-success-stories/cabo-pulmo-protected-area>

⁹⁹ Submission from Colombia.

¹⁰⁰ See https://www.unenvironment.org/news-and-stories/story/my-cattle-your-rhinos-south-africas-poverty-and-wildlife-conundrum?_ga=2.121879689.341773433.1590690785-291838363.1588820695

initiative has already benefitted the Woluwe river, stabilizing riverbanks and restoring wildlife habitat.

127. Indigenous peoples and local communities across the world are actively involved in addressing threats from invasive species through various traditional and modern techniques, including controlled burning. This destroys invasive weed species, including seeds, and allows local fire-adapted species to regenerate and recover. In Australia, Indigenous rangers have been working with NGOs and the government since 2014 to detect, monitor and control pond apple infestations in the Eastern Kuku Yalanji Indigenous Protected Area in Queensland.¹⁰¹ In Canada invasive alien species are cooperatively managed by the Council of the Haida Nation and the Government of Canada over both land and sea where they have successfully eradicated the North American rat.¹⁰²

128. Indigenous peoples and local communities are working with the Secretariat of the Pacific Regional Environment Program to prevent, control and manage invasive alien species across the Pacific Islands, with support from the Global Environment Facility. Invasive alien species are the most important cause of extinction of endemic species in the region, and their management is a necessary cost of trade and transport between islands. A Pacific-wide strategy has been developed that includes resources to support learning, reporting, and education, as well as the management of invasive alien species across the islands.¹⁰³ Similarly, Indigenous people in Guinaang Pasil, Kalinga, Philippines are working to control the invasive *Gmelina* and bring back native biodiversity.

129. Cote d'Ivoire has developed an action plan to address problems associated with alien invasive species. Herbivorous insects are being used to control three alien invasive species, namely, water hyacinth (*Eichornia crassipes*), water fern (*Salvinia molesta*), and water lettuce (*Pistia stratiotes*). This is environmentally superior to using pesticides. In an interesting innovation, ground-up water hyacinths are being composted for use as fertilizer.

130. Spain has a strong legal framework to address invasive species. Royal Decree 630/2013 provides for the approval and development of strategies for the management, control and possible eradication of invasive alien species. There is a Catalogue of Invasive Alien Species, which, as of 2018, include 186 taxa for which a generic prohibition on the possession, transport, traffic and trade of live specimens, their remains or propagules that could survive or reproduce.¹⁰⁴

¹⁰¹ Forest Peoples Programme, the International Indigenous Forum on Biodiversity and the Secretariat of the Convention on Biological Diversity (2016) Local Biodiversity Outlook: Indigenous Peoples' and Local Communities' Contributions to the Implementation of the Strategic Plan for Biodiversity 2011-2020. A complement to the fourth edition of the Global Biodiversity Outlook. Moreton-in-Marsh, England. See <https://www.cbd.int/gbo/gbo4/publication/lbo-en.pdf>

¹⁰² Bellis, K.X.T., Peel, R.T., Irvine, R.L., Howald, G., and Alsop, G.J. (2019) Beyond biodiversity: the cultural context of invasive species initiatives in Gwaii Haanas. In Veitch, C.R., Clout, M.N., Martin, A.R., Russell, J.C. and West, C.J. (Editors) *Island invasives: scaling up to meet the challenge*. Occasional Paper SSC no. 62. Gland: IUCN.

¹⁰³ Secretariat of the Pacific Regional Environment Programme (2016) *Battling Invasive Species in the Pacific: Outcomes of the Regional GEF-PAS IAS Project Prevention, control and management of invasive species in the Pacific islands*. Apia: Secretariat of the Pacific Regional Environment Programme. Available at: <https://www.sprep.org/attachments/Publications/BEM/battling-invasive-species-pacific.pdf>

¹⁰⁴ Submission from Spain.

D. Rights of Nature

131. Following the introduction of the rights of Pachamama (Mother Earth) in its constitution, Ecuador amended or enacted 75 laws, regulations and policies to include the rights of nature. Bolivia passed two laws about the rights of Mother Earth.¹⁰⁵ These laws highlight the interdependence of human wellbeing and ecosystem health. Two Mexican states have passed laws recognizing the rights of nature.¹⁰⁶ New Zealand has passed two laws granting natural systems the rights of a legal person, and vesting ownership of the underlying land in those natural persons.¹⁰⁷ Both New Zealand laws require the appointment of human guardians to represent nature's interests according to an explicit set of principles. Uganda recently passed a law including recognition of the rights of nature.¹⁰⁸ Courts in Colombia, India, Mexico and Bangladesh have issued rulings recognizing the rights of nature. These innovations in legislation and jurisprudence laws reflect an effort to shift our cultural relationship with the non-human world and transform the way we protect biological diversity.

132. Indigenous peoples are at the forefront of efforts to recognize and respect the rights of nature. In addition to their leadership role in Latin America, pioneering efforts are also underway in North America. For example, the White Earth Band of the Chippewa Nation adopted a law securing the legal rights of manoomin, or wild rice, a traditional staple crop of the Anishinaabe people. It is believed that this is the first law in the world the first law to secure the legal rights of a specific plant species.¹⁰⁹

133. In 2020, Brazil's Prosecutor General finalized an unprecedented settlement that guaranteed reparations to the Ashaninka Indigenous people for environmental crimes committed almost 40 years ago. Thousands of mahogany, cedar and other trees were cut down illegally in the Ashaninka territory between 1981 and 1987 to supply the European furniture industry. The settlement agreement provides the Indigenous community with acknowledgement of their incredible importance as guardians of the Amazon rainforest, a comprehensive official apology and approximately \$3 million in damages.¹¹⁰

134. In 2018, Bagungu communities in Uganda used community dialogues to develop eco-cultural maps and document their customary laws. Among these Earth-centred laws, the community recognised the rights of Nature and of the rights of the future generations of all species. The Bagungu are now using these community-developed materials to advocate for the recognition and protection of their ancestral territory and rights as custodian communities. Thanks to their advocacy, Buliisa District Council has passed a resolution recognising Bagungu customary laws and governance systems. The intergenerational dialogues also empowered the Bagungu community to revive their customary governance systems, including traditional rituals and planting indigenous seeds. Rivers which had been dry for the last 40 years are being rehabilitated, including Kamonkole, Waigaga and Wadieka rivers, which are tributaries of Lake Albert. Wetlands have been regenerated with various birds, animals and insects recovering, including the white eagle and crested crane.

¹⁰⁵ 2010 Law of the Rights of Mother Earth, 2012 Framework Law of Mother Earth and Integral Development to Live Well.

¹⁰⁶ Ley de Protección a la Tierra, Sept. 17, 2013, Gaceta Oficial del Distrito Federal. Political Constitution of the State of Guerrero, 2014.

¹⁰⁷ Te Urewera Act 2014, New Zealand Public Act No. 51, July 27, 2014. Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, New Zealand Public Act No. 7, March 20, 2017.

¹⁰⁸ National Environmental Act of 2019

¹⁰⁹ Submission from Centre for International Sustainable Development Law.

¹¹⁰ See <http://www.mpf.mp.br/pgr/noticias-pgr/acordo-historico-garante-reparacao-a-povo-indigena-ashaninka-por-desmatamento-irregular-em-suas-terras>

135. The United Nations Harmony with Nature program is a global initiative that highlights the rights of nature, including an extensive database of laws and policies recognizing and implementing these rights in nations all over the world. Since 2009, the UN General Assembly has adopted nine resolutions on harmony with nature.¹¹¹

E. Nature conservation and climate change

136. China and New Zealand co-lead the Nature-Based Solutions Coalition to integrate actions that provide multiple benefits in protecting ecosystems and biodiversity, addressing climate change (both mitigation and adaptation), and preventing the degradation of land and water or restoring nature. More than 70 States support this initiative, committing to: increasing and mainstreaming nature-based solutions within national governance, climate action and climate policy-related instruments; promoting and leveraging finance for nature-based solutions; scaling-up nature-based solutions for mitigation, resilience and adaptation in key areas, including sustainable food systems; the conservation and restoration of forests, other terrestrial ecosystems, freshwater and marine ecosystems; optimizing nature's contribution to resilient livelihoods, green infrastructure, sustainable settlements and just rural transitions; and enhancing regional and international co-operation.¹¹²

F. Urban conservation

137. Despite being one of the most densely populated countries in the world, Singapore is home to a large variety of animal and plant species, and remains committed to the long-term sustainability of our ecosystems, particularly forests. Singapore has safeguarded more than 7,800 hectares of green spaces, consisting of nature reserves, nature areas and over 350 parks that provide habitats for biodiversity and are also used for recreational and educational purposes. Additional land is being added to the protected areas system, and habitat is also being restored through reforestation, an initiative to plant one million native trees and shrubs by 2030, naturalization of waterways, and removal of non-native weeds. Singapore has also established dedicated ecological corridors exclusively for nature's use, to provide connections between protected green spaces. For example, critically endangered Raffles' banded langurs (a tree-dwelling primate) use aerial rope ladder bridges to cross safely between forest habitats.¹¹³

138. Monaco is among the most densely populated countries in the world but maintains a healthy reservoir of urban biodiversity. A new district being reclaimed from the sea will be the first "eco-district" in Monaco, and many environmental precautions were taken before the start of the construction.¹¹⁴

V. Sustainable use

139. Sustainable use of nature must generate benefits (financial, cultural, nutritional or other) for people who live with, and are custodians of, native ecosystems and biodiversity. These benefits encourage people to continue conserving species (including those that may pose a danger to their livelihoods) and, crucially, the habitats in which they live. While

¹¹¹ See www.harmonywithnatureun.org

¹¹² Nature-based Solutions for Climate Manifesto, 14 August 2019, Developed for the UN Climate Action Summit.

¹¹³ Submission from Singapore.

¹¹⁴ Submission from Monaco.

some individual animals may be killed, there is a wider benefit to the overall wildlife population, to habitat, and to other species that share the same habitat.

A. Land and wildlife

140. Combining recognition of the land title and tenure of Indigenous peoples and local communities (IPLCs) with financial support can protect cultural and biological diversity, with benefits for multiple human rights.¹¹⁵ Nearly 40 percent of protected and ecologically intact ecosystems, such as boreal and tropical primary forests, savannahs and marshes, are under the custodianship of Indigenous peoples. Evidence demonstrates that forests managed by Indigenous peoples and local communities are at least as effective at maintaining forest cover as those under stricter protection regimes. Community-managed forests outside protected areas can deliver not only improved forest cover but also other conservation benefits such as maintenance or increases in wildlife populations, as has been demonstrated in Australia, Brazil, Canada, Nepal and the United Republic of Tanzania. For example, areas in the Brazilian Amazon where the forest rights of Indigenous peoples are recognized enjoy a deforestation rate that is eleven times lower than areas where these rights lack recognition.¹¹⁶

141. The community-based approach to wildlife management in Namibia is an excellent example of the successful implementation of sustainable use principles, leading to improved outcomes for people and wildlife. Drawing on Namibia's constitutional provisions requiring ecosystem conservation and sustainable use (Article 95), Namibia's Ministry of Environment, Forestry and Tourism adopted the Policy on Wildlife Management, Utilisation and Tourism in Communal Areas in 1995. This policy seeks to: redress past discriminatory policies and practices, by extending to blacks rights related to wildlife previously enjoyed only by whites; empower rural communities to manage and utilise wildlife and other renewable living resources, by linking rural economic development with wildlife conservation and wild landscapes; and provide an incentive to rural communities to conserve wildlife and other natural resources, by granting them rights to undertake tourism ventures in partnership with commercial tourism operators. The policy also provides for the formation of conservancies by organised groups of people who jointly commit to manage wildlife on their lands. Conservancies must meet key requirements before they are formally registered in accordance with the Nature Conservation Amendment Act. These conservancies are required to continually comply with their legal obligations, including distributing benefits according to their own equitable Benefits Distribution Plan.¹¹⁷ Namibia's Community Based Natural Resource Management Policy (2013) emphasizes the need for conservation efforts to follow a people-centred approach to development by promoting the "integration of conservation of natural resources" and "development of rural communities and people."

142. An example of a successful program is the Nǀa Jaqna Conservancy. With nearly one million hectares of communal land, this conservancy combines the sustainable management of native wildlife and ecosystems with the empowerment of Namibia's !Kung San people (symbols 'ǀ' and '!' represent distinct click sounds unique to Khoisan languages). Established in 2003, the Nǀa Jaqna Conservancy has evolved a highly consultative governance model that matches the unique leadership system of the !Kung

¹¹⁵ Special Rapporteur on the rights of Indigenous peoples, A/71/229

¹¹⁶ World Resources Institute and Rights and Resources Institute. 2014. Securing Rights, Combating Climate Change: How Strengthening Community Forest Rights Mitigates Climate Change.

¹¹⁷ Submission from Namibia. See also Access to Biological and Genetic Resources and Associated Traditional Knowledge, Act 2 of 2017.

San people. Local !Kung San are trained and employed as wildlife managers and enjoy exclusive rights to benefit from tourism development in the area. Objectives include rebuilding wildlife populations and sustainable forest management through sound planning, management and monitoring.¹¹⁸

143. Namibia's approach to community based natural resource management has resulted in substantial income generation as well as a dramatic increase in the diversity and populations of wild animals in the past two decades. The legal framework in Namibia has led to the formation of 86 conservancies, covering 20.2 percent of Namibia. Currently, 9 percent of Namibia's population are involved in conservancy management and 45.5 percent of Namibia's land area is designated for conservation. In 2018, conservancies generated \$10.4 million in income for communities, including 5,677 jobs (2,377 full-time and approximately 3,300 part-time) for conservancy residents. In addition to the contribution of secure habitat for wildlife, community conservancies reinvested some of their earnings from tourism and sustainable wildlife use into conservation management; employing 684 community game guards. Elephant numbers have grown from a low of 7,000 to over 22,000 in 2019. Lions have increased in range and the number of black rhinos has increased from around 65 to become the largest free-roaming population in the wild. Incidents of rhino and elephant poaching have been reduced from 91 rhinos in 2015 to 45 in 2019 and from 101 elephants in 2016 to 12 in 2019.

144. The United Republic of Tanzania has a progressive legal framework for customary land rights recognition and Participatory Forest Management. Customary land rights are recognized within the boundaries of villages, and Participatory Forest Management has been mainstreamed as a government program. In total, communities own approximately 22 million hectares of forest land. In addition to land ownership and recognition of their tenure, local people have the autonomy to manage both terrestrial and aquatic ecosystems. There have been reductions in illegal logging and land conversion in areas under Participatory Forest Management as well as improved forest health, decreased soil erosion and over-grazing, improved water quality, and the recovery of wildlife species. For example, collective management of the coastal forest reserves in Bagamoyo District has reduced a range of threats, including unsustainable hunting, mining and deforestation. However, Participatory Forest Management in the United Republic of Tanzania has not yet met its full potential in protecting biodiversity and human rights. Challenges include delays in implementation, lack of recognition of Indigenous peoples, ongoing reluctance to recognize community rights (especially involving forest management) and difficulty in engaging pastoralists. Despite advances in recognizing collective ownership and tenure rights, some major issues still need attention, including incentive systems, strengthening of community institutions, and increased investment and human resources.¹¹⁹

145. The European Union's Integrated Landscape Management programme, adopted in 2019, is intended to support solutions that balance sustainable land use, food security, climate change mitigation and adaptation, and the preservation of ecosystems. The programme, with a budget of EUR123 million to benefit at least 21 countries, focuses on protected areas, wildlife and forest-products trafficking, and productive landscapes and livelihoods.

146. In Finland, Metsähallitus (the administrator of State-owned land in the Sámi homeland area) applies the voluntary Akwé:Kon Guidelines on environmental and socio-cultural impact assessments, developed under Convention on Biological Diversity, in the planning, management and use of protected areas. This is significant, since most of the Sámi homeland area is protected. The national implementation guide for the Akwé:Kon

¹¹⁸ Submission from UN Development Programme.

¹¹⁹ FAO and UNEP, 2020. The State of the World's Forests: Forests, Biodiversity and People.

Guidelines was updated in 2019 as a collaboration between the Sámi Parliament and Metsähallitus.¹²⁰

147. Saltwater crocodiles in Australia also provide an illuminating case study of sustainable use. By 1970, the population had crashed from approximately 100,000 to 3,000 through legal killing. In 1971 a protection programme was introduced and numbers recovered to around 30,000 by 1980. However, as the crocodile population grew, local people began to perceive them as dangerous pests: they wanted them killed not protected. In response, a new program sought to make crocodiles valuable to local people by encouraging them to sell eggs found on their land to newly-created crocodile farms for rearing and subsequent leather production. Today, these local people are earning over \$500,000 a year from the programme. The saltwater crocodiles – now viewed as an asset to conserve – have rebounded to their original population size of 100,000. There is a similar program in the United States that has contributed to the recovery of the American alligator.¹²¹

148. Borneo is an island shared by Indonesia, Malaysia and Brunei. In response to the increasing promotion of agro-chemicals and the threat of expansion of oil palm plantations, in 2016, the Alliance of the Indigenous Peoples of the Krayan Highlands declared their homeland in Borneo as a “territory of life” for organic and traditional agriculture.¹²² There is a complementary project, called the Heart of Borneo Initiative, which seeks to integrate respect for local forest communities with the effective conservation and management of millions of hectares of rainforests through a network of protected areas and sustainable use of the forest.

149. In Benin, Cameroon, Ethiopia, Kenya, South Africa, Uganda and Zimbabwe, a network of civil society organizations is working with Indigenous and traditional communities to revive and strengthen their customary governance systems, restore ecosystems, and protect their sacred natural sites. These efforts are supported by the 2017 resolution of the African Commission on Human and Peoples Rights.¹²³

150. In Indonesia, a milestone Constitutional Court decision in 2012 established that customary forests are not state forests but a separate category that may be formally recognized as Indigenous or community customary forests. The decision was also based on food security, because forest ecosystems are an essential source of food for many Indigenous and rural communities. More than 4 million hectares of forest in Indonesia are under some form of community management, but only about 40,000 hectares have been recognized as customary forests (i.e. are no longer categorized as state forest).¹²⁴

151. Hima, meaning “a protected place” in Arabic, is an ancient, traditional system of resource tenure that originated in the Arabian Peninsula and spread across West Asia and North Africa. In response to the challenging environmental conditions and resource scarcity characterizing the region, communities designated resource-rich areas as Hima, and managed them through consensus decision-making, a process in which different groups held specific responsibilities. The Society for the Protection of Nature in Lebanon (BirdLife in Lebanon) has revitalized this approach with a total of 25 Hima, representing 6% of the Lebanese territory. Hima is a holistic approach that contributes to economic

¹²⁰ Submission from Finland.

¹²¹ Elsey, R.M. and A.R. Woodward. (2010). American Alligator *Alligator mississippiensis*. Pp. 1-4 in *Crocodiles. Status Survey and Conservation Action Plan*. Third Edition, ed. by S.C. Manolis and C. Stevenson. Crocodile Specialist Group: Darwin.

¹²² Pimbert, M. P. and Borrini-Feyerabend, G. (2019) Nourishing life – territories of life and food sovereignty. Policy brief of the ICCA Consortium no. 6. Various: ICCA Consortium, Centre for Agroecology, Water and Resilience at Coventry University and CENESTA.

¹²³ ACHPR/Res. 372.

¹²⁴ Submission from WWF.

viability, environmental protection, and social equity, enabling communities to become more sustainable and resilient to global changes.¹²⁵

152. Since 2016, the BioCaribe Connectivity Initiative (Conexión BioCaribe) has been working to reduce degradation and fragmentation in the biodiverse ecosystems located in the Caribbean region of northern Colombia. While exploitation of nature in the region contributed to economic growth, unsustainable practices threatened the region's rich biodiversity and the rights of rural communities. The core of the initiative is the design of 1.5 million hectares of connectivity corridors to link isolated protected areas. The corridors are used for environmentally friendly activities that include agroecology, agroforestry, mixed orchards, and the restoration of wetlands, mangroves, and shorelines. The process includes territorial planning, public participation with an intercultural vision, effective management of existing protected areas, creation of new inter-connected protected areas and buffer zones, and feasibility analysis of potential conservation incentive and certification schemes. The results already include increased health of ecosystems and the recovery of threatened birds and mammals.¹²⁶

153. In an agreement called the "Pact for the Equity of Ethnic Groups", Colombia's Ministry of the Environment made 61 commitments related to conservation, restoration, protection of traditional knowledge associated with biodiversity conservation, payments for environmental services and environmental education pertaining to Indigenous peoples (43), black communities (15) and Romany people (3).¹²⁷

154. Indigenous peoples offer holistic approaches to managing human activities and protecting ecological and cultural diversity by integrating customary law, cosmovisions, traditional ecological knowledge, stewardship and sustainable use. The regional Iwi Environmental Management Plans prepared by the Maori in Aotearoa/New Zealand offer an example of sustainable local land management, merging spiritual concerns into environmental governance and incorporating the concept of kaitiakitanga (guardianship) over the sky, the sea, the land, freshwater and sacred places.

155. In Indonesia, the dahas system used by the Dayak Jalai Indigenous peoples is a form of land management focused on agroforestry. Some of the benefits of the dahas system are reforestation, local knowledge sustainability, cultural regeneration, and a source of income.¹²⁸

156. In the Western Ghats of India, application of the FairWild standard (a comprehensive certification system for wild-sourced fungi, lichen and plants, excluding timber) encouraged local communities, including Mahadev Koli tribal people, to harvest and sell the fruits of particular trees used by two of the region's most spectacular birds (the great hornbill and Malabar pied hornbill) instead of harvesting the trees for fuelwood.¹²⁹

157. In the Upper Yangtze region in China, sales of medicinal plants contribute up to 60 percent of household income for some poor and marginalized communities. A program that combines conservation of giant pandas with certification of the sustainable use of the Southern magnolia vine (whose berries are used for Indigenous medicine and traditional

¹²⁵ Submission from BirdLife International.

¹²⁶ FAO and UNEP, 2020. The State of the World's Forests: Forests, Biodiversity and People, pp. 116-117.

¹²⁷ Submission from Colombia.

¹²⁸ Institut Dayakologi. (2018). Indigenous Territory Management System: Dayak Jalai Indigenous Community in Kampong BatuMenang in Enhancing Indigenous peoples' development through community-based monitoring and information systems (CBMIS). Tebtebba Foundation; p. 310.

¹²⁹ FAO and UNEP, 2020. The State of the World's Forests: Forests, Biodiversity and People.

Chinese medicine) has boosted both human and ecosystem health. The fair-trade certification led to agreements between the local trading cooperative and international companies, generating a 30 percent increase in prices. The giant panda population stabilized and is increasing in parts of its range, leading to the upgrading of its status on the IUCN Red List from Endangered to Vulnerable.¹³⁰

158. In Hin Lad Nai village, Thailand, the Pgaz K'Nyau Association for Sustainable Development works with young people to develop community-based social enterprises based on non-timber forest products such as honey and tea. For example, their branding strategy highlights the fact that their honey has a unique taste because it is based on diverse flowers from the biological diversity in the Hin Lad Nai ecosystem. Wisdom and traditional knowledge from elders are incorporated to ensure their brand will be sustainable. Thirty percent of profits go to a community cooperation fund that finances environmental initiatives such as planting native trees and plants to conserve biodiversity.¹³¹

B. Fish

159. The Pescado Azul (Blue Fish) Women's Association of Isabela in the Galapagos (Ecuador) promotes responsible fishing by empowering local women. The association emphasizes traditional knowledge and the conservation and sustainable use of marine resources. Illegal and unsustainable fishing in local coastal waters has led to the overexploitation of sea cucumbers, spiny lobsters and a variety of fish species. To reduce pressures on these species, Pescado Azul promotes alternative livelihood opportunities. The main focus has been on developing value-added smoked products from sustainably sourced yellowfin tuna. Wood from guava shrubs, an invasive species, is used to smoke the fish. Products are marketed under the Pescado Azul brand, and the association has developed links with ecotourism operators to help identify markets. Other activities have included reforestation of local mangroves and efforts to promote ecological awareness.¹³²

160. Concerned by falling fish populations, local communities in Mangagoulack, Senegal, created the Association of Fishermen of the Rural Community Mangagoulack and established a community conservation area named Kawawana. The name derives from the Djola expression "Kapooye Wafolal Wata Nanang", which means "our patrimony, for us all to preserve." The conservation area was demarcated and rules put in place to control access to the coastal waters and combat the use of destructive fishing methods. In 2010, the Association obtained legal management rights for Kawawana, including a preferential right to fish on the local coast. Mangagoulack is the first local community in Senegal to obtain devolved management rights for coastal fisheries. The waters of the conserved area are divided into red, orange and yellow zones. No fishing or collection of shells or wood is permitted in the red zone, which includes mangroves and inlets that provide habitat for dolphins, manatees, fish and shellfish. The orange zone is reserved for fishing that supplies local consumption and markets. The yellow area is open to fishing, but subject to restrictions on the fishing methods and gear that can be used. The new management system rapidly increased fish populations and improved the local

¹³⁰ FAO and UNEP, 2020. *The State of the World's Forests: Forests, Biodiversity and People*.

¹³¹ Submission from Forest Peoples Programme (UK), Natural Justice (South Africa), Asia Indigenous Peoples Pact Foundation (AIPP - regional), Swedbio at the Stockholm Resilience Centre (Sweden), and the ICCA Consortium (global) with additional contributions of evidence, case studies and information by Women4Biodiversity, Tebteba Foundation, World Wildlife Fund (Indonesia), the Japan Civil Network for the UN Decade on Biodiversity and members of the CBD Alliance.

¹³² UN FAO Commission on Genetic Resources for Food and Agriculture. 2019. *The State of the World's Biodiversity for Food and Agriculture*.

diet. Three years after the creation of the conservation area, local fishermen's catches had doubled.¹³³

161. South Africa adopted a small-scale fisheries policy in 2012, focusing on collective rights to improve the livelihoods of fishers and fishing communities. The policy establishes preferential fishing zones for small-scale fishers, where large-scale commercial fishing is not allowed. The policy also enables the establishment of community-based legal entities, through which fishing communities can manage fishing and related activities in a way that respects the rights of small-scale fishers and protects marine ecosystems.¹³⁴

162. Indonesia and Liberia cracked down on illegal, unreported and unregulated fishing by stepping up enforcement actions, which had both conservation benefits (reduced fishing pressure) and socio-economic benefits (by re-allocating catch to the local fishing fleet).¹³⁵ The Gambia reported similar benefits after banning all industrial offshore fishing.

163. Confronted by declining fish stocks and deforestation, Indigenous communities in Sabah, Malaysia revived their traditional governance and management system called the Tagal Hutan, which involves collective ownership and responsibility for the sustainable use of nature both on land and in water. Tagal means prohibition in the Kadazan language, while hutan means forest in Bahasa Malaysia. One element of the Tagal system is that communities stop harvesting certain fish species for a pre-agreed period, especially during fish breeding seasons, in an effort to prevent fish populations from crashing or becoming extirpated. This system has been so successful that the Sabah Fisheries Department formally recognized it under the Sabah Inland Fisheries and Aquaculture Enactment 2003.¹³⁶

C. Forests

164. One of the most widely reported good practices involves planting trees, which engages the public and provides a wide range of benefits to people and nature. These efforts range from Timor Leste to Pakistan. Timor Leste has a program called One Child, One Tree which involves the distribution of trees to all the schools throughout the country. Trees are to be planted within the school compound as well as in each student's household. Pakistan launched the 10 Billion Tree Tsunami initiative in 2018, following a successful program in the state of Khyber Pakhtunkhwa.

165. In Kenya, the Green Belt Movement, for which Wangari Maathai won a Nobel Peace Prize in 2004, has planted more than 51 million trees. This grass-roots organization sponsors 4,000 tree nurseries that produce more than eight million native seedlings annually. More than 30,000 women received training in forestry, beekeeping, food processing and other trades, enabling them to earn a livelihood while protecting local lands and ecosystems. Similar movements now exist in Uganda, the United Republic of Tanzania and other African States.

¹³³ UN FAO Commission on Genetic Resources for Food and Agriculture. 2019. The State of the World's Biodiversity for Food and Agriculture.

¹³⁴ Submission from a network of rural Community Leaders engaged in Community Based Natural Resource Management (CBNRM) initiatives in eight countries within the Southern Africa region (Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe).

¹³⁵ Cabral et al. (2018) "Rapid and lasting gains from solving illegal fishing." *Nature Ecology & Evolution* volume 2, pp. 650–658.

¹³⁶ Submission from WWF.

166. In 2019, Ethiopia launched a “Green Legacy” campaign, a reforestation project that aims to plant 4 billion new trees every year. The Government declared a new national holiday (Green Legacy Day) and challenged citizens to plant 200 million trees in celebration. The day was highly publicized and on July 29, 2019, Ethiopians planted hundreds of millions of tree seedlings.

167. Between 1990 and 2015, forest cover in The Gambia increased by 10.4 percent, largely because The Gambia implemented a program to reduce deforestation by gradually transferring ownership and management of forests from government agencies to more than 500 local communities.

168. The European Union policy on protecting and restoring the world’s forests aims to reduce biodiversity loss, prevent ecosystem degradation and contribute to sustainable development in low-income countries. A combination of measures in five areas related to the consumption footprint and to production practices in supply countries has been identified:

(a) to reduce the EU consumption footprint on land and encourage the consumption of products from deforestation-free supply chains;

(b) to work in partnership with producer countries to reduce pressures on forests and to “deforest-proof” EU development cooperation;

(c) to strengthen international cooperation to halt deforestation and forest degradation, and encourage forest restoration;

(d) to redirect finance to support more sustainable land-use practices;

(e) to support better availability and quality of information on forests and supply chains.

169. These five actions aim notably to help low-income States to further develop their forest economies and international trade relations, while simultaneously protecting forest biodiversity.¹³⁷

170. Over the past decade, laws to reduce international trade involving illegally logged timber have been enacted by consumer countries. These laws require importers to demonstrate that timber has been harvested legally. Examples of this type of demand-side legislation include the Lacey Act Amendment in the United States of America (2008), the European Union Timber Regulation (2013), the Clean Wood Act, Japan (2016) and the amendment of the Act on the Sustainable Use of Timbers, Republic of Korea (2017).¹³⁸

171. The European Union Timber Regulation prohibits the sale of illegally harvested timber and derived products in the EU and requires businesses to undertake a risk management exercise (i.e. exercise due diligence) for this purpose.¹³⁹ The Regulation requires that operators have access to information describing the timber and timber products, country of harvest, species, quantity, details of the supplier and information on compliance with national legislation in order to assess the risk of illegal timber in the supply chain. This includes ensuring that the harvesting of the timber does not violate the rights of third parties, such as Indigenous peoples. When the assessment shows that there is a risk of illegal timber, that risk can be mitigated by requiring additional information and verification from the supplier.

¹³⁷ Submission from the European Union.

¹³⁸ FAO and UNEP, 2020. The State of the World’s Forests: Forests, Biodiversity and People.

¹³⁹ Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market Text with EEA relevance (OJ L 295, 12.11.2010, p. 23–34).

172. Concurrently, many tropical timber-producing countries are making efforts to strengthen environmental compliance and timber legality verification processes. Fifteen tropical timber-producing countries are developing national systems to assure legality of timber operations under the EU Forest Law Enforcement, Governance and Trade mechanism. Indonesia, for example, has implemented a national timber legality assurance system (Sistem Verifikasi Legalitas Kayu) and in 2016 issued its first timber export licences in compliance with the import requirement of the European Union Timber Regulation.¹⁴⁰

173. Efforts to restore and expand forests are underway in dozens of States including El Salvador, Ireland, Serbia, Turkmenistan, and Uruguay. In Azerbaijan, from 2000 to 2017, afforestation and reforestation measures were carried out on 150,000 hectares and almost 100 million trees were planted. In El Salvador, more than 350 sites have already been reforested. Plantatón Uruguay intends to engage youth to help the country restore 200,000 hectares of forests, facilitating adaptation to climate change and conserving biodiversity.

174. Many developing countries—Brazil, Costa Rica, and Kenya, for example—are pursuing to national REDD+ strategies. REDD+ is an international framework whose name stands for 'reducing emissions from deforestation and forest degradation, conservation of existing forest carbon stocks, sustainable forest management and enhancement of forest carbon stocks'. In essence, the program is intended to preserve and strengthen the role of tropical forests in mitigating climate change, facilitating adaptation, and promoting human development. From 2006 to 2014 the EU and its member states provided over three billion Euros in financing to developing countries to support REDD+ activities. It is essential that human rights safeguards be implemented as part of REDD+ to ensure that forest protection supports, rather than harms, the rights and interests of Indigenous peoples and local communities that depend on forests for livelihoods and culture. This involves obtaining the free, prior and informed consent of Indigenous peoples as set forth in the UN Declaration on the Rights of Indigenous Peoples.

175. Between 1990 and 2015, forest cover in Gabon increased by 4.5 percent, and forests represented almost 90 percent of total land in 2015. Gabon established 13 new national parks that are protected from economic exploitation. Although Gabon contains only 12 percent of the rainforests in the Congo Basin, it is reported that the country hosts almost 60 percent of Africa's surviving forest elephants. In 2019, Norway agreed to pay Gabon \$150 million for reducing its greenhouse gas emissions from deforestation and degradation, and to support Gabon in its efforts to meet its commitments under the Paris Agreement.

176. Cuba is continuing an ambitious reforestation program that has increased the area of the country covered by forests from 14 percent several decades ago to 31 percent in 2017.¹⁴¹ After the implementation of the Forest Law (No. 26,331) in Argentina, the rate of deforestation fell by 50 percent.

177. Norway's International Climate and Forest Initiative is providing billions of dollars in funding to assist States from Indonesia to Colombia reduce and eliminate deforestation. This funding not only reduces greenhouse gas emissions, but also helps conserve the rich biodiversity of tropical forests. For example, Guyana and Norway created a partnership in 2009 whose goal is to promote development in Guyana without an increase in deforestation. Guyana's tropical forests cover 87 percent of its territory,

¹⁴⁰ Submission from the European Union.

¹⁴¹ Contribution by Hungary to the Call for Input No. 1: Questionnaire on Climate Change and Human Rights: A Safe Climate put forward by Mr David Boyd, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, in his letter to Permanent Missions to the UNOG dated 11 April 2019.

and it has successfully kept its deforestation rate very low. The performance-based payments of up to \$250 million over five years are used for programs that involve recognizing the land rights of Amerindian communities in the interior of the country and awarding them official land title, as well as for low-carbon development projects.

178. Uruguay's Forest Law includes provisions that minimize deforestation that would cause greenhouse gas emissions.¹⁴² For example, the cutting of trees that threaten the survival of native forests is prohibited. Similarly, the Honduras has a National Strategy Against Illegal Logging, a National Strategy for the Reduction of Emissions due to Deforestation and Degradation of Forests, and a National Program for the Restoration of Degraded Ecosystems (which includes reforestation).

179. In 2004 the Paraguayan government passed the Zero Deforestation Law, which prohibits the conversion of forests to farmland in Paraguay's Eastern Region. This region is home to Paraguay's portion of the Atlantic Forest, which it shares with Brazil and Argentina. The forest is home to nearly seven percent of the world's animal species, many of which are endemic and threatened with extinction. From 2004 to 2013, there was a 90 percent decrease in deforestation in the country. The law was extended for an additional five years in 2013 and again in 2018. Prior to the law's passage, Paraguay had the one of the highest deforestation rates in the world, driven primarily by land clearing to raise cattle.

180. In 2011, the Philippines enacted a total ban on logging in natural forests, permitting trees to be cut only on plantations. This action was motivated by concerns about climate change, landslides, and a desire to ensure that future generations of Filipinos would be able to enjoy old-growth tropical forests and their rich biological diversity. An impetus for this good practice was a 1993 Supreme Court decision in a ground-breaking lawsuit led on behalf of children and future generations. The case asserted that clear-cutting old-growth forests violated the constitutional right to live in a healthy environment, and the court's powerful judgment led to the cancellation of many logging contracts.¹⁴³

181. Mexico reduced its rate of loss of primary forests more than ten-fold since 2000, from 2 percent annually in the 1990-2000 period to 0.1 percent in the 2005–2010 period. The rate of deforestation continued to decline from 2010-2015.¹⁴⁴

182. Benin enacted an innovative Sacred Forest Law in 2012.¹⁴⁵ The law states that "The sacred forest should be sustainably managed by the community to maintain its ecological, economic, socio-cultural, spiritual and recreational functions" (Article 4). A leading example is Gnanhouizounmè Sacred Forest, a site that has been cared for by the local people for centuries. The people of Gnanhouizounmè are active managers of their own forest and implement an ongoing regeneration programme, with sapling nurseries in most of the local villages. To increase knowledge and pride about their natural heritage, especially in their children, the community built a nature education centre.

183. In Madagascar, government land in protected areas and forests may be divided into parcels of land that can be managed, subject to rules and a management plan, by local communities that form special associations for this purpose. Civil society organizations play a role by coordinating and facilitating these arrangements and building the capacity of the communities to claim and exercise their rights and responsibilities. This takes place

¹⁴² Law No. 15,939.

¹⁴³ Oposa et al. v. Factoran et al. 1993. Supreme Court of the Philippines.

¹⁴⁴ Boucher et al. 2014. Deforestation Success Stories: Tropical nations where forest protection and reforestation have worked. CONAFOR. 2018. Informe de rendicion de cuentas de conclusion de la administracion 2012-2018.

¹⁴⁵ Interministerial Order No. 0121, Setting the conditions for the sustainable management of sacred forests in the Republic of Benin.

under a national legal framework with social and environmental safeguards. For example, at Tsitongambarika, Asity Madagascar (a CSO) helped establish KOMFITA, an umbrella body of community associations which, together with Asity and supervised by the government, manage the forest. KOMFITA ensures that local forest communities are consulted, benefits are shared fairly, and local people are involved as co-managers of the forest. The communities define the management rules for the forest which include sustainable use of forest products. In recognition of this work, Tsitongambarika's forests are now protected by the Government of Madagascar.¹⁴⁶

184. The Mountain Partnership Products (MPP) initiative is a certification and labelling program that provides technical and financial support to small producers in mountain regions to create enterprises, enhance their marketing skills and boost their livelihoods by improving the value chains of products such as organic food, textiles and tourism services. The initiative promotes short, domestic value chains while ensuring transparency and trust between producers and consumers, fair compensation for the primary producers, conservation of agrobiodiversity and preservation of ancient techniques. Each product has a label that tells the story of the product's origins, production method, nutritional value (in the case of foods) and role in the local culture, enabling consumers to make informed purchases. To date, the initiative has supported about 10,000 farmers, sixty percent of whom are women. An example of a product supported by the MPP initiative is honey from stingless bees, carefully harvested by a cooperative of 160 Indigenous women of the Guarani community in Serranía del Iñaño National Park, Chaco Province, Bolivia (Plurinational State of). Although Guarani families have reared bees since ancient times, the honey has become rare because of deforestation and the introduction of European honeybees. Perfectly adapted to the local environment, stingless bees are crucial pollinators; their displacement could lead to a significant loss of forest biodiversity. This initiative improves the livelihoods of beekeepers, conserves native bee species, and helps to maintain plant biodiversity through pollination.¹⁴⁷

185. The Forest and Farm Facility in Yen Bai Province, Vietnam, supports members of a farmers' union to grow cinnamon, star anise, plants for herbal medicine and mulberry for silkworm farms. Farmers market their products collectively and have worked together to learn and apply organic growing techniques. In 2019, a US\$3.5 million cinnamon processing factory was completed so that the cooperatives could supply organic cinnamon to the global market.¹⁴⁸ The Non-Timber Forest Products Exchange Programme supports forest-based communities in Asia by helping them develop sustainable businesses. Efforts include assisting with a certification scheme for rattan production in Indonesia and marketing sustainable, handwoven eco-textiles in the Philippines and Indonesia.¹⁴⁹

186. The Maya Biosphere Reserve in Guatemala is one of the world's most biodiverse areas. To help to conserve the reserve, the Government gave nine local communities land concessions so they can make a sustainable living from the forest. The concessions have generated more than \$5 million in annual revenue, as well as jobs for local community members. The forest concessions have had a near-zero deforestation rate for the past 14 years. According to research, there is a positive relationship between socioeconomic progress (income, investments, savings, capitalization of community enterprises, and

¹⁴⁶ Submission from BirdLife International.

¹⁴⁷ FAO and UNEP, 2020. *The State of the World's Forests: Forests, Biodiversity and People*, p. 120.

¹⁴⁸ Macqueen, D. (2019) Vietnamese forest and farm producers work towards more resilient livelihoods and landscapes. London: International Institute for Environment and Development. Available at: <https://www.iied.org/vietnamese-forest-farm-producers-work-towards-more-resilient-livelihoods-landscapes>.

¹⁴⁹ Non-Timber Forest Products Exchange Programme (n.d.) Exchange News. Non-Timber Forest Products Exchange Programme. Available at: <https://ntfp.org/>

asset building at the household and enterprise levels) and conservation of the concession areas.¹⁵⁰

187. In Mexico, the Sembrando Vida (Sowing Life) program creates jobs, contributes to reforestation and respect for biodiversity, and improves living conditions in rural areas. Peasants and other rural residents can receive support of five thousand pesos per month, of which 500 are destined for a savings bank, as well as seedlings and other materials for tree planting. The Sembrando Vida program promotes agroforestry, organic agriculture and regenerative cornfields growing heritage varieties. An emphasis is placed on education, shared decision-making, and the value of traditional knowledge and customs. In addition, the program seeks greater social inclusion of rural and Indigenous women, strengthening women's access to economic and productive resources, to technology, savings and training aimed at promoting the social integration of women. While one-third of registered planters are female, half of scholarship recipients are young women.¹⁵¹

188. Agroforestry, whether organized as trees in agricultural landscapes or farming in forest landscapes, optimizes the links between agriculture, forestry and biodiversity. Agroforestry has five major roles in biodiversity conservation: provides habitats for species that can tolerate a certain level of disturbance; helps to preserve germplasm of sensitive species; reduces rates of conversion of natural habitats by providing a more productive, sustainable alternative to traditional agricultural systems that may involve clearing natural habitats; provides connectivity between habitat remnants; and provides ecosystem services such as erosion control and water recharge, thereby preventing the degradation and loss of surrounding habitats.¹⁵²

189. The Brazil nut (the seed of the rainforest tree *Bertholletia excelsa*) is the only globally traded edible seed currently collected from the wild by forest-based harvesters. Over the past few decades, the harvesting of Brazil nuts has supported the “conservation through use” of millions of hectares of Amazonian forest by tens of thousands of rural households. The nuts contribute significantly to local livelihoods, national economies and forest-based development in a large geographic area, generating tens of millions of dollars in annual export value in the Plurinational State of Bolivia, Brazil and Peru. The tree reacts robustly to the type and level of nut harvesting currently practised. The resource users have developed endogenous management systems that sustain productivity.¹⁵³

190. Moringa is a vitamin-rich tree that supports biodiversity and prevents soil erosion by keeping the earth full of nutrients. Its leaves provide a dietary supplement, offer over 300 medicinal benefits, and are used by many societies worldwide. The UN Women’s Fund for Gender Equality supported the acquisition of solar dryers in four areas of Guinea, and trained local women’s cooperatives to use this renewable technology to increase moringa production.¹⁵⁴

191. UNDP is supporting countries to transition to clean cooking methods, with triple benefits: protecting health by reducing deadly household air pollution, protecting forests by decreasing unsustainable firewood consumption, and addressing climate change by

¹⁵⁰ Dietmar Stoian et al., “Forest concessions in Petén, Guatemala: A systematic analysis of the socioeconomic performance of community enterprises in the Maya Biosphere Reserve”, Center for International Forestry Research, 2019.

¹⁵¹ Submission from Mexico.

¹⁵² R.P. Udawatta, L.M. Rankoth and S. Jose, 2019. “Agroforestry and biodiversity,” Sustainability 11(10): 2879.

¹⁵³ M. Guariguata et al., 2017. Revisiting the ‘cornerstone of Amazonian conservation’: a socioecological assessment of Brazil nut exploitation. Biodiversity and Conservation, 26: 2007–2027.

¹⁵⁴ UN Women’s Fund for Gender Equality, 2016, “Building Resilience in Fragility: Women’s Empowerment in Action.” See www.unwomen.org/fge

reducing greenhouse gas emissions. Approximately 70 percent of the population of Nigeria relies on wood for fuel, contributing to rapid deforestation. Cleaner fuels and more efficient stoves are being introduced through various programs.

D. Agriculture

192. Agriculture is one of the industries with the largest impact on biodiversity. And yet the latest estimates indicate that approximately 33 percent of global food production is wasted, with more than half of this waste occurring in wealthy countries.¹⁵⁵ France has one of the world's most progressive approaches to addressing the problem of food waste with a law that requires supermarkets to donate unused food to charities, or send food that is no longer edible for humans as animal feed.

193. Brazil, Germany, Qatar and Sweden are countries that have led the way in establishing dietary guidelines that integrate health, nutrition and environmental sustainability. Brazil's 'Dietary Guidelines for the Brazilian Population 2014' incorporate references to soil conservation, pesticides, conservation of forests and biodiversity, and the amount of water and energy consumed to produce different foods.¹⁵⁶ States, municipalities and federal schools in Brazil are required to purchase at least 30 percent of food for school meals directly from smallholder producers.

194. Research indicates that given sufficient land, traditional shifting cultivation is sustainable; traditional fire management often benefits biodiversity; and that many customary fishery systems limit harvest levels and impacts. These customary systems could inform practices on a wider scale, improving ecosystem health and conserving biodiversity.¹⁵⁷

195. Many Indigenous communities practice the traditional agricultural system of rotational farming, where cultivation shifts and leaves areas fallow for long periods to regenerate forests and wildlife habitat. Examples include the tropical forests of Indonesia and the Chittagong Hill Tracts of India, where women play a major role in seed preservation.¹⁵⁸ The sulagad system of the Teduray-Lambangian peoples in Maguindanao, Southern Philippines involves traditional agroecological practices that respect spirits in nature and include the use of intercropping, rotational cropping, natural organic fertilizers, production good enough for the family and for sharing until the next harvest.¹⁵⁹

¹⁵⁵ UN Environment. 2019. Global Environment Outlook 6: Healthy Planet, Healthy People.

¹⁵⁶ Ministry of Health Brazil. 2014. Dietary Guidelines for the Brazilian Population. 2nd edition.

¹⁵⁷ Forest Peoples Programme, the International Indigenous Forum on Biodiversity and the Secretariat of the Convention on Biological Diversity (2016) Local Biodiversity Outlook: Indigenous Peoples' and Local Communities' Contributions to the Implementation of the Strategic Plan for Biodiversity 2011-2020. A complement to the fourth edition of the Global Biodiversity Outlook. Moreton-in-Marsh, England. Available at: <https://www.cbd.int/gbo/gbo4/publication/lbo-en.pdf>

¹⁵⁸ Senjuti Khisa, Maleya and the Women's Resource Network. (2011). The Women of the Chittagong Hill Tracts and their Experiences on Climate Change in Indigenous Women, Climate Change and Forests. Tebtebba Foundation.

¹⁵⁹ Submission from Forest Peoples Programme (UK), Natural Justice (South Africa), Asia Indigenous Peoples Pact Foundation (AIPP - regional), Swedbio at the Stockholm Resilience Centre (Sweden), and the ICCA Consortium (global) with additional contributions of evidence, case studies and information by Women4Biodiversity, Tebtebba Foundation, World Wildlife Fund (Indonesia), the Japan Civil Network for the UN Decade on Biodiversity and members of the CBD Alliance.

E. Water

196. Members of Indigenous peoples and local communities in the Ayacucho region of Peru have demonstrated a number of good practices in collecting and protecting water, including: designation of a water recharge and agrobiodiversity zone; a project that collects payments from urban residents to compensate upstream communities for the ecosystem services provided by their responsible stewardship of the water supply; and recognizing water as a subject of rights. The Water Recharge Areas and Agrobiodiversity Zones are intended to ensure “the proper functioning of ecosystems, water security and the conservation, sustainable use and local management of native cultivated species and their wild relatives.” Approximately 200,000 urban residents pay one percent of their water and sewage bill to the upstream communities that protect the watershed. The upstream communities also operate an award-winning rainwater harvesting and storage program called Fondo Sierra Azul, which benefits families through improved water quality and quantity, improved agricultural production, ecosystem restoration, and less time gathering water for women and girls.¹⁶⁰

197. The government of Zambia halted plans to build the 235 MW Ndevu Gorge Power Project, on the Luangwa River, one of the longest remaining free-flowing rivers in southern Africa. An immense reservoir would have flooded communities living near the river as well as part of South Luangwa National Park. The Nsenga people and WWF thanked the government for the decision to cancel the project and proposed solar and wind farms as alternatives for generating clean electricity.

F. Health

198. Ecosystem integrity can help regulate diseases by supporting a diversity of species so that it is more difficult for pathogens to spread rapidly or dominate. As the human population grows, ecosystems are altered. Forests are exploited for logging, agriculture, mining, infrastructure and urbanization. The buffer zones and other barriers that previously separated humans from wild animals and the pathogens that they harbour are reduced or lost.¹⁶¹ Increased livestock populations and densities create a bridge for pathogens to travel from wild hosts to humans. Implementing ecosystem-based approaches such as One Health, combined with community-based interventions has had some notable successes in reducing zoonotic disease outbreaks, leading to improved human health. Examples include controlling rabies in the Serengeti, reducing the burden of brucellosis in Mongolia, and controlling leishmaniasis in Tunisia.¹⁶²

199. Malaysia used land-use policies to prevent further outbreaks of Nipah virus after suffering an initial outbreak in 1998. Nipah virus is transmitted from bats to pigs and from pigs it spilled over into humans, with a high mortality rate. Deforestation pushed bats into closer proximity with farms. The government policies required farmers to take steps to separate bats and pigs, and there have been no outbreaks since 1998.¹⁶³

¹⁶⁰ Submission from Asociación Bartolomé Aripaylla de Ayacucho – Perú.

¹⁶¹ Degeling, C., Johnson, J., Kerridge, I., Wilson, A., Ward, M., Stewart, C. and Gilbert, G. (2015). Implementing a One Health approach to emerging infectious disease: reflections on the socio-political, ethical and legal dimensions. *BMC Public Health*, 15, 1307.

¹⁶² UN Environment Programme, 2016, “Zoonoses: Blurred lines of emergent disease and ecosystem health”, in *Frontiers Report 2016: Emerging Issues of Environmental Concern*.

¹⁶³ Aneta Afelt, Roger Frutos and Christian Devaux, “Bats, coronaviruses, and deforestation: toward the emergence of novel infectious diseases?”, *Frontiers of Microbiology*, vol. 9, No. 702 (April 2018).

VI. Equitable sharing of the benefits from the use of genetic resources

200. The Nagoya Protocol on Access and Benefit-sharing is a supplementary agreement to the UN Convention on Biological Diversity. One of the protocol's fundamental objectives is the fair and equitable sharing of the benefits arising out of the utilisation of Indigenous biological resources. The protection of traditional knowledge, and the equitable sharing of benefits from the commercial use of genetic resources through Access and Benefit Sharing (ABS) agreements can also constitute a powerful incentive for protecting cultural and biological diversity.¹⁶⁴

201. South Africa's National Environmental Management: Biodiversity Act 10 of 2004 and the Bioprospecting, Access and Benefit Sharing Regulation of 2008 provide a domestic legal framework for access and benefit sharing. In 2019, after nine years of negotiations, the world's first industry-wide benefit-sharing agreement was launched in South Africa between the Khoikhoi and San Indigenous peoples, and the South African rooibos industry.¹⁶⁵ The agreement recognizes the Khoikhoi and San peoples as the traditional knowledge holders for the uses of Rooibos, an indigenous plant species found only in the Cederberg region of South Africa. The agreement ensures that the Khoikhoi and San peoples will receive substantial economic benefits from the commercialisation of Rooibos.

202. The Khoikhoi Peoples' Rooibos Biocultural Community Protocol complements the industry-wide Benefit Sharing Agreement. The protocol articulates the customary laws related to consent of the Khoikhoi Indigenous communities (including Cederberg farming communities).

203. Costa Rica created a National Commission for the Management of Biodiversity (CONAGEBIO) in charge of approving permits for access to genetic and biochemical resources. The Commission ensures that free, prior and informed consent is granted by Indigenous peoples and guarantees the fair and equitable distribution of benefits. Two recent examples demonstrate these outcomes, with the State serving as a bridge between the private sector and local communities. Chanel Parfums Beaute, a cosmetics company, secured a permit to use the anti-inflammatory and antioxidant properties of a coffee plant in cosmetic products, generating significant income for coffee producers. A Costa Rican company, Lisanatura, secured the consent of a rural cooperative to use essential oils from organically cultivated medicinal plants in the formulation of a cough syrup.¹⁶⁶

204. Similarly, Argentina enacted a law to govern commercial use of genetic resources linked to traditional knowledge, thus implementing its commitments under the Nagoya Protocol. Applying a rights-based approach led to agreements governing the use of material from a camel in producing an antidiarrhea food supplement and the use of a bush with anti-inflammatory properties for making cosmetics.¹⁶⁷

205. In 2019, Burkina Faso enacted a law on "Access to plant genetic resources for food and agriculture and the sharing of benefits arising out of their use". The law contains a chapter on farmers' rights, which explicitly recognizes farming communities' rights over seeds as enshrined in the International Treaty on Plant Genetic Resources for Food and

¹⁶⁴ Elise Morgera, 'Under the Radar: Fair and Equitable Benefit-sharing and the Human Rights of Indigenous Peoples and Local Communities connected to Natural Resources', *International Journal of Human Rights*, 2019.

¹⁶⁵ <https://naturaljustice.org/the-rooibos-access-and-benefit-sharing-agreement>

¹⁶⁶ Submission from Patricia Madrigal Cordero.

¹⁶⁷ Submission from UNDP.

Agriculture as well as the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas.¹⁶⁸

VII. Biodiversity Finance

206. The Critical Ecosystem Partnership Fund, co-funded by Conservation International, the European Union, France, the Global Environment Facility, Japan and the World Bank, empowers Indigenous peoples, civil society organizations, universities and private enterprises to protect biodiversity hotspots and help communities thrive. Since its creation in 2000, the Critical Ecosystem Partnership Fund has allocated \$242 million to support the creation or expansion of more than 15 million hectares of new protected areas in 24 biodiversity hotspots, and strengthened the management and protection of more than 47 million hectares of Key Biodiversity Areas.¹⁶⁹

207. The Legacy Landscapes Fund is a joint initiative by Germany's Federal Ministry for Economic Cooperation and Development, KfW Development Bank, Agence Française de Développement, Campaign for Nature, Frankfurt Zoological Society, the International Union for Conservation of Nature, the UNESCO World Heritage Centre and the Worldwide Fund for Nature (WWF). Legacy landscapes are regions with tremendous, globally significant biological and cultural diversity. This project seeks funding from public and philanthropic sources to finance long-term partnerships between experienced field level NGOs, protected area authorities, Indigenous peoples and local communities to efficiently manage protected areas and their buffer zones, while at the same time respecting user rights. The proponents have pledged that all financial commitments will be "consistent with national and international conservation strategies and with social and ecological standards and safeguards, which includes acknowledging the needs and human rights of the Indigenous and local population" and supporting implementation of the UN Convention on Biodiversity and the 2030 Agenda for Sustainable Development.¹⁷⁰

208. A similar set of initiatives has been implemented in Bhutan, Brazil, Canada, Costa Rica and Peru under the umbrella Project Finance for Permanence. For example, in 2014, the government of Brazil, WWF and a group of public and private sector partners announced a \$215 million fund to create, consolidate and maintain a 60 million hectare network of protected areas in the Brazilian Amazon, called the Amazon Region Protected Areas. The Great Bear Rainforest Project (in Canada) created a fund of Can\$120 million for 8.5 million hectares of land. The Costa Rica Forever project resulted in a fund of \$55 million for 1.5 million hectares of land and 2 million hectares of marine protected areas.

209. The UK's proposed Biodiverse Landscapes Fund will provide £100m to conserve five global biodiversity hotspots, such as the Kavango-Zambezi Transfrontier Conservation Area, and Central America. The funds are intended to improve management of protected areas and adjacent buffer zones, strengthen land rights, enhance stewardship

¹⁶⁸ Submission from a network of rural Community Leaders engaged in Community Based Natural Resource Management (CBNRM) initiatives in eight countries within the Southern Africa region (Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe).

¹⁶⁹ https://www.cepf.net/sites/default/files/cepf-2019-impact_report-website.pdf

¹⁷⁰ Germany (Federal Ministry for Economic Cooperation and Development), 2019. The Legacy Landscapes Fund: Safeguarding outstanding biodiversity for humanity—the next level of conservation. www.legacylandscapes.org

and governance of local ecosystems, create alternative livelihoods for local community members and prevent activities such as poaching and illegal logging.¹⁷¹

210. Since 2013, Germany has invested more than 500 million Euros annually in development assistance for international biodiversity conservation, targeting low-income States where biodiversity is concentrated. The International Climate Initiative of the Federal Ministry for the Environment supports numerous international conservation projects ranging from protected areas management to innovations in agriculture. Germany's Federal Ministry of Economic Cooperation and Development also supports local and Indigenous communities. For example, a project situated in the Amazon supports Indigenous people in developing and implementing territorial and environmental management plans, strengthening their ability to govern their lands and protect biodiversity.¹⁷²

211. Biodiversity-relevant taxes include taxes on pesticides, fertilisers, forest products and on timber harvests. Based on the polluter pays principle, these instruments place an additional cost on the use of the natural resource or the emission of a pollutant, to reflect the negative environmental externalities that they generate. As such, they provide incentives for both producers and consumers to behave in a more environmentally-sustainable way. For example, in Denmark, 100% of the revenue from the national pesticide tax is earmarked for environmental purposes. Together these taxes raised, on average (2016-2018), an estimated \$7.5 billion per year across OECD countries and a total of \$7.7 billion per year across all countries. Biodiversity-relevant fees and charges include entrance fees to national parks, fees on hunting licenses, charges on land-based sewage discharge (such as for the Great Barrier Reef area in Australia), charges for groundwater abstraction and biodiversity-relevant non-compliance fines.¹⁷³

212. The Maldives Established a Green Fund, which utilizes green taxes paid by tourists to fund environmental initiatives. Fiji has an Environment and Climate Adaptation Levy that imposes fees on a range of items including luxury goods, tourism services and plastic bags, with a focus on emissions-intensive activities and products. All revenues generated are to be dedicated to climate action, which has included a range of ecological restoration activities, such as mangrove rehabilitation.

213. Debt-for-nature swaps are financial transactions in which a portion of a low-income State's foreign debt is eliminated in exchange for investment in environmental conservation initiatives. The low-income State gets a double benefit of reduced debt and increased resources for nature conservation. The United States Tropical Forest Conservation Act (TFCA), enacted in 1998 and reauthorized in 2019, offers eligible countries options for relieving certain official debts to the United States of America while generating funds in local currency to support tropical forest conservation activities. Since 1998, more than 20 TFCA debt-for-nature agreements have been concluded with 14 countries: Bangladesh, Belize, Botswana, Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Indonesia, Jamaica, Panama, Paraguay, Peru and the Philippines. Such agreements have involved \$233 million in government funds and an additional \$22.5 million from large environmental organizations including Conservation International, The Nature Conservancy, and WWF.¹⁷⁴

214. Payment for ecosystem services programs, which provide financial compensation for environmental protection, have become well established in countries such as Costa

¹⁷¹ Department for Environment, Food and Rural Affairs and Department for International Development, 2020, Biodiverse Landscapes Fund

¹⁷² Planos de Gestão Territorial e Ambiental- PGTAs. Submission from Germany.

¹⁷³ OECD (2019), Biodiversity: Finance and the Economic and Business Case for Action.

¹⁷⁴ FAO and UNEP, 2020. The State of the World's Forests: Forests, Biodiversity and People.

Rica, Ecuador, Mexico, and Vietnam. These programs have been successful in reducing deforestation and promoting reforestation, particularly when used in combination with protected areas, community development efforts, and reorientation of agricultural growth in forest-friendly directions. Payment for ecosystem services programs have already had a significant positive impact in terms of reduced rates of deforestation and associated loss of biodiversity.

215. In 1997, Costa Rica started a program to improve the livelihoods of Indigenous peoples, small-scale farmers, agroforestry producers, and landowners by paying them to conserve, restore, and sustainably use forests. The program focused on low-income and Indigenous communities and has resulted in the conservation and protection of more than 1.2 million hectares of forest and the payment of over \$500 million between 1997 and 2018. Almost 3,000 women landowners have signed contracts to receive funds under this program. Funding comes from Costa Rica's carbon tax, and has grown consistently, enabling contracts for an average of 270,000 hectares per year from 2014 to 2018. Additional benefits include reduced greenhouse gas emissions, carbon storage, protection of water, protection of biodiversity for conservation and sustainable use, and protection of nature's beauty, which benefits the people and the tourism industry.¹⁷⁵

216. Based on the success of Costa Rica's first payment for ecosystem services program, a second initiative called the Biodiversity Conservation Program (BCP) was launched in 2015. An endowment fund was created, and the returns from its investments are used for biodiversity conservation on private land. The BCP is based on two main components, a financial incentive granted per hectare and non-financial incentives such as training, sharing experiences, and support on key issues for producers, enabling them to improve their economic returns by implementing best practices. Women make up 27 percent of BCP participants to date. The two programs have helped Costa Rica reverse deforestation and increase forest cover from one-quarter of the country to more than half of all land.

217. Mauritania and Guinea-Bissau have negotiated financial support within the framework of European Union's Fisheries Partnership Agreements (FPAs) to help finance the creation and management of marine protected areas. The agreements resemble international payments for ecosystem services. To protect these funds from shifting political priorities, conservation trust funds have been created in both countries. These trust funds are independent entities financed by a range of international and national sources. Mauritania's trust fund exceeds 20 million Euros while the more recent Guinea-Bissau trust fund is five million Euros.¹⁷⁶

218. Ecuador's Socio Bosque Program, started in 2008, offers financial incentives to both individual and collective landowners in the form of annual per-hectare payments in exchange for their help in protecting native forests and other ecosystems. The program conserves biodiversity, reduces carbon emissions and alleviates poverty in rural areas. Ecuador has been able to reduce deforestation and protect 1.6 million hectares of native forests as a result of this initiative.¹⁷⁷

219. Mexico began a similar program in 2003, assisting poor rural communities that expressed commitments to environmental conservation. Funds are invested in various

¹⁷⁵ Submission from Patricia Madrigal Cordero.

¹⁷⁶ See <https://www.oecd.org/countries/mauritania/Policy-Paper-Sustainable-financing-for-marine-ecosystem-services-in-Mauritania-Guinea-Bissau.pdf>

¹⁷⁷ Submission from Ecuador.

forest management activities including firefighting, controlling pests and diseases, fencing to keep out livestock and patrols to prevent poaching and illegal logging.¹⁷⁸

220. Corporations have an important responsibility to financially support restoration activities, in light of the damage they have caused to ecosystems and biodiversity. Danone, a transnational food corporation, promotes regenerative agriculture to protect soil, empower farmers and promote animal welfare, and provides financial and technical support to more than 100,000 farmers worldwide. In Mexico, for example, it supports strawberry producers to implement sustainable soil practices and better water management, reducing the environmental impacts of growing strawberries while increasing producers' income. In Senegal, Danone supported the one of the world's largest mangrove restoration projects, with 79 million mangrove trees replanted in 10,000 hectares.¹⁷⁹

VIII. Systemic and transformative changes

221. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change both concluded that rapid, systemic and transformative changes are needed to address the global environmental crisis and achieve the Sustainable Development Goals by 2030. Changes are required across almost every sector of society, implicating not only human rights law, but also laws and policies governing environmental protection, energy, natural resources, agriculture, trade, investment, corporations, taxes, banking, construction, transport, and land-use. The Special Rapporteur endorses the following potentially transformative ideas, each of which has precedents that confirm their viability.

222. Children and youth around the world are expressing grave concern about the impacts of climate change upon their future. The minimum voting age should be lowered to 16 years or lower to enable youth to participate in and influence the political system, which is to integral to shaping the world they will inherit. The voting age has already been lowered to 16 in a number of nations including Argentina, Austria, Ecuador, Estonia, and Scotland.

223. Demilitarization offers extraordinary potential for reducing conflict, promoting peace, and freeing up vast resources for other societal priorities. Costa Rica is the world's leading example, having disbanded its military in 1948. Costa Rica invested the savings in education and health care with compelling results, as the country enjoys high literacy rates, long life expectancy, a modern economy, an excellent environmental record, and a very happy population.

224. In addition to shifting from fossil fuels to renewable energy, the world needs to shift away from today's linear economy, based on extracting resources from nature, manufacturing products, and then throwing away garbage, generating waste and pollution at each stage. The sustainable alternative is a circular economy, where everything we make or use is either reusable, recyclable or safely compostable. Inspired by the genius of natural ecosystems, a circular economy uses smart design to eliminate waste and pollution. Thousands of products, from office chairs to solar panels, have already been redesigned to meet circular economy criteria. Businesses have an important role to play, but government policy is the key to accelerating the shift. Circular economy laws have been enacted by the European Union, China, Japan, and Ontario (Canada). An important

¹⁷⁸ Boucher et al. 2014. Deforestation Success Stories: Tropical nations where forest protection and reforestation have worked.

¹⁷⁹ Ramsar Convention on Wetlands. (2018). Global Wetland Outlook: State of the World's Wetlands and their Services to People. Gland, Switzerland: Ramsar Convention Secretariat.

example is a new EU policy banning many single-use plastics, creating recyclability and recycled content requirements for other plastic products, and making producers responsible for funding and operating recycling and clean-up programs.

225. The relentless pursuit of economic growth (measured by increases in gross domestic product or GDP) has inflicted grievous harm upon the planet whose health is vital to the future for humans and all other species. It is time to for society to rethink its objectives. Several States with large Indigenous populations (e.g. Bolivia, Ecuador) embrace the goal of “sumak kawsay,” “buen vivir” or a good life lived in harmony with nature. Bhutan strives to maximize gross national happiness, which is comprised of four pillars: good governance, sustainable socio-economic development, cultural preservation and environmental conservation.

226. Modern corporations, with their legal imperative to maximize shareholder value, are major contributors to biodiversity loss and climate change. Too often, shareholders’ interests are prioritized over the public interest, human rights, and the environment. In recent years, a superior alternative has emerged, called a benefit corporation or community interest corporation. Benefit corporations are for-profit enterprises that must make “a material positive impact on society.”¹⁸⁰ These enterprises must achieve higher standards of transparency, accountability, and performance. Regulations governing benefit corporations expand the duties of directors to require consideration of non-financial stakeholders and mandate reporting on social and environmental performance using credible and independent third-party standards.¹⁸¹

IX. Conclusion

227. In response to the global nature emergency, it is clear that States, businesses, international organizations, civil society, and individuals must dedicate themselves to rapid, systemic, and transformative changes in all aspects of society. These changes are essential in order to avoid foreseeable and devastating impacts on human rights in all regions of the world, impacts that are already occurring but will be exacerbated by the further deterioration of ecosystems and biodiversity.

228. As noted in the Special Rapporteur’s earlier report on good practices in the implementation of the right to a safe, clean, healthy and sustainable environment (A/HRC/43/53), the abundance and diversity of actions being taken by States are encouraging. The good practices from more than 150 States highlighted in that report and this Annex are obviously not sufficient, but do illustrate the very real possibility of more ambitious, effective, and equitable action to protect the biosphere upon which all human rights ultimately depend. Rights-based solutions to the global nature crisis clearly do exist, but must be implemented with unprecedented speed and scale.

¹⁸⁰ An excellent overview of benefit corporations is available at <http://www.bcorporation.net/>.

¹⁸¹ W.H. Clark and L. Vranka, “White Paper: The Need and Rationale for the Benefit Corporation: Why It Is the Legal Form That Best Addresses the Needs of Social Entrepreneurs, Investors, and, Ultimately, the Public” (2013). See http://www.benefitcorp.net/storage/documents/Benefit_Corporation_White_Paper_1_18_2013.pdf.