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Healthy Biosphere

Report of the Special Rapporteur on Human Rights and the Environment

A/75/161

Summary

In the present report, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, David R. Boyd, discusses the need for urgent action to conserve, protect and restore the biosphere on which all species depend, including Homo sapiens. He illustrates the devastating effects of coronavirus disease (COVID-19) and the global nature emergency on the enjoyment of human rights, and the crucial role of human rights in catalysing action to safeguard nature. The Special Rapporteur clarifies the obligations of States and the responsibilities of businesses and civil society organizations and makes practical recommendations to conserve, protect and restore healthy ecosystems and biodiversity, ensure sustainable use and distribute the benefits of nature equitably. He emphasizes that healthy ecosystems and biodiversity are vital elements of the right to a healthy environment.

The Special Rapporteur has prepared an annex on good practices related to conserving, protecting and restoring ecosystems and biodiversity, available on the website of the Office of the United Nations High Commissioner for Human Rights.[1] The good practices demonstrate that effective actions are available to simultaneously protect human rights and protect nature.

01 Available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/Annualreports.aspx.

Contents

I. Human rights depend on a healthy biosphere

1. Earth is the only planet in the universe known to support life. On this unique and miraculous blue-green planet, evolution has produced a mind-boggling diversity of life, with millions of species, from elephants, redwood trees and blue whales to axolotls, butterflies and cacti. Humans share DNA with all species, providing compelling evidence that nature should be understood as a community to which we belong rather than a mere commodity for us to exploit.

2. Biological diversity includes ecosystems, species and differences in genes within a single species. An ecosystem is a group of organisms together with the physical environment where they live. The biosphere (or nature) is the sum of all ecosystems, the zone of life on Earth.

3. Nature's contributions to people are immense and irreplaceable. There are many compelling reasons to protect, conserve and sustainably use biodiversity, based on a wide spectrum of values: ecological, social, economic, scientific, educational, cultural, recreational and aesthetic. While some speak of natural capital and ecosystem services, others refer to nature's gifts and intrinsic value.[2] All human rights ultimately depend on a healthy biosphere. Without healthy, functioning ecosystems, which depend on healthy biodiversity, there would be no clean air to breathe, safe water to drink or nutritious food to eat. Plants, on land and in water, produce oxygen through photosynthesis. One type of phytoplankton, *Prochlorococcus*, is so small that millions can fit in a drop of water, yet the tiny organisms generate countless tons of oxygen. A teaspoon of healthy soil contains billions of microorganisms – algae, bacteria, fungi, nematodes and protozoa – that process organic matter into rich, dark humus to feed plants and help to protect them from pests and pathogens.

4. Healthy ecosystems also regulate the Earth's climate, filter air and water, recycle nutrients and mitigate the impact of natural disasters. Wetlands remove pollutants, shield coastlines, store carbon, absorb water and contribute to the food supply (e.g., rice, fish and seaweed). Marine and terrestrial ecosystems absorb 60 per cent of the carbon dioxide emissions produced by humans, slowing the pace of climate change. Healthy ecosystems also provide a renewable supply of timber, fibre, food, fish and other goods. Insects, bats and birds pollinate more than 75 per cent of crops, including fruits, vegetables, almonds, cocoa and coffee.

02 Unai Pascual and others, "Valuing nature's contributions to people: the IPBES approach", *Current Opinion Environmental Sustainability*, vols. 26–27 (2017).

5. The vast majority of terrestrial biodiversity is found in the world's forests.[3] Forests are home to more than 60,000 different tree species, 80 per cent of amphibian species, 75 per cent of bird species and 68 per cent of mammal species. More than one billion persons depend on forests for their livelihoods.[4]

6. Billions of persons rely on natural medicines for their health care. More than half of prescription drugs and 70 per cent of cancer-fighting drugs are natural or derived from nature. Spending time in nature provides people with physical, mental, emotional and spiritual benefits.

7. Nature's contributions to people affect almost every aspect of life and are essential to fulfilling almost all of the Sustainable Development Goals. Although many believe that it is impossible or unwise to place an economic value on nature, economists have estimated the annual value of ecosystem goods and services to be $125 trillion.[5]

8. To prepare the present report, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, David R. Boyd, held consultations in Geneva on 3 March 2020. He organized a series of online consultations on healthy ecosystems and human rights, enabling people throughout the world to participate. A call for inputs on healthy ecosystems and human rights was circulated in March 2020. The Special Rapporteur is grateful for the submissions from Austria, Colombia, Croatia, Cuba, Ecuador, Finland, Germany, Ghana, Indonesia, Ireland, Italy, Kazakhstan, Kyrgyzstan, Maldives, Mexico, Monaco, North Macedonia, Panama, Singapore, Slovakia, Slovenia, Spain, Sweden, Togo, the United Kingdom of Great Britain and Northern Ireland and the European Union, as well as more than 40 insightful submissions from indigenous peoples, national human rights institutions, the United Nations Development Programme, civil society organizations and academics.[6]

9. The present report, on healthy ecosystems and biodiversity, is the third in a series of thematic reports of the Special Rapporteur clarifying the substantive elements of the right to a safe, clean, healthy and sustainable environment, following a report on clean air (A/HRC/40/55) and another on safe climate (A/74/161). Future reports will address clean water and adequate sanitation, healthy and sustainably produced food and non-toxic environments in which to live, work, study and play.

A. Coronavirus disease pandemic and other zoonotic diseases

10. Human damage to the biosphere is having major impacts on health, livelihoods and rights. The most striking example imaginable is the coronavirus disease (COVID19) pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) plaguing the world in recent months. There is strong scientific evidence that the virus originated in bats, was transferred to another wildlife species, possibly pangolins, and then infected humans.[7] COVID-19 has already caused more than 600,000 deaths, millions of illnesses and massive social and

03 James E.M. Watson and others, "The exceptional value of intact forest ecosystems", *Nature Ecology and Evolution*, vol. 2, No. 4 (April 2018).

04 Food and Agriculture Organization of the United Nations (FAO) and United Nations Environment Programme (UNEP), *The State of the World's Forests 2020: Forests, Biodiversity and People* (Rome, 2020).

05 Monique Grooten and Rosamunde Almond, eds., *Living Planet Report 2018: Aiming Higher* (Gland, Switzerland, World Wildlife Fund, 2018).

06 Submissions are available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/HealthyEcosystems.aspx.

07 Rui Dong and others, "Analysis of the hosts and transmission paths of SARS-CoV-2 in the COVID-19 outbreak", *Genes*, vol. 11, No. 6 (June 2020).

economic disruption. The pandemic illustrates the interconnectedness of human rights: to life, health, food, water, freedom of association, an adequate standard of living and a healthy, sustainable environment.

11. COVID-19 is the latest emerging infectious disease to jump from another animal species to humans. More than 70 per cent of emerging infectious diseases in recent decades have been zoonoses, including HIV/AIDS, Ebola, severe acute respiratory syndrome, Middle East respiratory syndrome, avian influenza, Nipah virus, Marburg virus, Zika virus and West Nile virus. The growing risk of emerging infectious diseases is caused by a perfect storm of human actions that damage ecosystems and biodiversity, such as deforestation, land clearing and conversion for agriculture, the wildlife trade, the expanding human population, settlements and infrastructure, intensified livestock production and climate change.[8] Such activities elevate the risk of pathogens spilling over from wild and domestic animals to humans.[9] Unprecedented levels of international air travel and trade accelerate the spread of the diseases.

B. Global nature emergency: undermining the foundations of life on Earth

12. Instead of treating the Earth – this unique, life-supporting and irreplaceable home – with care, respect and reverence, humans are inflicting catastrophic damage on ecosystems and biodiversity, undermining nature's extraordinary contributions to human well-being and prosperity.

13. In 2019, in the most comprehensive assessment of the state of nature undertaken, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services summarized the destruction of nature by human activities as follows:[10]

(a) Wildlife populations (including amphibians, birds, fish and mammals) have plummeted an average of 60 per cent since 1970;

(b) The rate of extinction is hundreds of times higher than the average over the past 10 million years and is accelerating, with 1 million species at risk;

(c) Nearly three quarters of the Earth's land surface has been altered significantly;

(d) Two thirds of the Earth's ocean realm is experiencing adverse impacts, including acidification, deoxygenation and a loss of sea ice;

(e) More than half of the world's accessible freshwater flows is appropriated for human use;

(f) More than 85 per cent of the planet's wetlands has been destroyed;

(g) 420 million hectares of forest have been lost since 1990 through conversion to other land uses;

(h) The global biomass of large predatory fish targeted by fisheries has fallen by two thirds over the past hundred years.

08 Bryony A. Jones and others, "Zoonosis emergence linked to agricultural intensification and environmental change", Proceedings of the National Academy of Science, vol. 110, No. 21 (21 May 2013).

09 UNEP and International Livestock Research Institute, Preventing the Next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission (Nairobi, 2020).

10 See IPBES/7/10/Add.1.

14. Despite conservation efforts, the decline in nature's diversity and abundance during the past 50 years is unprecedented in human history. Scientists believe that humans are causing the sixth mass extinction in the history of life on Earth.[11]

C. Causes of the global nature emergency

15. The human activities directly responsible for the rapid decline in ecosystem health and biological diversity are, in order of global importance, changes in land and sea use (e.g., conversion of forests to agriculture), direct exploitation of species (e.g., fishing, hunting, poaching, illegal wildlife and the timber trade), climate change, pollution and invasive species. Climate change is a risk multiplier that exacerbates the impact of the other drivers, with potentially devastating short-term impacts on coral reefs, tropical forests and Arctic ecosystems.[12]

16. The five direct drivers are propelled by an array of underlying root causes – indirect drivers of change – including production and consumption patterns, human population growth, trade, technological innovations and societal values. In the past 50 years, the human population has doubled, the global economy has quadrupled and global trade has grown by a factor of 10, sending demand for energy and materials skyrocketing. Wealthy people are disproportionately responsible for overconsumption and pressure on nature.

17. Agriculture is the largest single factor in the destruction of ecosystems and the decline in biological diversity. Deforestation is driven by the demand for beef, soy (mostly for livestock feed) and palm oil, as well as the expansion of subsistence agriculture.[13]

D. Dire warnings from scientists

18. Governments must heed the warnings of scientists in order to take effective and equitable action to protect nature and prevent catastrophic impacts on human rights. In this regard, COVID-19 offers valuable lessons. Epidemiologists highlighted the dangers posed by coronaviruses at least as early as 1998.[14] In 2008, scientists urged governments to increase attention to emerging infectious diseases, emphasizing zoonoses, and recommended conserving areas with high biodiversity, which would "have added value in reducing the likelihood of future zoonotic disease emergence".[15] In 2013, scientists warned that "accelerated transmission of bat and animal coronaviruses to humans can be expected to continue and possibly escalate".[16] In 2015, experts convened by the World Health Organization (WHO) identified seven emerging zoonoses demanding urgent research because of their potential to cause public health emergencies, including "highly pathogenic coronaviruses".[17] In 2018, scientists published a paper entitled "Bats, coronaviruses and deforestation".[18] Governments failed to respond to those warnings.

11 Gerardo Ceballos, Paul R. Ehrlich and Peter H. Raven, "Vertebrates on the brink as indicators of biological annihilation and the sixth mass extinction", *Proceedings of the National Academy of Sciences*, vol. 17, No. 24 (16 June 2020).

12 See IPBES/7/10/Add.1.

13 Navin Ramankutty and others, "Trends in global agricultural land use: implications for environmental health and food security", *Annual Review of Plant Biology*, vol. 69 (2018).

14 David Quammen, *Spillover: Animal Infections and the Next Human Pandemic* (New York, W.W. Norton and Company, 2012), p. 512.

15 Kate E. Jones and others, "Global trends in emerging infectious diseases", *Nature*, vol. 451, No. 7181 (21 February 2008).

16 Rachel L. Graham, Eric F. Donaldson and Ralph S. Baric, "A decade after SARS: strategies for controlling emerging coronaviruses", *Nature Reviews Microbiology*, vol. 11, No. 12 (December 2013).

17 World Health Organization (WHO), "Blueprint for research and development preparedness and response to public health emergencies due to highly infectious pathogens", paper presented at the Experts Workshop on Prioritization of Pathogens, Geneva, 8–9 December 2015.

18 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).

19. Similarly, scientists have warned society of the downward spiral of ecosystems and biodiversity for more than 50 years, since Rachel Carson wrote Silent Spring, in 1962. In 1992, more than 1,700 scientists warned, "Human activities ... put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world that it will be unable to sustain life in the manner that we know".[19] In 2005, it was concluded in the Millennium Ecosystem Assessment that humans were having potentially irreversible impacts on ecosystems and biodiversity, on a scale unprecedented in human history.[20] In 2017, more than 15,000 scientists from 184 States observed that "humanity has generally failed to make sufficient progress in solving these foreseen environmental challenges, and alarmingly, most of them are getting far worse".[21]

20. In 2019, the United Nations Environment Programme (UNEP) concluded that the ongoing destruction of nature was "compromising planetary integrity and Earth's capacity to meet human needs".[22] According to Robert Watson, former Chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, we are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide. According to the Intergovernmental Science-Policy Platform, the current negative trends in biodiversity and ecosystems will undermine progress towards 80 per cent of the targets of Sustainable Development Goals related to poverty, hunger, health, water, cities, climate, oceans and land.

E. A legacy of State failures

21. States have created hundreds of treaties and declarations pledging to protect nature. The most important, the Convention on Biological Diversity of the United Nations (1992) has three overarching objectives: conservation, sustainable use and the equitable sharing of benefits. Other cornerstones of international protection for nature include the Convention on International Trade in Endangered Species of Wild Fauna and Flora; the World Charter for Nature; the United Nations Framework Convention on Climate Change; the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa; the Convention on the Conservation of Migratory Species of Wild Animals; the Convention on Wetlands of International Importance especially as Waterfowl Habitat; and the Convention for the Protection of the World Cultural and Natural Heritage.

22. In 2002, parties to the Convention on Biological Diversity pledged "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth".[23]

23. In 2010, parties to the same convention agreed on a long-term vision of living in harmony with nature by 2050. States established the

19 Union of Concerned Scientists, "World scientists warning to humanity", 16 July 1992.

20 Millennium Ecosystem Assessment, *Ecosystems and Human Well-Being: Synthesis* (Washington, D.C., Island Press, 2005).

21 William J. Ripple and others, "World scientists warning to humanity: a second notice", *Bioscience*, vol. 67, No. 12 (December 2017).

22 UNEP, Global Environmental Outlook: *GEO 6 – Healthy Planet, Healthy People* (Nairobi, 2019), pp. 4 and 8.

23 See UNEP/CBD/COP/6/20, annex I, decision VI/26, para. 11 (Strategic Plan for the Convention on Biological Diversity).

Aichi Biodiversity Targets, comprising five strategic goals and 20 targets to be achieved by 2020.[24]

24. In 2015, nations pledged to achieve 17 Goals through the 2030 Agenda for Sustainable Development. The deadline of 2020 was set in some targets pursuant to Goals 14 (life under water) and 15 (life on land), including to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts (14.2), to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services (15.1), to halt deforestation (15.2) and to halt the loss of biodiversity (15.5).

25. States have failed to meet any of the Goals that they had established for protecting and conserving ecosystems and biodiversity. None of the 2010 targets of the Convention on Biological Diversity, 2020 Aichi targets or 2020 commitments of the Sustainable Development Goals have been achieved,[25] although there has been modest progress. As at July 2020, 15.2 per cent of the world's terrestrial areas and 7.4 per cent of its oceans are protected.[26] Some species threatened with extinction, from bald eagles to humpback whales, have recovered. However, modest progress towards protecting specific places and species has been overwhelmed by exponential growth in human impacts on nature.

26. States have not responded with appropriate urgency to the increasingly dire warnings issued by the world's leading scientists. On the contrary, States encourage damage to ecosystems and biodiversity, providing more than $500 billion annually in subsidies that harm nature, more than five times what they spend to protect biodiversity.[27] Efforts to protect nature are undermined by prioritizing economic growth, trade and corporate profits over environmental protection and addressing weaknesses in the rule of law (e.g., corruption and weak institutions), poverty, armed conflict, limited civic space, the criminalization of human rights defenders and the failure to recognize the rights of indigenous peoples and local communities.

27. There is a huge implementation and enforcement gap, acknowledged by States, as actions fall short of commitments made through treaties and legislation.[28] A Peruvian civil society organization concluded that the laws, norms and decrees are dead letters because they are not complied with, while a civil society organization in the Philippines observed that governments turn a blind eye to corporate activities that are detrimental to ecosystems and biodiversity. The overall impact of humanity continues to increase, intensifying pressure on the planet's life-support systems and reflecting our dysfunctional relationship with nature.

F. Transformative changes required

28. Humanity must re-evaluate its fundamental relationship with nature or endure devastating human rights violations. In 2019, scientists united in their calls for urgent and transformative change.[29]

24 See UNEP/CBD/COP/10/27, annex II, decision X/2 (Strategic Plan for Biodiversity 2011–2020).

25 *The Sustainable Development Goals Report 2020* (United Nations publication, Sales No. E.20.I.7).

26 UNEP and others, *Protected Planet Digital Report* (2020).

27 Organization for Economic Cooperation and Development (OECD), "A comprehensive overview of global biodiversity finance", April 2020.

28 See, for example, submissions from Argentina, Italy and Slovakia.

29 Sandra Diaz and others, "Pervasive human-driven decline of life on Earth points to need for transformative change", *Science*, vol. 366, No. 6471 (13 December 2019).

As stated by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, "Goals for conserving and sustainably using nature and achieving sustainability … may only be achieved through transformative changes across economic, social, political and technological factors".[30] According to UNEP, "Urgent action at an unprecedented scale is necessary to arrest and reverse this situation, thereby protecting human and environmental health and maintaining the current and future integrity of global ecosystems".[31] The Food and Agriculture Organization of the United Nations concluded, "Transformational change is needed in the way we manage our forests and their biodiversity, produce and consume our food and interact with nature".[32]

29. Transformative change requires rethinking the goals of society, what makes us happy and what it means to live a good life, how we generate and use energy, the food that we eat and how we produce it, the way that we manufacture goods, how we design our cities and how we can reduce and eliminate waste. The Sustainable Development Goals, as well as the vision of the Convention on Biological Diversity of living in harmony with nature by 2050, embody a vision of a transformed world.

30. Scientists estimate that, unless we begin to make transformative changes in the next 10 years, it could take millions of years for biodiversity on Earth to recover, forcing future generations to live in a biologically impoverished world.[33] However, it is not too late. As the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services concluded, "Acting immediately and simultaneously on the multiple indirect and direct drivers has the potential to slow, halt and even reverse some aspects of biodiversity and ecosystem loss".[34]

30 See IPBES/7/10/Add.1.

31 UNEP, *Global Environmental Outlook: GEO6 – Summary for Policymakers (Nairobi, 2019)*, p. 4.

32 FAO and UNEP, *The State of the World's Forests 2020*.

33 Eric Dinerstein and others, "A global deal for nature: guiding principles, milestones and targets", *Science Advances*, vol. 5, No. 4 (April 2019).

34 IPBES/7/10/Add.1, para. C4.

II. Effects of the global nature emergency on the enjoyment of human rights

31. Damage to the biosphere is having a major impact on a wide range of human rights and could have catastrophic impacts in the future. Among the human rights being threatened and violated are the rights to a healthy environment, life, health, food, water, sanitation, an adequate standard of living, development and culture.

A. Right to a safe, clean, healthy and sustainable environment

32. The right to a safe, clean, healthy and sustainable environment is legally protected by more than 80 per cent of Member States through constitutions, legislation, court decisions and regional treaties.[35]

33. Healthy ecosystems and biodiversity are substantive elements of the right to a healthy environment, as recognized by regional tribunals, national laws and national jurisprudence. The Inter-American Court of Human Rights emphasized that "the right to a healthy environment, unlike other rights, protects the components of the environment, such as forests, rivers and seas".[36] In 2020, the Inter-American Court ruled that indigenous peoples' right to a healthy environment had been violated by the degradation of the forests and biodiversity in their region.[37]

34. Many laws that protect biodiversity incorporate the right to a healthy environment, such as, in Spain, the Law on Natural Heritage and Biodiversity of 2007. In South Africa biodiversity legislation of 2004 specified that, to fulfil the right to a healthy environment, the State must "manage, conserve and sustain South Africa's biodiversity and its components and genetic resources".[38] Croatia observed that recognition of the right to a healthy and sustainable environment "contributed to protecting, conserving and restoring biodiversity and healthy ecosystems by positioning nature protection high on the political agenda".

35. Courts in all regions of the world have determined that the failure of States to take adequate action to protect healthy ecosystems

35 A/HRC/43/53, annex II.

36 Inter-American Court of Human Rights, Advisory Opinion OC-23/17, 15 November 2017, para. 62.

37 Inter-American Court of Human Rights, *Indigenous Communities of the Lhaka Honhat Association v. Argentina*, Judgment, 6 February 2020.

38 South Africa, National Environmental Management: Biodiversity Act 2004, Act No. 10 of 2004, *Government Gazette*, vol. 467, No. 26436 (7 June 2004), sect. 3; and Spain, Law No. 42 of 13 December 2008 on National Heritage and Biodiversity, art. 1.

and biodiversity can violate the right to a healthy environment. As explained by the Supreme Court of Justice of Colombia in 2020, the right to a healthy environment obliges States to adopt regular and effective measures that contribute to the proper functioning, maintenance and conservation of the fauna and flora that make up the ecosystem.[39]

36. Violations of the right to a healthy environment found in prominent court decisions have included damaging the habitat of an endangered species (Costa Rica, Greece and India); water pollution caused by mining (Chile, Colombia and the state of Montana, United States of America); deforestation (Brazil, Colombia, Mexico and Philippines); extensive air, water and soil pollution (Argentina, India and Philippines); cyanide use in gold mining (Turkey); shrimp farming in coastal wetlands (Peru); tourism development in mangrove forests (Mexico); hydroelectric projects in sensitive ecosystems (Brazil, Ecuador and Finland); real estate development in biodiversity-rich areas (Hungary, Macedonia, Slovenia and South Africa); and an agricultural project in a protected forest (Uganda).[40]

B. Right to life

37. In 2018, the Human Rights Committee stated, "Environmental degradation, climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life".[41] Damage to ecosystems and declining biodiversity jeopardize the right to life. For example, the removal of coastal mangroves increases the risk of death from storms. When a major cyclone hit India in 1999, deaths were significantly higher in coastal villages where mangroves had been removed than in villages protected by healthy mangrove forests.[42]

38. Deforestation increases the frequency and severity of flood-related disasters, negatively affecting millions of persons, causing large numbers of deaths and inflicting trillions of dollars of damage.[43]

39. Measures taken in the name of conservation efforts can also violate the right to life. For example, militarized conservation personnel have killed people in Africa. In many countries, the designation of national parks and other protected areas has led to indigenous peoples and local communities being displaced and denied access to traditional territories used for food, water, culture and livelihoods.

C. Right to health

40. The World Health Organization recognizes that biodiversity is "a key environmental determinant of human health".[44] Healthy ecosystems provide a buffer against emerging infectious diseases. Changes to the landscape, such as deforestation, contribute to emergence of disease in wildlife, domestic animals and people. Forest fragmentation in North America has increased the risk of Lyme disease. Nipah virus has been

39 Supreme Court of Justice, Colombia, STC No. 3872-2020, 18 June 2020 (Parque Isla Salamanca).

40 For example, Supreme Court of Colombia, *Demanda Generaciones Futuras v. Minambiente*, STC No. 4360-2018, decision of 5 April 2018; Supreme Court of Mexico, First Chamber, Amparo en Revisión, No. 307/2016, decision of 14 November 2018. Other cases are discussed in, David R. Boyd, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment* (Vancouver, UBC Press, 2012).

41 Human Rights Committee, general comment, No. 36 (2018) on the right to life.

42 Saudamini Das and Jeffrey R. Vincent, "Mangroves protected villages and reduced death toll during Indian super cyclone", *Proceedings of the National Academy of Sciences*, vol. 106, No. 18 (5 May 2009).

43 Corey J.A. Bradshaw and others, "Global evidence that deforestation amplifies flood risk and severity in the developing world", *Global Change Biology*, vol. 13, No. 11 (November 2007).

44 WHO and Secretariat of the Convention on Biological Diversity, *Connecting Global Priorities: Biodiversity and Human Health – A State of Knowledge Review* (2015), p. 1.

linked to the intensification of pig farming in Malaysia. Deforestation contributed to the Ebola outbreak in West Africa.

41. Healthy ecosystems are a vital source of medicines and medical insights. The loss of biodiversity means lost opportunities for life-saving and life-changing medical breakthroughs. Only a small fraction of the world's plant and animal species have been studied thoroughly for their pharmacological or medical benefits. Researchers studying obscure species, including the southern gastric-brooding frog, the cone snail, the Pacific yew tree and the rosy periwinkle of Madagascar, have produced prescription drugs and other health benefits for humanity.[45]

42. As was noted in the submission of Germany, local populations and indigenous peoples, in particular in developing countries, often rely on traditional medicine, which depends on a wide range of wild plant and animal species. Illegal harvesting, trade in many of those species and the loss of suitable habitats is affecting health-care systems negatively for millions of persons and thus their right to health.

D. Right to food

43. Biodiversity protects the right to food by making agricultural systems more resilient. It also plays a vital role in efforts towards increasing food production while decreasing negative environmental impacts.

44. Every year, millions of hectares of land lose their capacity to grow food owing to erosion, salinization and contamination. Estimates of the number of persons whose right to food is affected by land degradation range from 1.3 to 3.2 billion.[46] Genetic diversity protects crops from diseases, contributing to food security. However, the genetic diversity of crop and livestock species, as well as that of their wild relatives, is declining, threatening food security and the resilience of ecosystems.[47]

45. In recent decades, agricultural output has expanded substantially, imposing immense costs on ecosystems and biodiversity. Degraded ecosystems lose their ability to produce clean water, protect against hazards such as flooding and provide habitat for species, including pollinators and soil organisms. Pesticides jeopardize the right to food by harming pollinators and contaminating soils. Land-grabbing and the financialization of agriculture threaten the rights of small-scale farmers and their communities.

46. Fisheries worldwide are overexploited, plagued by illegal, unreported and unregulated catches and heavily subsidized. Ocean-grabbing involves powerful economic actors taking over fisheries to the detriment of the rights of small-scale fishers and their communities. For example, industrial fisheries for fishmeal and fish oil are undermining the livelihoods of local fishers in the Gambia, Mauritania and Senegal.[48] Climate change, pollution and other pressures worsen the outlook for fisheries.[49]

45 Eric Chivian and Aaron Bernstein, eds., *Sustaining Life: How Human Health Depends on Biodiversity* (New York, Oxford University Press, 2008).

46 Luca Montanarella, Robert Scholes and Anastasia Brainich, eds., *The IPBES Assessment Report on Land Degradation and Restoration* (Bonn, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2018).

47 Julie Bélanger and Dafydd Pilling, eds., *The State of the World's Biodiversity for Food and Agriculture* (Rome, FAO Commission on Genetic Resource for Food and Agriculture, 2019).

48 Submission from Greenpeace.

49 Nerilie Abram and others, "Summary for policymakers", in Hans-Otto Pörtner and others, eds., *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (Intergovernmental Panel on Climate Change, 2019).

E. Rights to water and sanitation

47. Ecosystems are the source of all water relied on by people. Where water is polluted, contaminated or overexploited, the right to adequate quantities of clean water is jeopardized. Sanitation systems worldwide rely on ecosystems as an essential element of wastewater treatment because ecosystems purify polluted water.

48. As stated by South Africa, "Water is South Africa's lifeblood. It influences the well-being of the country's people, and water shortages, or a decline in water quality, will hamper economic development and compromise basic human rights in the country. Water is intrinsically linked with the ecosystems through which it passes; deteriorating ecosystems will adversely affect the quantity and quality of water. Over half of the ecosystems associated with our rivers and fresh water supply are seriously degraded".[50]

F. Rights of the child

49. The failure of States to prevent the degradation of an ecosystem or the extinction of a species could violate children's rights to life, health, culture and a healthy environment. The United Nations High Commissioner for Human Rights stated that "all children should enjoy (...) the certainty that the biodiversity of the natural world will remain for future generations".[51]

50. The Committee on the Rights of the Child is concerned about the decline of nature. In concluding observations about the Lao People's Democratic Republic, the Committee warned of "deforestation and the unrestrained construction of dams, which leads to forced displacement, degradation of biodiversity and erosion of riverbanks, severely affecting the life and subsistence possibilities of people in the area".[52] The Committee also expressed concerns about the impacts of biodiversity loss on children and their rights in Seychelles.[53]

51. The voices of children themselves are essential. They submitted the following ideas for the present report: give young people opportunities to take action to support biodiversity and ecosystems; stop cutting down and burning forests; respect for nature is essential; pass laws to ensure that the oceans are cleaned, pollution is reduced, animals are protected and life is sustained; and there is no point in asking young people for their opinion and input if it does not influence the final decision.[54]

G. Vulnerable populations

52. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services observed that "Areas of the world projected to experience significant negative effects from global changes in climate, biodiversity, ecosystem functions and nature's contributions to people are also home to large concentrations of indigenous peoples and many of the world's poorest communities. Because of their strong dependency

50 See official response of South Africa to the Special Rapporteur's questionnaire for the report on biodiversity, 2016, question No. 3. Available at https://www.ohchr.org/Documents/Issues/Environment/Biodiversity/SouthAfrica.pdf.

51 A/HRC/43/30, 2020, paras. 2 and 48.

52 CRC/C/LAO/CO/3-6, para. 36.

53 CRC/C/SYC/CO/2-4.

54 Submission from Children's Environmental Rights Initiative.

on nature and its contributions for subsistence, livelihoods and health, those communities will be disproportionately hard hit by those negative changes".[55] Exacerbating the injustice is the fact that, while indigenous peoples and local communities who are materially, culturally and spiritually dependent on their traditional lands bear an unfair share of the costs imposed by activities that damage nature, they rarely enjoy a fair share of the economic benefits.[56] An example from Indonesia is the decline in indigenous peoples' livelihood from forest honey, caused by the replacement of native forests with palm oil plantations. The decline in biological diversity is matched by the erosion of cultural diversity, exemplified by the extinction of many indigenous languages.

53. An example of the impacts of deteriorating ecosystem health on the rights of indigenous peoples is the bioaccumulation of toxic substances in the food chain, undermining the ability of indigenous hunters and fishers to secure healthy food for their families and communities. In Colombia, Peru and many other States, mercury from illegal mining contaminates rivers and watersheds.

54. A lack of formal land and tenure rights makes indigenous peoples and local communities, peasants, Afrodescendants, women and the poor susceptible to displacement through actions ranging from land-grabbing and industrial resource extraction to the creation of new parks. The Special Rapporteur received many examples of indigenous peoples and local communities struggling to defend their lands and waters from industrial activities that damage ecosystems and biodiversity. Examples include the Bunong indigenous communities in Cambodia, the Maya in Belize, the Wapichan in Guyana and the Dayak communities in Indonesia.

55. Many conservation initiatives have violated the rights of indigenous peoples and local communities, including the creation of parks and protected areas without their participation or free, prior and informed consent.[57] Examples include the eviction of the Batwa from Kahuzi-Biega National Park, in the Democratic Republic of the Congo, and the displacement of Ogiek peoples from the Mau Forest, in Kenya.

56. Ecosystem restoration can, surprisingly, have adverse effects on the rights of indigenous peoples and local communities. On the West Coast of North America, the reintroduction and recovery of sea otters caused a cascade of ecological changes. While the overall ecological and economic benefits outweighed the costs, declines in some fisheries (e.g., Dungeness crab and geoduck clam) adversely affected the livelihoods and access to food of indigenous peoples and local communities.[58]

57. Although at risk, indigenous peoples and local communities and peasants can make enormous contributions to the conservation, protection, restoration and sustainable use of ecosystems and biodiversity, when empowered to do so, through recognition of their rights. Thanks to their traditional knowledge, customary legal systems and cultures, they have proved effective at conserving nature.[59] At least a quarter of the global land area, including some of the most ecologically intact forests and many biodiversity hotspots, is traditionally owned,

55 IPBES/7/10/Add.1.

56 See discussion on rights of local communities with close connections to their traditional lands, A/HRC/34/49, paras. 53–58.

57 A/71/229.

58 Edward J. Gregr and others, "Cascading social-ecological costs and benefits triggered by a recovering keystone predator", *Science*, vol. 368, No. 6496 (12 June 2020).

59 Stephen T. Garnett and others, "A spatial overview of the global importance of indigenous lands for conservation", *Nature Sustainability*, vol. 1, No. 7 (July 2018); and Allen Blackman and others, "Titling indigenous communities protects forests in the Peruvian Amazon", *Proceedings of the National Academy of Sciences of the United States of America*, vol. 114, No. 16 (April 2017).

managed, used or occupied by indigenous peoples.[60] In addition, a diverse array of local communities, including farmers, fishers, herders, hunters, ranchers and forest users, manages significant areas of land and water under various title and tenure systems. Supporting their efforts to conserve and protect those lands, many of which are critical to global biodiversity, would result in less poverty, lower rates of deforestation and better protection of the biodiversity and ecosystem functions on which these communities depend.

58. Understanding gender differences in vulnerability, roles and capacity is essential for designing fair and effective actions to conserve, protect, restore, sustainably use and equitably benefit from healthy ecosystems and biodiversity.[61] Women's roles as land managers, farmers, fishers, scientists and entrepreneurs may be constrained by their having less access to information, less decision-making authority, limited financial and other resources and limited ownership of land. Deforestation, the loss of biodiversity and ecosystem degradation can perpetuate gender inequalities by increasing the amount of time spent by women and girls to obtain food, water, firewood and fodder. Women are leaders and vital agents of change, using their knowledge and resources to protect, restore and steward nature.[62] According to UNEP, "women often have a more specialized knowledge of various local and neglected species".[63]

59. Persons with disabilities could be disproportionately affected by the deterioration of nature, but could also contribute to conserving, protecting and sustainably using it. Damage to ecosystems and biodiversity could exacerbate the challenges that persons with disabilities face in securing access to natural green spaces and clean water. Land degradation and extreme weather events that cause migration pose additional difficulties related to mobility. The Committee on the Rights of Persons with Disabilities has emphasized that States must address the needs of persons with disabilities when designing and implementing disaster risk reduction measures.[64]

60. Small island developing States are particularly vulnerable to biodiversity loss, as their limited areas are susceptible to the combined impacts of land conversion, overexploitation, climate change, pollution and invasive species.

61. Individuals and communities working to safeguard human rights and protect nature from destruction and exploitation put themselves at grave risk in many States. Human rights defenders, environmentalists, indigenous peoples and others face murder, violence, harassment, intimidation and criminalization because of their work. Despite the Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms, as well as civil society initiatives (e.g., Defend the Defenders, Not1More and the Zero Tolerance Initiative), violence continues, exemplified by the 2020 murder of two Mexican men, Homero Gómez González and Raúl Hernández Romero, working to protect monarch butterflies and their forest habitat.[65]

60 FAO and UNEP, *The State of the World's Forests 2020*.

61 Claudia Ituarte-Lima, "Women's courageous roles as guardians of the Earth's ecosystems", in Claudia Ituarte-Lima and Maria Schultz, eds., *Human Right to a Healthy Environment for a Thriving Earth: Handbook for Weaving Human Rights, SDGs, and the Post 2020 Global Diversity Framework* (Stockholm, SwedBio and others, 2018).

62 United Nations Entity for Gender Equality and the Empowerment of Women, *Turning Promises into Action: Gender Equality in the 2030 Agenda for Sustainable Development* (New York, 2018).

63 UNEP, Biodiversity for the well-being of women, newsletter, No. 6, August 2013.

64 CRPD/C/SYC/CO/1.

65 See BBC News, "Mexico violence: why were two butterfly activists found dead?", 14 February 2020.

III. Human rights obligations relating to healthy ecosystems and biodiversity

62. There is growing recognition of the linkages between human rights and the health of the biosphere. It is acknowledged in recent United Nations declarations that indigenous peoples and peasants have rights "to the conservation and protection of the environment and the productive capacity of their lands".[66] In the Human Rights Council's universal periodic review process, damage to ecosystems and biodiversity is receiving greater attention. The universal periodic review of Argentina included a recommendation to "strengthen measures to combat the negative effect of the economic activities on the environment and biodiversity".[67] Similarly, recommendations were made that Brazil reduce deforestation, respect the rights of indigenous peoples and protect the environment and biodiversity when authorizing economic activities.[68] The United Arab Emirates was urged to "protect biodiversity and stop disastrous environmental impacts, such as threats to the security of migrant birds, the destruction of live coral cover, the change of natural water flow and the destruction of natural seabed when constructing man-made islands".[69] It was highlighted in reviews of Indonesia, Madagascar, Malaysia and Solomon Islands that protecting rainforests was essential to realizing economic, social and cultural rights.[70]

63. Treaty bodies are also increasingly highlighting the human rights impacts of damage to ecosystems and biodiversity. The adverse impacts of deforestation on human rights were mentioned in concluding observations by the Committee on the Elimination of All Forms of Discrimination against Women (Côte d'Ivoire and Guyana),[71] the Committee on the Rights of the Child (Gabon, Guinea and Haiti),[72] the Committee on Economic, Social and Cultural Rights (Argentina, Brazil and Colombia),[73] and the Committee on the Elimination of Racial Discrimination (Paraguay).[74] The Committee on the Rights of the Child expressed concern that the oil and gas industry of the Russian Federation is having negative impacts on indigenous peoples, including children, through deforestation and pollution and "by endangering the species that are crucial to their livelihoods".[75] The Committee on the Elimination of Racial Discrimination urged Suriname to respect indigenous peoples'

66 See United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, art. 18; and United Nations Declaration on the Rights of Indigenous Peoples, art. 29.

67 A/HRC/37/5.

68 A/HRC/36/11.

69 A/HRC/38/14.

70 A/HRC/21/7 (Indonesia), A/HRC/28/13 (Madagascar), A/HRC/25/10 (Malaysia) and A/HRC/32/14 (Solomon Islands).

71 CEDAW/C/CIV/4 (Côte d'Ivoire) and CEDAW/C/GUY/CO/9 (Guyana).

72 CRC/C/GAB/CO/2 (Gabon), CRC/C/GIN/CO/3-6 (Guinea) and CRC/C/HTI/CO/2-3 (Haiti).

73 E/C.12/ARG/CO/3 (Argentina), E/C.12/BRA/CO/2 (Brazil) and E/C.12/COL/CO/6 (Colombia).

74 CERD/C/PRY/CO/4-6 (2016).

75 CRC/C/RUS/CO/4-5 (2014).

human rights by completing adequate social, cultural and environmental impact assessments for developments proposed in their ancestral territories, pursuant to the Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessments regarding Developments Proposed to Take Place on, or which are Likely to Impact On, Sacred Sites and On Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities, developed under the Convention on Biological Diversity.[76]

64. The former Special Rapporteur on human rights and the environment, John Knox, dedicated a report to the issue of biodiversity and human rights, also highlighting the issue in his country reports.[77] He concluded, "the degradation and loss of biodiversity undermine the ability of human beings to enjoy their human rights" and outlined the obligations of States to protect against such harms.

65. Other Special Rapporteurs have begun to address biodiversity and human rights. The Special Rapporteur on the rights of indigenous peoples called for the full recognition of their rights in all activities related to the conservation and sustainable use of biodiversity, in particular actions to protect forests and establish new protected areas in their territories.[78] The Special Rapporteur in the field of cultural rights praised the efforts of Botswana to protect its rich biodiversity, but emphasized the importance of respecting the rights, knowledge and practices of indigenous peoples and local communities.[79] The Special Rapporteur on the right to food noted the importance of agricultural biodiversity in contributing to food security.[80] The Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes warned that chemical contamination of the Arctic threatens the rights of indigenous peoples and local communities and criticized the legacy of toxic contamination of marine and terrestrial ecosystems by the United States in the Marshall Islands.[81]

A. State obligations

66. The current and foreseeable adverse effects of the global nature crisis on the enjoyment of a wide range of rights give rise to extensive duties of States to take immediate actions to prevent those harms.[82] They are legally enforceable obligations, not policy options or mere aspirations, reflecting existing commitments pursuant to international human rights law. The Human Rights Committee stated that "obligations of States under international environmental law should inform their human rights obligations".[83] States should apply a rights-based approach to all aspects of conserving, protecting, restoring, using and benefitting from healthy ecosystems and biodiversity. Applying a rights-based approach clarifies the obligations of States and businesses; catalyses ambitious action; highlights the plight of the poorest and most vulnerable; and empowers people to become involved in designing and implementing solutions.

76 CERD/C/SUR/CO/13-15.

77 A/HRC/34/49, A/HRC/34/49/Add.1 (Madagascar) and A/HRC/37/58/Add.1 (Uruguay).

78 A/71/229.

79 A/HRC/31/59/Add.1.

80 A/HRC/16/49.

81 A/HRC/39/48/Add.2 (Denmark) and A/HRC/21/48/Add.1 (Marshall Islands).

82 A/HRC/25/53.

83 Human Rights Committee, general comment, No. 36, para. 62.

67. A critical factor in the global nature crisis is that States and businesses have repeatedly failed to fulfil their commitments and have not been held accountable because of the weak enforcement mechanisms in international environmental law. International and domestic human rights law offer treaty bodies, courts, commissions and processes for ensuring accountability.

68. The framework principles on human rights and the environment clarify three categories of State obligations: procedural, substantive and special obligations towards those in vulnerable situations.[84]

69. States have procedural obligations to:

(**a**) Provide the public with accessible, affordable and understandable information regarding the causes and consequences of the global nature emergency, including incorporating the importance of a healthy biosphere as a required element of the educational curriculum at all levels;

(**b**) Ensure an inclusive, equitable and gender-based approach to public participation in all actions related to the conservation, protection, restoration and sustainable use of nature, with a particular emphasis on empowering the most directly affected populations;[85]

(**c**) Enable affordable and timely access to justice and effective remedies for all, to hold States and businesses accountable for fulfilling their obligations to conserve, protect and restore nature;

(**d**) Assess the potential environmental, social, cultural and human rights impacts of all plans, policies and proposals that could damage, destroy or diminish healthy ecosystems and biodiversity;

(**e**) Implement human rights safeguards in the design and use of biodiversity financing mechanisms (e.g., payments for ecosystem services and debt for nature swaps);

(**f**) Integrate gender equality into all actions to conserve, protect, restore, use and equitably share the benefits of nature, including the development and implementation of National Biodiversity Strategic Action Plans required under the Convention on Biological Diversity, empowering women to play leadership roles;

(**g**) Respect the rights of indigenous peoples and local communities and peasants in all actions to conserve, protect, restore, sustainably use and equitably share the benefits of healthy ecosystems and biodiversity, including respect for traditional knowledge, customary practices and indigenous peoples' right to free, prior and informed consent;

(**h**) Provide strong protection for environmental human rights defenders working on nature-related issues. States must vigilantly protect defenders from intimidation, criminalization and violence; diligently investigate, prosecute and punish the perpetrators of those crimes; and address the root causes of social-environmental conflict.[86]

84 A/HRC/37/59, annex.

85 See CBD/COP/DEC/14/8, annex II, decision 14/8 (Protected areas and other effective area-based conservation measures).

86 A/HRC/25/55 and A/71/281.

70. With respect to substantive obligations, States must not violate the right to a healthy environment or other human rights related to healthy ecosystems and biodiversity through their own actions; must protect those rights from being violated by third parties, in particular businesses; and must establish, implement and enforce laws, policies and programmes to fulfil these rights.[87] These substantive obligations are informed by specific commitments in the Convention on Biological Diversity, including to:

(a) Monitor and report on state of biodiversity and threats to biodiversity;

(b) Adopt and implement national biodiversity plans;

(c) Mainstream biodiversity into other policy areas (e.g., health and finance);

(d) Create protected areas and establish other effective conservation measures;

(e) Establish rules to ensure the sustainable use of biodiversity;

(f) Enact legislation to protect threatened species;

(g) Restore degraded ecosystems;

(h) Prevent the spread of invasive species;

(i) Provide incentives for conservation and sustainable use.[88]

71. States must implement and enforce existing laws and policies and amend or create new laws for emerging challenges (e.g., plastic pollution). They should apply the precautionary principle in all decisions that could harm ecosystems and biodiversity.[89] States also must avoid direct and indirect discrimination and retrogressive measures. As noted in the framework principles, "Indirect discrimination may arise, for example, when measures that adversely affect ecosystems, such as mining and logging concessions, have disproportionately severe effects on communities that rely on the ecosystems".

72. States have particular obligations to indigenous peoples and local communities and peasants. The top priority involves recognizing their land titles, tenures and rights, acknowledging the existence of different customs and systems, including collective ownership and governance models. As the Inter-American Court confirmed, States must ensure the effective participation of indigenous peoples in the creation of protected areas, their continued access to and use of traditional territories, including those within the protected areas (for hunting, fishing, gathering, cultivation and cultural activities consistent with sustainable use) and a fair share of the benefits arising from conservation initiatives.[90] States are obligated to prevent human rights abuses – evictions, displacement, beatings, torture and murder – arising from exclusionary and militarized conservation. States must "take appropriate measures to promote and protect the traditional knowledge, innovation and practices of peasants and other people working in rural areas,

87 E/1991/23.

88 Convention on Biological Diversity, arts. 5–14.

89 Human Rights Committee, general comment No. 36, para. 62.

90 Inter-American Court of Human Rights, *Kaliña and Lokono Peoples v. Suriname*, Judgment, 25 November 2015, para. 181.

including traditional agrarian, pastoral, forestry, fisheries, livestock and agroecological systems relevant to the conservation and sustainable use of biological diversity".[91]

73. States are obliged to ensure that activities within their jurisdiction or control do not cause serious harm to the environment or peoples of other States or to areas beyond the limits of national jurisdiction.[92] Given the evidence regarding of increasing degradation of the biosphere, this well-established "no harm" rule of customary international law is being jeopardized by land conversion, overexploitation, climate change, pollution and invasive species.

74. States have an obligation to cooperate internationally to achieve a healthy biosphere, through sharing information, transferring clean technologies, building capacity, increasing research, honouring international commitments and ensuring just and sustainable outcomes for vulnerable and marginalized communities. Wealthy States must contribute their fair share towards the costs of conserving, protecting and restoring healthy ecosystems and biodiversity in low-income countries, in accordance with the principle of common but differentiated responsibilities.[93] Financial assistance to low-income countries should consist of grants, not loans. It violates basic principles of justice to force poor countries to pay for the costs of protecting nature when high levels of consumption in wealthy countries are a driver of the problem.

B. Responsibilities of businesses

75. Businesses are a major contributor to the destruction of ecosystems and the loss of biodiversity, through deforestation, land-grabbing, extracting, transporting and burning fossil fuels, industrial agriculture, intensive livestock operations, industrial fisheries, large-scale mining and the commodification of water and nature. Businesses have outsourced many activities that damage ecosystems and biodiversity from high-income nations to low-income nations, exploiting environmental standards that are lower or not enforced.

76. Businesses must adopt human rights policies, conduct human rights due diligence, establish transparent and effective grievance mechanisms, remedy human rights violations for which they are directly responsible and work to influence other actors to respect human rights where relationships of leverage exist. All businesses should comply with the Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework as they apply to activities carried out by the business, its subsidiaries or its supply chain that could damage or degrade the biosphere. Businesses should prioritize respect for the rights of indigenous peoples and local communities and peasants and refuse to seek or exploit concessions in protected areas.

77. Businesses should reduce adverse impacts on ecosystems and biodiversity from their own activities, subsidiaries and suppliers;

91 United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, art. 20.

92 *Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010*, p. 14; and Inter-American Court of Human Rights, Advisory Opinion OC-23/17, para. 101.

93 Convention on Biological Diversity, arts. 8 (m) and 9 (e).

reduce adverse impacts on nature from the use of their products and services; and publicly disclose their adverse impacts on nature. In addition, businesses should support, rather than oppose, laws and policies intended to effectively conserve, protect, restore and ensure the sustainable use of ecosystems and biodiversity.

C. Responsibilities of conservation organizations

78. Thousands of conservation organizations across the world, from small community groups to huge multinational organizations, are working hard to conserve, protect and restore the natural wonders of this beautiful planet. However, disturbing situations have occurred in which large conservation organizations have been involved directly, or were complicit, in actions that attempted to protect nature, but resulted in human rights abuses, from the eviction and displacement of indigenous peoples and local communities to the killings of persons by militarized park rangers. Such actions are unacceptable.

79. Large conservation organizations must do much more to respect human rights in their work. Despite expressing strong commitments to human rights, implementation often falls short. In accordance with the Guiding Principles on Business and Human Rights, they should adopt human rights policy commitments, conduct human rights due diligence and enable the remediation of any adverse human rights impacts that they cause or to which they contribute, including through effective grievance mechanisms that they have established, in which they participate or for which they are directly responsible.[94] Large conservation organizations should also work to influence other actors to respect human rights where relationships of leverage exist. The Conservation Initiative on Human Rights was a good step, but it could be improved by broadening its membership and convening a regular forum, in partnership with indigenous peoples and local communities, on conservation and human rights, perhaps involving UNEP, the International Union for Conservation of Nature, the Office of the United Nations High Commissioner for Human Rights and the Convention on Biological Diversity secretariat.

94 A/HRC/44/32.

IV. Good practices in conserving, protecting and sustainably using of biodiversity

80. Many inspiring examples exist of good practices in the conservation, protection and sustainable use of biodiversity, including constitutional protection for nature (e.g., Brazil, Croatia, Ecuador, Namibia and Norway), the High Ambition Coalition for Nature and People (led by Costa Rica and France), the European Green Deal and Biodiversity Strategy for 2030, the Great Green Wall, the African Forest Landscape Restoration Initiative, recognition of the rights of nature and countless innovative practices at the community level. The implementation of good practices in protecting ecosystems and biodiversity not only ensures a healthy biosphere and protects human rights, but also promises immense economic benefits, measured in the trillions of dollars. Those good practices are reported separately.[95]

95 See https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/AnnualReports.aspx.

V. Conclusions and recommendations

81. It is not too late to respond to the global nature emergency, but time is running out. The ongoing failure to conserve, protect and sustainably use the Earth's ecosystems has catastrophic consequences for the enjoyment of a sweeping range of human rights. With COVID-19, humanity has paid a terrible price for ignoring scientists' warnings. We must not make the same mistake with the risks posed by future pandemics, biodiversity loss and climate change.

82. Transforming society to achieve a good quality of life for all in harmony with nature requires scaling up biodiversity conservation, large-scale restoration of degraded ecosystems, a rapid clean energy transition, shifting to a circular economy, decreased material consumption by wealthy individuals and reforming supply chains to reduce environmental impacts. Employing a rights-based approach could serve as a catalyst for accelerated action. History demonstrates – through the progress achieved by abolitionists, suffragettes, civil rights activists and indigenous peoples – the powerful role of human rights in sparking transformative societal changes.

A. Recovering from coronavirus disease and preventing future pandemics

83. A rights-based approach must be applied to the investment of trillions of dollars in economic recovery, ensuring that investments advance human rights, prevent future pandemics, alleviate climate change and biodiversity loss, provide a just transition for vulnerable workers and communities and accelerate progress to achieve the Sustainable Development Goals. Encouraging examples include the European Green Deal, worth €750 billion; the Green New Deal in South Korea; and the allocation by New Zealand of $NZ 1.1 billion for nature-based jobs.

84. Environmental laws and regulations must not be weakened, nor enforcement relaxed. Financial support should be made conditional on businesses committing to protect the rights of indigenous peoples and local communities, prevent deforestation and land conversion and reduce greenhouse gas emissions at a rate consistent with Intergovernmental Panel on Climate Change guidance. Sectors that

damage ecosystems and biodiversity, including fossil fuels, mining and industrial agriculture, should not receive subsidies.

85. To reduce the risk of zoonotic pandemics and their devastating impacts on health and human rights, urgent action is required to target the key drivers, including deforestation, agricultural intensification and the wildlife trade. States should:

(a) End deforestation and the conversion of wildlife habitat for agriculture, settlements and infrastructure;

(b) Strictly regulate wildlife trade by targeting illegal, unsustainable and unhygienic practices and high-risk species while supporting sustainable trade in wildlife that fulfils the rights to food and livelihood for poor and marginalized rural populations and contributes to protecting species and their habitat;

(c) Tighten regulations for industrial agriculture, including biosecurity measures to prevent transmission of infectious diseases from wildlife and livestock to people;

(d) Monitor high-risk wildlife and vulnerable human populations, focusing on hotspots of emerging infectious diseases and high-risk interfaces between wildlife, livestock and humans;

(e) Systematically implement a "One Health" approach, an integrated strategy for the complex interconnections between humans, animals and ecosystems, both internationally (through collaboration among WHO, FAO, UNEP and the World Organisation for Animal Health) and nationally (through cooperation among health, agriculture and environmental agencies).

B. Accelerating action to protect and conserve nature

86. The post-2020 global biodiversity framework should explicitly endorse a rights-based approach to achieving rapid and ambitious progress in the protection, conservation and sustainable use of biodiversity. Scientists, civil society and a growing number of States have endorsed the ambitious goal of protecting 30 per cent of the planet's lands and waters by 2030, resulting in its inclusion in the draft post-2020 framework. While achieving that target could have enormous benefits for human rights by protecting nature's contributions to people, the processes of identifying, designating and managing additional protected and conserved areas must be carried out in partnership with indigenous peoples and local communities in order to safeguard their rights. Protecting and restoring ecological linkages between protected and conserved areas is also vital.[96]

87. Protected and conserved areas are one of the key actions for maintaining healthy ecosystems and biodiversity.[97] When governed and managed equitably and effectively, they also support human rights, contributing to health, well-being, food and water security, disaster risk reduction, climate mitigation and adaptation and local livelihoods.[98]

96 Santiago Saura and others, "Protected area connectivity: shortfalls in global targets and country-level priorities", *Biological Conservation*, vol. 219 (March 2018).

97 Claudia L. Gray and others, "Local biodiversity is higher inside than outside terrestrial protected areas worldwide", *Nature Communications*, vol. 7, No. 12306 (2016).

98 Robin Naidoo and others, "Evaluating the impacts of protected areas on human well-being across the developing world", *Science Advances* 2019, vol. 5, No. 4 (April 2019).

Well-managed marine protected areas protect and restore biodiversity, increasing yields in adjacent fisheries. In marine protected areas, species richness is 21 per cent higher and the biomass of fish is six times greater than in adjacent unprotected areas.[99]

88. The post-2020 global biodiversity framework should:

(a) Recognize that all persons have the right to a safe, clean, healthy and sustainable environment;

(b) Prioritize the rights and roles of indigenous peoples and local communities;

(c) Include a commitment from wealthy States to mobilize at least $100 billion annually to assist low-income States in conserving, protecting, restoring and ensuring the sustainable use of nature, matching their climate finance commitment;

(d) Prioritize actions that achieve multiple benefits for human rights concurrently (e.g., ecological restoration initiatives that reduce poverty, improve food security, protect nature and address climate change);

(e) Require a rights-based approach to implementing and developing National Biodiversity Strategy and Action Plans;

(f) Address both the direct and indirect drivers of harm to ecosystems and biodiversity;

(g) Highlight the need for urgent action to protect environmental human rights defenders;

(h) Require emergency management actions for species whose continued survival is in jeopardy.

89. States should address the decline of nature and the threat of climate change simultaneously, by:

(a) Prioritizing nature-based climate solutions, with appropriate safeguards to protect human rights, providing up to one third of the climate mitigation required by 2030 and major advances in adaptation. Key actions include conservation of oceans, forests, wetlands (in particular peatlands and mangroves), reforestation, ecological restoration and agroecology practices that improve soils' carbon content;

(b) Protecting hotspots with high biodiversity and high carbon storage. Priorities identified by scientists include subtropical humid forests, temperate steppe and boreal coniferous forests, temperate and tropical rainforests, with a geographical focus on Central America; the northern Andes; the western Amazon Basin; south-eastern Brazil; Central Africa, including the Congo Basin; Southeast Asia; southern Japan; the Himalayas; and New Guinea;[100]

(c) Introducing, implementing and enforcing laws and policies to end deforestation and the conversion of forests into agricultural land and to eliminate those destructive activities from global supply chains.

99 Enric Sala and Sylvaine Giakoumi, "No-take marine reserves are the most effective protected areas in the ocean", *International Council for the Exploration of the Sea Journal of Marine Science*, vol. 75, No. 3 (May–June 2018).

100 FAO and UNEP, *The State of the World's Forests 2020*.

90. To protect human rights, healthy ecosystems and biodiversity, States should:

(a) Support a United Nations resolution recognizing the right to a safe, clean, healthy and sustainable environment;

(b) Strengthen the environmental rule of law by reducing and eliminating corruption, strengthening institutions, building knowledge and implementation capacity, ensuring judicial independence;

(c) Redirect $500 billion in subsidies to agriculture, energy, mining and other industries that damage nature into subsidies that protect and restore nature, including regenerative agriculture, agroecology, organic farming, soil restoration and reforestation;[101]

(d) Redirect $22.2 billion in subsidies that contribute to overfishing and damage to marine ecosystems, to restore marine and freshwater ecosystems and assist small-scale fisheries;[102]

(e) Strengthen practical measures to support environmental human rights defenders, including: effective and timely remedies in cases where indigenous peoples and local communities and other defenders face threats, criminalization and/or any form of violence and revoking illegally issued land concessions and agricultural or other development permits on lands customarily owned, used or occupied by indigenous peoples and local communities;

(f) Legislate due diligence standards for businesses in all sectors to identify and prevent adverse impacts on human rights, ecosystems, biodiversity, indigenous peoples and local communities and environmental human rights defenders both at the firm level and throughout supply chains, including access to remedies for affected rights holders and substantial penalties for noncompliance;

(g) Amend environmental impact legislation to require the integration of human rights impact assessments into reviews of proposed projects, policies and plans, including budgets and trade agreements;

(h) Ensure that the educational curriculum, at all levels from kindergarten to university, emphasizes the importance of a healthy biosphere for life on Earth and the enjoyment of human rights;

(i) Integrate environmental sustainability into dietary guidelines that are predominantly plant based, where feasible, and reduce food waste;

(j) Ensure that the proposed agreement on the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction includes appropriate consideration of human rights;

(k) Strengthen laws and policies to conserve all wetlands and allow only sustainable uses, following guidance from the Convention on Wetlands of International Importance.

101 OECD, "A comprehensive overview of global biodiversity finance".

102 U. Rashid Sumaila and others, "Updated estimates and analysis of global fisheries subsidies", *Marine Policy*, vol. 109 (November 2019).

C. Respecting the rights of indigenous peoples, peasants and local communities

91. Disregard for the rights of indigenous peoples, peasants and local communities by States, businesses and conservation organizations must end. Respect for human rights must be placed at the core of all conservation, preservation, restoration and sustainable use actions, together with a shared vision of safeguarding biological and cultural diversity for present and future generations, as urged by the Special Rapporteur on the rights of indigenous peoples.[103]

92. States should:

(a) Prioritize the legal recognition of the title, tenure and rights of indigenous peoples, Afrodescendants, peasants and local communities, empowering those who depend directly on nature for their livelihoods to engage in long-term, sustainable agricultural, harvesting and conservation practices based on traditional knowledge, customary laws and stewardship responsibilities;

(b) Ensure access to land, water, wildlife, plants, medicines and sacred sites, subject to conservation measures established through inclusive consultation processes and where required, the free, prior and informed consent of indigenous peoples;

(c) Provide swift, fair and effective redress for past violations of the rights of indigenous peoples and local communities, such as displacement and relocation, related to the creation of parks and protected areas, through mechanisms ranging from reconciliation processes to compensation;

(d) Place indigenous peoples and local communities at the forefront of efforts to identify, designate and manage new areas important for cultural and biological diversity, including indigenous protected and conserved areas,[104] indigenous and community conserved areas,[105] sacred sites and other effective area-based conservation measures;[106]

(e) Engage indigenous peoples and local communities to manage or comanage conserved and protected areas within their territories, including adequate legal, financial and other resources;

(f) Redirect financial flows for conservation to indigenous peoples and local communities involved in protecting and sustainable using biodiversity;

(g) Ratify the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity and enact legislation to implement it to ensure that monetary and non-monetary benefits from the commercial use of genetic resources are shared fairly.

93. Protecting and restoring nature to safeguard human rights will require major expenditures, but the expected return on investments is outstanding. The cost of working with indigenous peoples and local

103 See A/71/229.

104 Indigenous protected and conserved areas are lands and waters where indigenous governments have the primary role in protecting and conserving ecosystems through indigenous laws, governance and knowledge systems.

105 Indigenous and community conserved areas are territories containing significant biodiversity and cultural values, conserved by indigenous peoples and local communities through customary laws or other effective means.

106 Other effective area-based conservation measures relate to geographically defined areas, other than protected areas, that are governed and managed to achieve positive long-term outcomes for the conservation of healthy ecosystems and biodiversity and, where applicable, cultural, spiritual, socioeconomic and other locally relevant values.

communities to effectively protect 30 per cent of all lands and waters by 2030 is an estimated $100–$140 billion per year, while the ensuing economic benefits are estimated in the hundreds of billions.[107] The Global Commission on Adaptation reported that the total net benefit of protecting mangroves alone will be $1 trillion by 2030. The cost of implementing a "One Health" approach to prevent zoonoses will be substantial, but far lower than that of future pandemics.[108]

94. If we fail to employ a rights-based approach to protecting the biosphere, future generations will live in an ecologically impoverished world, deprived of nature's critical contributions to human well-being, ravaged by increasingly frequent pandemics and riven by deepening environmental injustices. If we place human rights and nature at the heart of sustainable development and succeed in transforming society, humans could attain a just and sustainable future in which people live happy, healthy and fulfilling lives in harmony with nature on this planet.

107 Anthony Waldron and others, "Protecting 30 per cent of the planet for nature: costs, benefits and economic implications", working paper (Washington, D.C., Campaign for Nature, 2020).

108 World Bank, "People, pathogens and our planet: the economics of One Health", Report No. 69145-GLB, vol. 2 (Washington, D.C., 2012).

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