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**Promotion and protection of all human rights, civil,
political, economic, social and cultural rights,
including the right to development****Right to a healthy environment: good practices****Report of the Special Rapporteur on the issue of human rights
obligations relating to the enjoyment of a safe, clean, healthy and
sustainable environment***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 describes good practices followed by States in recognizing the right to live in a safe, clean, healthy and sustainable environment and in implementing the procedural and substantive elements of the right. This fundamental human right is now recognized in law by more than 80 per cent (156 out of 193) of States Members of the United Nations. The procedural elements are access to information, public participation, and access to justice and effective remedies. The substantive elements include clean air, a safe climate, access to safe water and adequate sanitation, healthy and sustainably produced food, non-toxic environments in which to live, work, study and play, and healthy biodiversity and ecosystems. In the context of the global environmental crisis, accelerated diffusion and adoption of good practices to protect human rights is imperative.



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I. Introduction

1. In 2018, the Human Rights Council appointed David R. Boyd Special Rapporteur on human rights obligations related to the enjoyment of a safe, clean, healthy and sustainable environment. Over the past year, the Special Rapporteur has made country visits to Fiji and Norway (see A/HRC/43/53/Add.1 and Add.2), presented thematic reports on clean air (A/HRC/40/55) to the Council and on a safe climate to the General Assembly (A/74/161), and hosted an expert meeting on the theme of experience and best practices of States at the national and regional levels with regard to human rights obligations relating to the environment (see A/HRC/43/54).

2. In the present report, the Special Rapporteur highlights good practices in the recognition and implementation of the human right to a safe, clean, healthy and sustainable environment. The term “good practice” is defined broadly to include laws, policies, jurisprudence, strategies, programmes, projects and other measures that contribute to reducing adverse impacts on the environment, improving environmental quality and fulfilling human rights. The good practices address both the procedural and substantive elements of the right to a safe, clean, healthy and sustainable environment. The procedural elements are access to information, public participation, and access to justice and effective remedies. The substantive elements include clean air, a safe climate, access to safe water and adequate sanitation, healthy and sustainably produced food, non-toxic environments in which to live, work, study and play, and healthy biodiversity and ecosystems.

II. The process of compiling good practices

3. In April 2019, the Special Rapporteur issued a call for inputs on good practices relating to the implementation of the human right to a safe, clean, healthy and sustainable environment. He thanks the Governments of Bosnia and Herzegovina, Brazil, Colombia, Honduras, Hungary, Italy, Kazakhstan, Mali, Mauritius, Mexico, Monaco, Norway, Senegal, Serbia, Slovenia, Sweden, Ukraine, Uruguay and the Bolivarian Republic of Venezuela for their informative responses. A number of international organizations, civil society organizations and individuals also provided useful inputs.¹ At the request of the Human Rights Council, on 20 and 21 June 2019 the Special Rapporteur co-hosted, with the United Nations Environment Programme (UNEP), an expert seminar to discuss the experiences and good practices of States with regard to the implementation of the right to a safe, clean, healthy and sustainable environment.

4. The Special Rapporteur also created a global online “researchathon”, which resulted in the submission of hundreds of good practices from more than 175 States Members of the United Nations. Contributors included government officials, representatives of international agencies, civil society organizations, academics, students, lawyers and judges (see annex I).

5. In November 2019, the Special Rapporteur co-hosted five regional webinars on the role of national human rights institutions in protecting the right to a safe, clean, healthy and sustainable environment. Co-organized by the United Nations Development Programme, UNEP, the Swedish Environmental Protection Agency and the Global Alliance of National Human Rights Institutions, these informative webinars also identified many good practices.

6. In the present report, the Special Rapporteur summarizes only a subset of submitted good practices; he describes additional good practices in a document available on the webpage of the mandate.² All good practices collected will be added to the inventory compiled by the previous mandate holder and made available at www.environmentalrightsdatabase.org. There are many more good practices in addition to

¹ All submissions are available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/GoodPracticesRight2HESubmissions.aspx.

² Additional Good Practices in the Implementation of the Right to a Safe, Clean, Healthy and Sustainable Environment. Available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/Annualreports.aspx.

those identified in the present report. The practices highlighted by the Special Rapporteur are intended to illustrate the innovative and exemplary efforts being made to respect, protect and fulfil the right to a safe, clean, healthy and sustainable environment.

7. These good practices show that environmental progress and the protection of human rights from environmental harm are possible. While the contribution of such a prodigious variety of good practices by such a large number of States is encouraging, the Special Rapporteur cautions against complacency. Humanity is embroiled in an unprecedented global environmental crisis. Its actions are causing a climate emergency, a massive decline in biodiversity, and pollution of air, water and soil that contributes to millions of premature deaths annually. An accelerated dissemination and adoption of good practices is imperative to transform society onto a genuinely sustainable pathway and to protect human rights.

8. To be clear, all States have obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, including States that have not yet recognized the right to a healthy and sustainable environment. These obligations are set forth in extensive detail in the framework principles presented to the Human Rights Council by the previous mandate holder (A/HRC/37/59, annex).

III. Good practices in the implementation of the right to a safe, clean, healthy and sustainable environment

A. Legal recognition

9. In the present report, the Special Rapporteur focuses on the implementation of the right to a safe, clean, healthy and sustainable environment. The legal recognition of this right can itself be considered a good practice, whether by means of constitutional protection, inclusion in environmental legislation or through ratification of a regional treaty that includes the right.

10. In cooperation with the Vance Center for International Justice, the Special Rapporteur prepared an updated list of States that legally recognize the right to a safe, clean, healthy and sustainable environment (see annex II). There are 110 States where this right enjoys constitutional protection. Constitutional protection for human rights is essential, because the constitution represents the highest and strongest law in a domestic legal system. Furthermore, the constitution plays an important cultural role, reflecting a society's values and aspirations.

11. The right to a healthy environment 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 December 2019, five 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.

12. It is also important that legislation be enacted and implemented 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 serves as a unifying principle that permeates legislation, regulations and policies.

13. 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.³

B. Procedural elements

1. Access to environmental information

14. Access to information is a widely recognized human right and is essential for people to be able to protect and defend their human rights from potentially harmful environmental impact. Some States have put in place laws, policies and programmes that afford enhanced access to environmental information, including at least 20 States (such as Albania, Argentina, Azerbaijan, Belarus, the Plurinational State of Bolivia, Brazil, Czechia, France, Norway and Ukraine) the constitutions of which guarantee the right of access to environmental information.

15. Other States have enacted legislation specifically authorizing affordable access to environmental information. For example, in Norway, the Environmental Information Act recognizes every person's right to obtain a broad range of environmental information from public and private entities, subject to specified exceptions that are to be narrowly interpreted. In Slovenia, the Environmental Act specifies that environmental information is public and everyone has the right to have access to environmental information.

16. A growing number of States have created websites that offer comprehensive information relating to the environment. In Uruguay, a national environmental observatory was created to organize and disseminate all available environmental information in a single portal.⁴ Environmental indicators identify not only trends in the state of the environment, such as pollutant emissions, waste, effects on the quality of water, air, soil and biodiversity, but also the protection and response measures being developed by Governments. The observatory also provides information on territorial planning and the environmental management of river basins and aquifers, technical reports and open data for researchers. One innovative feature of the observatory is the fact that it provides citizens with a simple procedure for reporting potential violations of environmental law. Citizens can also share information on wildlife species sighting and coastal monitoring. A similar environmental observatory operates in El Salvador.

17. Hungary has a comprehensive national environmental information system. The national public health institute publishes updated data online on air quality and the quality of drinking water and bathing water, pollen levels, and other factors posing a potential health risk.⁵ France, North Macedonia, Norway and Sweden also have excellent websites with comprehensive information on the state of the environment.

18. Fiji, Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tonga, Tuvalu and Vanuatu are collaborating on a Pacific island network of national and regional data repositories, reporting tools and public websites to monitor, evaluate and analyse environmental information, supporting planning, forecasting and reporting requirements.⁶

19. Another important type of environmental information is data about toxic substances. The Protocol on Pollutant Release and Transfer Registers to the Aarhus Convention requires its 35 parties thereto to collect and publish information on pollution from industrial facilities. This information must be gathered annually, made available in a user-friendly way to the public for free, and must include at least 86 pollutants covered by the Protocol. Canada, Mexico and the United States of America also have comprehensive pollutant release inventories.

20. A growing number of States publish regular national reports on the state of the environment, including Hungary, Kazakhstan and Turkey. Kazakhstan also publishes

³ See www.ohchr.org/EN/Issues/Environment/SREnvironment/Right2HE/Pages/national.aspx.

⁴ See www.dinama.gub.uy/oan/.

⁵ See <http://oki.antsz.hu/>.

⁶ See www.sprep.org/inform/data-portals.

monthly bulletins on topics relating to the state of the environment and the use of natural resources. South Sudan published its first state of the environment and outlook report just one month after gaining independence.

21. Laws in Armenia, Azerbaijan, Brazil, Montenegro, the Philippines, Portugal, the Republic of Korea and Senegal require the Government to provide environmental education. For example, in Montenegro, Law on the Protection of Nature (2016) calls for “emphasizing the importance and necessity of nature protection through the education system from pre-school to university”. After adopting a national climate change policy, Ghana is now implementing a national climate education strategy. Lessons on climate change will be included in the primary school curriculum with a goal of raising schoolchildren’s awareness of environmental issues.

2. Public participation in environmental decision-making

22. Ensuring broad, inclusive and gender-sensitive public participation not only fulfils human rights obligations but also results in better outcomes.

23. In 2005, France enshrined in its Constitution the public’s right to participate in decisions affecting the environment. The Economic, Social and Environmental Council is a consultative assembly that promotes dialogue and cooperation between different groups of stakeholders to ensure that a diversity of views contribute to public policy development. The National Commission for Public Debate organizes public debates on proposals for major development projects, such as nuclear reactors, railways, highways, natural gas pipelines, hydroelectric dams, sports stadiums, and radioactive waste storage facilities. Between 2002 and 2014, the Commission held 70 public debates and 800 meetings involving approximately 150,000 people.

24. In Slovenia, the Environmental Act articulates the public’s right to participate in a wide range of procedures relating to environmental protection. Laws adopted in Hungary also guarantee the involvement of the public in decision-making processes.

25. In Norway, the Environmental Information Act includes provisions for public participation in environmental decision-making, while the Planning and Building Act provides extensive opportunities for residents to advocate for local plans that advance sustainability. A national guide to public participation in planning was published in 2014, with special attention paid to the protection of the interests of vulnerable groups. In 2018, Norway adopted a new Local Government Act, which requires all local and regional authorities to establish three councils, to represent young people, older persons and persons with disabilities. Norway also formalized a consultation procedure with the Sami indigenous people in 2005, fulfilling the right of indigenous peoples to participate in decision-making processes.

26. In 2017, Finland created the Agenda 2030 Youth Group to serve as an advocate for the Sustainable Development Goals and to participate in national planning and implementation to achieve them. The Agenda 2030 Youth Group comprises 20 people with diverse backgrounds, aged between 15 and 28 years, from all over Finland. The group organized a debate on climate change for presidential candidates and a youth climate summit in 2019, which involved 500 young people.

27. A crucial aspect of public participation involves the protection of environmental human rights defenders, who are often harassed, intimidated, criminalized or even murdered. In 2018, Mali adopted Law No. 2018-003 that affords protection to human rights defenders, including environmentalists. Burkina Faso and Côte d’Ivoire also enacted laws to safeguard human rights defenders.⁷

28. Honduras enacted a new law in 2015, establishing a national protection mechanism to safeguard the rights of human rights defenders, journalists and judges. Associated regulations were adopted in 2016. The Office of the Special Prosecutor for the Protection of Human Rights Defenders, Journalists, Media Professionals and Justice Officials was established in 2018 with six prosecutors, four assistant prosecutors, and 10 investigators (see

⁷ See Front Line, *Front Line Defenders: Global Analysis 2018, 2019*.

A/HRC/40/60/Add.2). These positive steps were taken to respond to the murders of high-profile defenders, and implement recommendations made by the Inter-American Commission on Human Rights. In 2019, seven men were sentenced to at least 30 years in jail for their role in the murder of Berta Cáceres, an indigenous environmental defender.

29. In Peru, the national human rights plan for 2018–2021 highlights the vital work of human rights defenders. In 2019, the Ministry of Justice drafted a protocol guaranteeing the protection of human rights defenders. The objectives are to promote the recognition of human rights defenders, to take specific protection measures for those at risk, to work towards the implementation of preventive measures, and to ensure prompt and effective investigation of threats against defenders. In the first case of its kind, prosecutors are seeking a 35-year jail sentence for two businessmen and three loggers implicated in the murder of four indigenous environmental human rights defenders.⁸

3. Access to justice

30. Good practices relating to access to justice and effective remedies are often aimed at overcoming three major obstacles: standing to sue, economic barriers, and lack of judicial expertise in environmental matters. In most States where the right to a safe, clean, healthy and sustainable environment is recognized in the Constitution, individuals and non-governmental organizations have standing to bring lawsuits based on the violation of this right or of environmental laws (for example, in Argentina, Colombia, Costa Rica, India, Portugal, Romania and Slovenia).

31. Globally, there are more than 1,000 specialized environmental courts and tribunals at the national and subnational levels. The advantages of these judicial and quasi-judicial bodies include enhanced legal and scientific expertise, streamlined processes, flexibility, the use of alternative dispute resolution, comprehensive jurisdiction, open rules about standing (eligibility to file cases), effective remedies and enforcement powers, and unique case management tools.⁹ Examples include the National Green Tribunal in India, the Environment and Land Courts and National Environmental Tribunal in Kenya and the Land and Environment Courts in Sweden.

32. According to the Global Alliance for National Human Rights Institutions, more than 100 States have national human rights institutions in the form of human rights commissions or human rights ombudspersons.¹⁰ These institutions generally have two core functions: independent review of the nation's human rights record, and addressing individual grievances or complaints alleging human rights violations. Some national human rights institutions (such as those in Austria, Chile, Czechia, Hungary, Kenya and Romania) also have the power to file lawsuits or to intervene in cases against the Government on behalf of communities whose rights are being violated.

33. Costa Rica has three exemplary institutions that provide access to justice. First, an independent office of the ombudsperson protects the rights of citizens by ensuring that the public sector meets the standards set by the Constitution, statutes, treaties and general principles of law, as well as standards of morality and justice. The office may, either on its own initiative or upon request, investigate complaints of alleged human rights violations by public authorities, initiate judicial or administrative proceedings to address such violations, participate in parliamentary debates or review legislative proposals. Much of the work of the Ombudsperson in recent years has concerned environmental issues, including the constitutional right to a healthy and ecologically balanced environment. Colombia, Croatia and Portugal also have ombudspersons who are active in environmental matters.

34. Second, the Environmental Administrative Tribunal has jurisdiction to hear complaints for violations of all laws protecting the environment and natural resources. The Tribunal may carry out site visits to determine the nature of environmental damage, require

⁸ See www.voanoticias.com/a/peru-fiscalia-asesinato-ambientalistas-/5148352.html.

⁹ George Pring and Catherine Pring, *Environmental Courts & Tribunals: A Guide for Policy Makers*, UNEP, 2016.

¹⁰ See <https://nhri.ohchr.org/EN/Pages/default.aspx>.

interim protection measures, and levy fines and administrative sanctions to eliminate or mitigate environmental damage.

35. The third element of ensuring access to justice cases involving the right to a healthy environment is the Constitutional Chamber of the Supreme Court, which has applied this right to a wide range of cases involving mineral concessions, aerial pesticide spraying, toxic substances, deforestation, ecotourism, the protection of national parks, timber harvesting in the habitat of endangered species, and groundwater pollution.

36. Under Indonesian law (Act 32/2009 regarding Environmental Protection and Management), every person has the rights of access to information, to participate in environmental decisions and to effective remedies if they are harmed by environmental degradation. The Supreme Court has adopted policies that require all environmental cases to be handled by a judge with environmental certification (obtained through specialized training).

37. When access to justice and/or effective remedies are denied at the national level, regional courts, tribunals and committees can play an important role. Cases involving the right to a healthy environment have been decided by the African Commission on Human and Peoples' Rights,¹¹ the Inter-American Court of Human Rights,¹² the European Court of Human Rights,¹³ the European Committee of Social Rights¹⁴ and the Aarhus Convention Compliance Committee.

C. Substantive elements

1. Clean air

38. Nine out of 10 people globally live in areas that do not meet World Health Organization guidelines for air quality. Air pollution causes 7 million premature deaths annually, including 600,000 children under the age of 5. More than 2 billion people still rely on polluting cooking systems.

39. To protect the clean air component of the right to a healthy environment, States must take seven key steps, including (a) monitor air quality and impact on human health; (b) assess sources of air pollution; (c) make information publicly available, including public health advisories; (d) establish air quality legislation, regulations, standards and policies; (e) develop air quality action plans at the local, national and, if necessary, regional levels; (f) implement air quality action plans, and enforce the standards; and (g) evaluate progress and, if necessary, strengthen plans to ensure that the standards are met (A/HRC/40/55). As the good practices described below show, many States are making dedicated efforts to improve air quality and to protect their peoples' right to live in a healthy and sustainable environment (For additional good practices that relate to clean air, such as phasing out coal, accelerating renewable electricity generation and shifting to zero emission transportation, see paras. 48–72 below).

40. Many States are establishing or improving air quality monitoring networks, including Azerbaijan, the Plurinational State of Bolivia, Jordan, Kuwait, Lebanon, Mali, Morocco and Qatar.

41. North Macedonia has a public air quality portal containing information on measures to improve air quality, sustainable transport, cleaner domestic heating practices, alert thresholds set for certain pollutants, and health advice from the institute of public health. The portal also provides information on air quality monitoring, legislation and policies, projects, and emission inventories.

¹¹ Social and Economic Rights Action Centre and Centre for Economic and Social Rights v. Nigeria (communication No. 155/96), 2001.

¹² Advisory Opinion OC-23-17, 15 November 2017.

¹³ *Tatar v. Romania*, Application No. 67021/01, Judgment, 27 January 2009, paras. 107 and 112.

¹⁴ *Marangopoulos Foundation for Human Rights v. Greece*, Complaint No. 30/2005, Decision on the Merits, 6 December 2006, para. 195.

42. The Dominican Republic, France and the Philippines explicitly recognize the right to breathe clean air. In India and Pakistan, courts have clarified that the right to breathe clean air is constitutionally protected because it is essential to the rights to life and health. In Lebanon, the National Strategy for Air Quality Management states that “every citizen has the right to enjoy clean air”.

43. There is compelling evidence to suggest that enacting and enforcing strong air quality regulations save lives and prevent illnesses. Since the Clean Air Act was enacted in 1970, the American economy has grown by 262 per cent (measured by increased GDP) while achieving an average reduction of 73 per cent for the six main air pollutants. The costs of the Clean Air Act are measured in billions of dollars, while the benefits are in the trillions.¹⁵ Reduced air pollution in California resulted in significant improvements in children’s lung function.¹⁶

44. Bosnia and Herzegovina, Bulgaria, Costa Rica, Croatia, Singapore, Slovakia and Turkmenistan recently enacted stronger air quality laws or regulations. National action plans to improve air quality are being developed or implemented in Bahrain, Colombia, Ireland, Kuwait, Montenegro and Uruguay.

45. Household air pollution from the use of inefficient stoves burning biomass, kerosene and coal causes millions of premature deaths every year. Women and children face the highest risks. The most rapid progress in providing access to clean cooking, through either liquefied petroleum gas, piped natural gas or electricity, has been achieved in India, Indonesia, Pakistan, the Sudan and Viet Nam.¹⁷

46. Two initiatives that have dramatically improved air quality in many countries are the phasing-out of leaded gasoline and major reductions in the sulphur content of transport fuels. These actions have produced enormous health, environmental and economic benefits, valued in the trillions of dollars.¹⁸

47. In large cities in States from Germany and the United Kingdom to China and Mexico, low emission zones have been established to reduce pollution from motor vehicles and to protect public health. Entry into low emission zones is restricted to vehicles that meet specific emission standards.

2. A safe climate

48. Because of human activities, the concentrations of greenhouse gases in the atmosphere are at their highest level in millions of years, causing climate change and a devastating array of effects, from droughts and floods to rising sea levels and more intense extreme weather events. The United Nations High Commissioner for Human Rights has warned that “the world has never seen a human rights threat of this scope.”¹⁹

49. The historic inclusion of human rights in the Paris Agreement indicated that human rights should be at the heart of all climate action, including legislation, mitigation, adaptation, finance, and loss and damage.

50. Nine States now include responsibilities relating to climate change in their Constitutions: Côte d’Ivoire, Cuba, the Dominican Republic, Ecuador, Thailand, Tunisia, the Bolivarian Republic of Venezuela, Viet Nam and Zambia. Draft constitutions in the Gambia and Yemen also include references to addressing climate change.

¹⁵ See *The Benefits and Costs of the Clean Air Act from 1990 to 2020*, United States Environmental Protection Agency, 2011.

¹⁶ W. James Gauderman, Robert Urman, Edward Avol et al., “Association of improved air quality with lung development in children”, *New England Journal of Medicine*, vol. 372, pp. 905–913.

¹⁷ *Tracking SDG 7: The Energy Progress Report 2018*, International Energy Agency, World Bank et al., 2019.

¹⁸ Elise Gould, “Childhood lead poisoning: conservative estimates of the social and economic benefits of lead hazard control”, *Environmental Health Perspectives*, vol. 117, No. 7 (July 2009), pp. 1162–1167.

¹⁹ “Climate change is greatest ever threat to human rights, UN warns”, *Guardian*, 9 September 2019.

51. Approximately 140 States have enacted framework climate legislation.²⁰ The best laws include bold targets, timelines and accountability mechanisms.²¹ For example, in the United Kingdom of Great Britain and Northern Ireland, the Climate Change Act requires a reduction of greenhouse gas emissions by at least 80 per cent by 2050 compared to 1990 levels, through legally binding caps on emissions, carbon budgets and various programmes. Elements of the British law have been emulated by other States, such as Denmark, France, Mexico, Norway and Sweden. In Peru, the framework law on climate change (2018) mandates that climate change considerations be incorporated into public spending decisions at all levels of the Government.

52. Long-term plans for achieving deep reductions in emissions by 2050 provide an essential vision as well as certainty to investors that economies will shift away from fossil fuels over the next three decades. Thirteen States have filed long-term de-carbonization plans with the United Nations: Benin, Canada, Czechia, Fiji, France, Germany, Japan, the Marshall Islands, Mexico, Portugal, Ukraine, the United Kingdom of Great Britain and Northern Ireland and the United States of America.²² The 2050 Climate Strategy adopted by the Marshall Islands emphasizes a rights-based approach, while Fiji and Mexico make multiple references to human rights in their plans.

53. A growing number of States has incorporated, in law, specific timelines for achieving net-zero carbon emissions, such as Norway (2030), Finland (2035), Sweden (2045), France (2050), New Zealand (2050) and the United Kingdom (2050). Bhutan is already carbon negative and intends to maintain carbon neutrality. Costa Rica, Fiji, Iceland, Ireland, the Marshall Islands, Portugal and Uruguay have made similar but not legally binding commitments. Denmark recently raised its ambition by setting a goal of reducing greenhouse gas emissions 70 per cent by 2030.

54. Dozens of States have substantially reduced their greenhouse gas emissions, led by Czechia, Denmark, Hungary, Slovakia and the United Kingdom, where emissions declined by more than 30 per cent between 1990 and 2017.²³ Other State parties included in annex I of the Paris Agreement making progress (namely, those having achieved at least a 20 per cent decline in emissions since 1990) include Belgium, Croatia, Estonia, Finland, Germany, Luxembourg, Portugal, Romania and Sweden.²⁴ Sweden has reduced emissions by 26 per cent since 1990, while enjoying an increase in GDP of 75 per cent over the same period.

55. Guatemala, Mexico, Morocco and the Philippines provide examples of climate change legislation addressing gender equality. In Mexico, the General Law on Climate Change includes a specific focus on gender equality and empowering women. In the Philippines, the Climate Change Act of 2009 requires the State to incorporate “a gender-sensitive, pro-children and pro-poor perspective” in all climate change and renewable energy efforts, plans and programmes.

56. Uruguay has done an exemplary job of integrating human rights into both the process of climate change policymaking and the substance of the policies produced, such as its national climate change plan. This integration flows from a partnership between the Ministry of Housing, Territorial Planning and Environment and the Secretariat of Human Rights of the Office of the President.

57. Nationally determined contributions comprise the commitments made by States pursuant to the Paris Agreement on a five-year cycle. In the first cycle, 24 such contributions incorporated human rights. Seventeen States committed to taking a rights-based approach to climate action: the Plurinational State of Bolivia, Brazil, Chad, Chile, Costa Rica, Ecuador,

²⁰ Global trends in climate change legislation and litigation: 2018 snapshot, Grantham Research Institute on Climate Change and the Environment.

²¹ Alina Averchenkova *Legislating for a low carbon and climate resilient transition: learning from international experiences*, Elcano Policy Paper, 2019.

²² See <https://unfccc.int/process/the-paris-agreement/long-term-strategies>.

²³ Corinne Le Quéré et al., “Drivers of declining CO₂ emissions in 18 developed economies”, *Nature Climate Change*, vol. 9, 2019, pp. 213–17.

²⁴ See https://di.unfccc.int/time_series.

Georgia, Guatemala, Guyana, Honduras, Malawi, the Marshall Islands, Mexico, Morocco, the Philippines, South Sudan and Uganda. Seven States – Cuba, El Salvador, Indonesia, Nepal, the Bolivarian Republic of Venezuela, Yemen and Zimbabwe – identified human rights as a key element of the legal context in which actions would be taken. Nationally determined contributions from more than 50 States address gender issues, participation and the empowerment of women, while those from 19 other States include references to indigenous peoples and/or traditional knowledge.²⁵

58. France enacted a law in 2017 banning new fossil fuel exploration and development and requiring existing projects to be concluded by 2040 (including those in French territories overseas). An earlier law prohibiting the exploitation of shale gas by hydraulic fracturing was challenged by industry but upheld by the Constitutional Council.

59. Costa Rica (by Executive Decree No. 41578) and Belize (by the Petroleum Operations (Maritime Zone Moratorium) Act, 2017) were the first States to prohibit all offshore oil and gas exploration and development, demonstrating climate leadership and protecting marine ecosystems. Denmark and New Zealand have also established limits on exploration for oil and gas.²⁶

60. In a special report *Global Warming of 1.5°C*, the Intergovernmental Panel on Climate Change concluded that a safe climate requires a two-thirds reduction in coal power generation in 2030 and its near total elimination by 2050.²⁷ Canada and the United Kingdom created the Powering Past Coal Alliance in 2017 and have been joined by 28 States and 22 subnational Governments pledging to end the use of coal to generate electricity by 2030, or in some States to never use coal for electricity.²⁸ In 2019, Finland enacted law No. 416/2019 that bans the use of coal for electricity generation and heating as of 1 May 2029.

61. Spain and Germany are phasing out the coal industry and have put in place just transition strategies for workers.²⁹

62. Dramatic declines in the cost of renewable energy are accelerating the transition to clean energy. In many countries, wind and solar power now provide cheaper electricity than fossil fuels. Global solar electricity generating capacity has grown exponentially from one gigawatt in 2000 (one gigawatt equals one billion watts) to over 500 gigawatts in 2019. Thanks to supportive public policies, the top five solar electricity producing countries in the world are now China, the United States, Japan, Germany and India.

63. The global total of wind electricity generating capacity grew from 17 gigawatts in 2000 to over 600 gigawatts in 2019. The top five countries in the world in generating electricity from wind, again thanks to effective public policies, are China, the United States, Germany, India and Spain.

64. The steep decline in the cost of wind and solar power means that rapidly shifting to 100 per cent renewable electricity is environmentally responsible and economically attractive. Albania, Costa Rica, Iceland, Namibia, Norway, Paraguay and Uruguay already secure between 98 and 100 per cent of their electricity from renewables including hydroelectric, solar, wind, geothermal and biomass. Belize, Bhutan, Burundi, the Democratic Republic of the Congo, Kyrgyzstan, the Lao People's Democratic Republic, Mozambique, Nepal, Tajikistan and Zambia are above 90 per cent.

65. Distributed renewable energy programmes (where electricity is produced at or near the point where it is used) offer an excellent way to extend reliable access to clean and affordable electricity, and have been established in many low- and middle-income countries in Asia, Africa and Latin America. For example, at least 20 million people in remote villages

²⁵ Sébastien Duyck et al., "Human rights and the Paris Agreement's Implementation Guidelines: opportunities to develop a rights-based approach", *Carbon and Climate Law Review*, vol. 12, No. 3, pp. 191–202.

²⁶ *The Production Gap, 2019 Report*, United Nations Environment Programme (UNEP).

²⁷ www.ipcc.ch/sr15/.

²⁸ See <https://poweringpastcoal.org>.

²⁹ See UNEP, *The Production Gap*.

in Bangladesh have solar panels with batteries that store electricity, improving their quality of life.³⁰

66. Nineteen West African States are collaborating in the Regional Off-Grid Electrification Project to increase access to electricity for households and businesses using off-grid solar systems. The \$150 million project is expected to benefit 585,000 households (2 million people), as well as 65,000 small and medium-sized businesses.³¹ Participating States include Benin, Burkina Faso, Cabo Verde, Cameroon, the Central African Republic, Chad, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierra Leone and Togo.³²

67. Through the African Forest Landscape Restoration Initiative, 28 countries across Africa have committed to restore more than 100 million hectares of deforested and degraded landscapes. Funding includes \$1 billion in development finance and \$500 million in private sector funding. Although the focus is on improving livelihoods, the initiative will also increase carbon storage by creating healthy forests. Participating States include Benin, Burkina Faso, Burundi, Cameroon, the Central African Republic, Chad, the Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Eswatini, Ethiopia, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mozambique, the Niger, Nigeria, Rwanda, Senegal, South Africa, the Sudan, Togo, Uganda, the United Republic of Tanzania and Zimbabwe.³³

68. In 2018, Vanuatu launched its National Policy on Climate Change and Disaster-Induced Displacement, emphasizing a rights-based approach that draws on the Sendai Framework for Disaster Risk Reduction and the Guiding Principles on Internal Displacement. The policy is systemic and action-oriented, incorporating non-discrimination, gender responsiveness and community participation. It addresses prevention, protects persons during evacuation and throughout the term of displacement, and seeks durable solutions.

69. Although relocating communities should be the last resort, in cases where it is inevitable, plans should be developed in close cooperation with the affected communities. In Fiji, the *Planned Relocation Guidelines*, published in 2018, are a commendable example of a rights-based approach to relocation.

70. Australia, Canada, Denmark, the Netherlands, Sweden and Switzerland provide 98 to 100 per cent of bilateral public climate finance in the form of grants, which are much better for developing countries than loans.³⁴

71. Germany funds projects in Mexico to foster women's participation in climate action, such as *Red Mujeres en Energía Renovable y Eficiencia Energética* (Renewable Energy and Energy Efficiency Women's Network). Ireland promotes gender equality in access to renewable energy, developing climate-resilient agriculture and greening the health sector.

72. The Global Environment Facility established an indigenous peoples advisory group and an indigenous peoples fellowship programme. These are important first steps towards increasing flows of climate finance to indigenous peoples.

3. Healthy and sustainably produced food

73. More than 800 million people were undernourished in 2017, marking the third consecutive year where hunger has increased globally. Faced with the immense impact of industrial agriculture on the environment and the need to feed almost 8 billion humans, it is imperative that diets evolve and food be sustainably produced.

74. The right to food is recognized in the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights as part of the right to an

³⁰ Ehsanul Kabir, Ki-Hyun Kim and Jan E. Szulejko, "Social Impacts of Solar Home Systems in Rural Areas: A Case Study in Bangladesh", *Energies*, vol. 10, No. 10, pp. 1–12.

³¹ <https://projects.worldbank.org/en/projects-operations/project-detail/P160708?lang=en>.

³² www.lightingafrica.org/publication/regional-off-grid-electrification-project-rogep-overview/.

³³ See <https://afr100.org/content/home>.

³⁴ Tracy Carty and Armelie le Comte, *Climate Finance Shadow Report 2018: Assessing progress towards the \$100 billion commitment*, Oxfam, 2018.

adequate standard of living. Thirty-one States provide constitutional recognition of the right to food: Belarus, the Plurinational State of Bolivia, Brazil, Colombia, Costa Rica, Cuba, the Democratic Republic of the Congo, the Dominican Republic, Ecuador, Egypt, Fiji, Guatemala, Guyana, Haiti, Honduras, India, Kenya, Malawi, Maldives, Mexico, Nepal, Nicaragua, the Niger, Panama, Paraguay, the Philippines, the Republic of Moldova, South Africa, Suriname, Ukraine and Zimbabwe.

75. Agroecological farming can help to improve livelihoods for small-scale farmers and those living in poverty, including women, because it involves limited reliance on expensive external inputs. Agroecology improves air, soil, surface water and groundwater quality, is less energy-intensive, reduces emissions of greenhouse gases and enhances carbon sinks (A/HRC/16/49, para. 31). The United Nations Food and Agriculture Organization has identified agroecology policies in Brazil, Denmark, Ecuador, India, the Philippines, Senegal and the United States as winners of Future Policy Awards in 2018 for scaling up agroecology, improving the livelihoods of small-scale food producers, ensuring sustainable food production systems and implementing climate-resilient agricultural practices.³⁵ Agroecology projects in Benin, Brazil, Cameroon, Cuba, Egypt, India, Mozambique, Nepal, the Niger and the Philippines were recognized for good practices by the World Future Council in 2019.³⁶

76. Turkey passed a law on organic agriculture in 2004 and a by-law on organic agriculture principles and practices in 2010. The number of farmers and areas under organic cultivation has grown rapidly since 2010, with the area in organic production jumping more than 60 per cent between 2010 and 2014.³⁷

77. The Great Green Wall is an extraordinary initiative to restore degraded land in the Sahel region of Africa. The States involved include 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.³⁸

78. Field schools for farmers can significantly reduce pesticide use, as inputs are replaced by knowledge. Large-scale studies conducted in Bangladesh, Indonesia and Viet Nam showed decreases of 34 to 92 per cent in pesticides used on rice crops.³⁹

79. An important element of shifting to a healthy and sustainable food system is a decrease in the production and consumption of meat, particularly beef, because of the huge impact on the environment.⁴⁰ Protein crops (for example, soybeans, lentils and chickpeas) can provide benefits, such as less disease and pest pressure, improved nitrogen management, lower nitrogen emissions and increased opportunities for farmers. In 2015, Ireland introduced a programme offering incentives to farmers to grow protein crops. In the first year of the programme, a 300 per cent increase in production was reported.⁴¹

4. Access to safe water and adequate sanitation

80. In 2017, 785 million people still lacked access to basic water services and 700 million people still practiced open defecation due to lack of sanitation services. The lack of access to

³⁵ See www.fao.org/agroecology/slideshow/news-article/en/c/1187596/.

³⁶ See www.worldfuturecouncil.org/press-release-opa-2019/.

³⁷ *State of the Environment Report for Republic of Turkey*, Ministry of Environment and Urbanisation, 2016.

³⁸ www.greatgreenwall.org.

³⁹ Henk Van den Berg and Janice Jiggins, "Investing in Farmers: the Impacts of Farmer Field Schools in Relation to Integrated Pest Management", *World Development*, vol. 35, No. 4, April 2007, pp. 663–686.

⁴⁰ Special Report on Climate Change and Land: Summary for Policymakers, IPCC, 2019 (available from www.ipcc.ch/srccl/chapter/summary-for-policymakers).

⁴¹ *Solutions for the Farm of the Future: Go Green*, New Economics Foundation. 2017.

safe drinking water and adequate sanitation causes 870,000 premature deaths annually (see E/2019/68).

81. The human rights to water and sanitation were recognized in 2010 by the General Assembly in its resolution 64/292 and the Human Rights Council in its resolution 15/9, and have been repeatedly re-affirmed.⁴² A former Special Rapporteur on the human rights to safe drinking water and sanitation published a comprehensive set of good practices in implementing the rights to water and sanitation.⁴³ In the handbook, the former mandate holder emphasizes the need for clear articulation of the content of the rights to water and sanitation through laws, regulations and policies governing availability, physical accessibility, affordability, quality and safety, and acceptability. Also essential are legal frameworks to eliminate discrimination in the provision of water and sanitation services (as reported for example in Ghana, Honduras and Pakistan).

82. Today, dozens of States recognize the human rights to water and/or sanitation in their constitutions and/or legislation, including Belgium, the Plurinational State of Bolivia, Chile, the Democratic Republic of the Congo, Cuba, the Dominican Republic, Ecuador, Ethiopia, Fiji, France, Kenya, Maldives, Mexico, the Netherlands, Nicaragua, the Niger, Paraguay, Slovenia, the Solomon Islands, South Africa, Tunisia, the United Republic of Tanzania and Uruguay.

83. Ideally, the rights to water and sanitation should be embedded throughout a State's legal framework, including in the constitution, legislation, policies and programmes. For example, in South Africa, the right to water is enshrined in the Constitution, the National Water Act, the Water Services Act, the Free Basic Water Implementation Strategy and the National Framework for Municipal Indigent Policies. The Water Services Act also includes recognition of the right to sanitation. The legal framework helped to secure financing to ensure implementation of rights. Between 2000 and 2017, 14 million South Africans gained access to basic water services, while 17 million people gained access to at least basic sanitation.⁴⁴

84. In Poland, the National Programme for Municipal Wastewater Treatment was introduced to ensure compliance with upgraded water legislation. The policy fostered the construction of new and updated wastewater treatment plants that reduced water pollution and generated energy from waste. As at 2017, 99 per cent of the population in Poland had access to at least basic sanitation service, and 99 per cent of wastewater was treated at plants providing at least secondary treatment.

85. Pro-poor programmes to ensure access to safe drinking water are a leading good practice. In France and Belgium, a type of subsidy, referred to as a solidarity mechanism, pays water bills for the most financially deprived people (A/HRC/18/33/Add.1, para. 33). Chile employs a similar approach, allowing connection costs to be paid in affordable monthly instalments over five years instead of a lump sum. In Zambia, the Devolution Trust Fund was created in 2003 to finance water and sanitation services for poor urban areas and informal settlements. Funding came from development partners, government and water utilities and is replenished by a 3 per cent solidarity levy on the water bills of all customers.⁴⁵ Community members are represented in the project task team and decide where water distribution kiosks are to be placed, and local water watch groups serve as an accountability mechanism.

86. Bangladesh, Hungary, Kenya, Mozambique and Peru also have strong laws, policies, or programmes in place to provide water and sanitation to poor and marginalized communities.

87. Cabo Verde, Comoros, Maldives, Mauritius, Sao Tome and Principe and Seychelles have begun an initiative to fix problems relating to the scarcity and contamination of

⁴² See for example General Assembly resolution 68/157 and Human Rights Council resolution 27/7.

⁴³ Caterina de Albuquerque, *Realising the Human Rights to Water and Sanitation: A Handbook*, 2014.

⁴⁴ *Progress on household drinking water, sanitation, and hygiene 2000-2017: Special focus on inequalities*, UNICEF and World Health Organization, 2019.

⁴⁵ Robert Bos et al., *Manual of the Human Rights to Safe Drinking Water and Sanitation for Practitioners* (London, IWA Publishing, 2016).

freshwater supplies, over-exploitation and the poor management of groundwater resources, and pollution in surface water.⁴⁶ About 100,000 community members have already benefited from improved water quality. This project contributes to fulfilling the right to water, reduces poverty, improves health and facilitates climate change adaptation.

88. The ultimate objective is to ensure universal access to safe water and adequate sanitation. Regarding sanitation, there is some very positive news. Between 2000 and 2017, Ethiopia, India and Nepal achieved a substantial reduction – greater than 45 per cent – in the number of people relying on open defecation. The proportion of the population using at least basic sanitation services rose by more than 30 per cent between 2000 and 2017 in Cabo Verde, Cambodia, India, Indonesia, Lesotho, Mauritania, the Federated States of Micronesia, Nepal and Viet Nam.

89. There has also been impressive progress in some States in access to safer drinking water. Use of basic water services rose by more than 30 per cent between 2000 and 2017 in Afghanistan, the Lao People's Democratic Republic, Mali, Mauritania, Mozambique, Myanmar and Somalia.⁴⁷ Rural access to basic water services in Paraguay improved rapidly, from 53 per cent in 2000 to 99 per cent in 2017. These examples of progress improve human health and well-being, and fulfil human rights.⁴⁸

5. Non-toxic environments in which to live, work and play

90. Toxic substances pose a direct threat to the rights to life, health, safe food and water, adequate housing, and the right to a safe, clean, healthy and sustainable environment. Pollution kills at least 9 million people annually.⁴⁹ The burden of toxic substances often falls most heavily on vulnerable and marginalized populations.

91. Important global treaties that prohibit, phase out or limit the use of certain toxic substances include the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Stockholm Convention on Persistent Organic Pollutants, Rotterdam Convention, the Minamata Convention on Mercury and the Vienna Convention for the Protection of the Ozone Layer (including the Montreal Protocol on Substances that Deplete the Ozone Layer and associated amendments). The implementation of obligations relating to these treaties constitute good practices in realizing the right to a healthy and sustainable environment.

92. Human biomonitoring is an important good practice because it measures concentrations of toxic substances and their metabolites in bodily fluids, faeces, hair, teeth and nails. Biomonitoring data reveal levels of exposure and trends, help researchers to understand health effects and assist in developing and evaluating policies to reduce exposure. Ethical standards must be applied to protect human rights. Canada, Denmark, France, Germany, Norway, Spain and the United States have national biomonitoring programmes.⁵⁰

93. The European Union has a relatively strong regulatory framework for toxic substances. Its main legislation governing toxic chemicals, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation, adopts a hazard-based approach to chemical management. The European Union prohibits the use of carcinogens, mutagens and reproductive toxicants in cosmetics and personal care products.

94. Sweden and Norway are international leaders in chemical regulation to reduce the risk of damage to health and the environment. Sweden has developed national objectives and timelines for phasing out mercury, lead, carcinogens, mutagens, substances that harm

⁴⁶ Implementing Integrated Water Resources Management in the Atlantic and Indian Ocean Small Island Developing States; see www.thegef.org/news/life-aquatic-small-islands-atlantic-indian-oceans-working-together-fight-tough-water-challenges.

⁴⁷ *Progress on household drinking water, sanitation, and hygiene 2000-2017: Special focus on inequalities*, UNICEF and World Health Organization, 2019.

⁴⁸ *Ibid.*

⁴⁹ See www.thelancet.com/commissions/pollution-and-health.

⁵⁰ *Human biomonitoring: facts and figures*, World Health Organization Regional Office for Europe, Copenhagen, 2015.

reproduction, and persistent and bioaccumulative substances. Norway has a priority list of more than 30 substances and groups of substances and reports on progress in reducing emission levels.⁵¹

95. Viet Nam has strengthened its environmental regulatory system, as highlighted by the inclusion of the right to a healthy environment in the Constitution (2013) and a new law on environmental protection (2014). In 2016, following massive discharges of toxic substances into the ocean that killed large quantities of fish and shellfish, the Ministry of Natural Resources and Environment fined the Formosa Steel company \$500 million for pollution exceeding permitted levels and required the company to carry out environmental remediation of damaged areas.

96. Plastic pollution is a huge global concern because of its impact on humans and biodiversity. The European Union has enacted the most comprehensive legislation, Directive (EU) 2019/904, to reduce plastic waste. Banned items include plastic cutlery, plates, stirrers, straws, expanded polystyrene (foam) food and beverage containers, and balloon sticks. Extended producer responsibility rules cover additional plastic products and packaging. By 2029, 90 per cent of single-use plastic wastes must be collected for recycling.

97. Germany has an advanced waste management system, protecting human health, human rights and the environment through strong legislation and regulations, strong institutions to implement, monitor and enforce rules, adequate financing through the application of the “polluter pays” principle, and use of the best available technologies. In 2017, 68 per cent of municipal waste in Germany was recycled, the highest rate in the world.⁵²

98. Albania, Bahrain, Burkina Faso, Kenya, Montenegro, Rwanda, Samoa, Senegal and Uzbekistan have banned plastic bags, thereby reducing plastic pollution and animal deaths, and preventing clogged drains, which can contribute to flooding and malaria. These policies also improve air quality, as plastic bags are no longer disposed of by burning.

99. Perverse subsidies are government subsidies that provide financial support for activities that cause environmental harm. For example, in most States, taxes are lower on diesel fuel than gasoline despite the higher levels of toxic emissions from diesel. The United Kingdom was the first State member of the European Union to impose higher fuel excise duties on diesel fuel than regular gasoline.⁵³

100. Taxes can be used effectively to reduce environmental threats. Pollution fees are widely used. States that levy water effluent charges include France, Germany, Malaysia, the Netherlands and the Philippines. Studies show that water pollution taxes lead to a significant decline in pollution levels.⁵⁴ Air emission charges are used in many States, including Finland, France, Germany, Japan, the Netherlands, Norway, Sweden and the United States.

101. The restoration of polluted or contaminated areas is also an important activity in ensuring a non-toxic environment. Pursuant to a federal law passed in 1999 and most recently amended in 2019, the Russian Federation is implementing a wide range of actions to protect Lake Baikal and the surrounding region, including the closure of a pulp and paper mill, the rehabilitation of polluted land, a reduction in the volume of polluted wastewater entering the lake, and increasing the amount of solid waste managed properly. To ensure implementation of and compliance with the legislation on environmental protection in the Lake Baikal watershed, as well as to protect the constitutional right of citizens to a favourable environment, the Baikal Interregional Environmental Prosecutor’s Office was opened in 2017.

102. It is essential that Governments enforce environmental laws when polluters violate standards. Lack of adequate environmental enforcement is a global problem. In 2019,

⁵¹ See www.environment.no/topics/hazardous-chemicals/list-of-priority-substances/.

⁵² See https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics.

⁵³ See European Environment Agency, *Transport fuel prices and taxes in Europe*, at <https://www.eea.europa.eu/data-and-maps/indicators/fuel-prices-and-taxes/assessment-4>.

⁵⁴ Organization for Economic Cooperation and Development, *Environmental Taxation: A Guide for Policymakers*, 2011.

Ethiopia shut down four tanneries over toxic waste emissions.⁵⁵ Myanmar temporarily suspended operations at two tin mining sites and 17 factories for environmental non-compliance.

6. Healthy ecosystems and biodiversity

103. Humanity depends on nature for a vast range of products and ecological services, from food, fibre and medicine to pollination, clean air, water and soil. Human rights may be jeopardized by lack of access to nature's bounty or by actions taken to protect nature that fail to take rights into consideration (see A/HRC/34/49). Globally, wildlife populations have declined by 60 per cent since 1970, and as many as 1 million species are at risk of extinction. The decline or disappearance of a particular species could have a devastating impact on an indigenous community and their rights. The creation of a new protected area without the consultation and consent of indigenous peoples or local communities could, however, violate their rights (see A/71/229).

104. International environmental law establishes norms and standards for the protection of 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 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. For example, the Aichi Biodiversity Targets set pursuant to the Convention on Biological Diversity aim at protecting 17 per cent of representative ecosystems on land and 10 per cent in the oceans by 2020. Regional environmental treaties are also important.

105. A growing number of constitutions incorporate duties relating to the protection of wildlife and nature, including those of Bhutan, the Plurinational State of Bolivia, Ecuador and Namibia. In Bhutan, the Constitution requires 60 per cent of land area to be maintained under forest cover for all time. The Constitutions of the Plurinational State of Bolivia and Ecuador refer to the rights of non-human species, while that of Ecuador contains comprehensive provisions relating to the rights of *Pachamama* or Mother Earth. Recognizing the rights of nature could reduce environmental harm, potentially benefiting human rights.

106. At the legislative level, almost all States have specific laws protecting wildlife and wildlife habitat, and managing activities that could harm or overexploit other species, such as fishing, hunting, mining, agriculture and forestry.

107. The States that protect at least 25 per cent of their land 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.⁵⁶ 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.⁵⁷

108. Sixteen States 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.⁵⁸

109. 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). Indigenous peoples and local communities

⁵⁵ A/HRC/WG.6/33/ETH/1, para. 38.

⁵⁶ See <https://data.worldbank.org/indicator/ER.LND.PTLD.ZS>.

⁵⁷ James E.M. Watson et al., "The performance and potential of protected areas", *Nature*, vol. 515, pp. 67–73.

⁵⁸ See <https://data.worldbank.org/indicator/ER.MRN.PTMR.ZS>.

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.⁵⁹

110. 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 asset building at the household and enterprise levels) and conservation of the concession areas.⁶⁰

111. 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.

112. 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.

IV. Conclusions

113. **In the present report, the Special Rapporteur has summarized many good practices in implementing the human right to a safe, clean, healthy and sustainable environment, drawn from more than 175 States.⁶¹ A remarkably diverse array of actions can deliver on the imperatives of cleaner air, improved access to safe water and adequate sanitation, and sustainably produced food, healthy environments and a safe climate. This is true even in difficult circumstances, such as in States or communities plagued by poverty, conflict or natural disasters. The most important beneficiaries of the good practices highlighted in the report are the individuals and communities who are most vulnerable to the adverse effects of environmental harm and who lack access to basic environmental services.**

114. **Protecting the environment contributes to the fulfilment of human rights, and protecting human rights contributes to safeguarding the environment. While in some States some aspects of the right to a safe, clean, healthy and sustainable environment are subject to progressive realization, all States must dedicate the maximum available resources to comply with their human rights obligations in addressing environmental challenges.**

⁵⁹ See *Global Assessment Report on Biodiversity and Ecosystem Services*, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019.

⁶⁰ 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.

⁶¹ See also "Additional Good Practices in the Implementation of the Right to a Safe, Clean, Healthy and Sustainable Environment", available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/Annualreports.aspx.

115. The Special Rapporteur hopes that these concrete examples of good practices will inspire States to accelerate their efforts to recognize, respect, protect and fulfil the right to a safe, clean, healthy and sustainable environment. The adoption of a resolution recognizing the right to a safe, clean, healthy and sustainable environment would be a positive catalyst to accelerate efforts to ensure the enjoyment of this right. Indeed, this was precisely the effect witnessed in many States following the adoption by the General Assembly of its resolution 64/292 and by the Human Rights Council of its resolution 15/9 on the rights to water and sanitation in 2010. A rights-based approach is not only helpful but even essential to stimulating the many urgent actions needed to achieve the Sustainable Development Goals as outlined in the 2030 Agenda for Sustainable Development.

116. Ultimately, however, it must be emphasized that humanity faces a daunting and unprecedented global environmental crisis of its own making. Despite the many good practices, they are not nearly enough. There is much, much more work to be done to transform today's unjust and unsustainable society into an ecological civilization where human rights are universally respected, protected and fulfilled.

Annex I

Contributors to the global online researchathon

The Special Rapporteur thanks the following contributors to the global online researchathon on good practices related to the implementation of a safe, clean, healthy and sustainable environment:

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Annex II

Legal recognition of the right to a healthy environment

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Afghanistan	N	N	N
Albania	N	Y	N
Algeria	Y	Y	N
Andorra	N	N	N
Angola	Y	Y	Y
Antigua and Barbuda	N	N	N
Argentina	Y	Y	Y
Armenia	N	Y	Y
Australia	N	N	N
Austria	N	Y	N
Azerbaijan	Y	Y	Y
Bahamas	N	N	N
Bahrain	N	Y	N
Bangladesh	Yi	N	N
Barbados	N	N	N
Belarus	Y	Y	Y
Belgium	Y	Y	Y
Belize	N	N	N
Benin	Y	Y	Y
Bhutan	N	N	Y
Bolivia (Plurinational State of)	Y	Y	Y
Bosnia and Herzegovina	N	Y	Y
Botswana	N	Y	N
Brazil	Y	Y	Y
Brunei Darussalam	N	N	N
Bulgaria	Y	Y	Y
Burkina Faso	Y	Y	Y
Burundi	Y	Y	N
Cambodia	N	N	N
Cabo Verde	Y	Y	Y
Cameroon	Y	Y	Y

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Canada	N	N	N
Central African Republic	Y	Y	Y
Chad	Y	Y	Y
Chile	Y	N	Y
China	N	N	N
Colombia	Y	Y	Y
Comoros	Y	Y	Y
Congo	Y	Y	N
Costa Rica	Y	Y	Y
Côte d'Ivoire	Y	Y	Y
Croatia	Y	Y	Y
Cuba	Y	N	Y
Cyprus	Yi	Y	Y
Czechia	Y	Y	Y
Democratic People's Republic of Korea	N	N	N
Democratic Republic of the Congo	Y	Y	Y
Denmark	N	Y	N
Djibouti	N	Y	Y
Dominica	N	N	N
Dominican Republic	Y	N	Y
Ecuador	Y	Y	Y
Egypt	Y	Y	N
El Salvador	Yi	Y	Yi
Equatorial Guinea	N	Y	N
Eritrea	N	Y	Y
Estonia	Yi	Y	Yi
Eswatini	N	Y	N
Ethiopia	Y	Y	N
Fiji	Y	N	N
Finland	Y	Y	Y
France	Y	Y	Y
Gabon	Y	Y	Y
Gambia	N	Y	Y

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Georgia	Y	Y	Y
Germany	N	Y	N
Ghana	Yi	Y	N
Greece	Y	Y	Y
Grenada	N	N	N
Guatemala	Yi	Y	Y
Guinea	Y	Y	N
Guinea-Bissau	N	Y	Y
Guyana	Y	Y	N
Haiti	N	N	Y
Honduras	Y	Y	Y
Hungary	Y	Y	Y
Iceland	N	Y	N
India	Yi	N	Y
Indonesia	Y	N	Y
Iran (Islamic Republic of)	Y	N	N
Iraq	Y	Y	N
Ireland	Yi	Y	N
Israel	N	N	N
Italy	Yi	Y	N
Jamaica	Y	N	N
Japan	N	N	N
Jordan	N	Y	N
Kazakhstan	N	Y	Y
Kenya	Y	Y	Y
Kiribati	N	N	N
Kuwait	N	Y	N
Kyrgyzstan	Y	Y	Y
Lao People's Democratic Republic	N	N	N
Latvia	Y	Y	Y
Lebanon	N	Y	Y
Lesotho	N	Y	Y
Liberia	Yi	Y	Y
Libya	N	Y	N

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Liechtenstein	N	N	N
Lithuania	Yi	Y	Y
Luxembourg	N	Y	N
Madagascar	N	Y	Y
Malawi	Y	Y	Y
Malaysia	Yi	N	N
Maldives	Y	N	N
Mali	Y	Y	N
Malta	N	Y	N
Marshall Islands	N	N	N
Mauritania	Y	Y	Y
Mauritius	N	Y	N
Mexico	Y	Y	Y
Micronesia (Federated States of)	N	N	N
Monaco	N	N	Y
Mongolia	Y	N	Y
Montenegro	Y	Y	Y
Morocco	Y	N	Y
Mozambique	Y	Y	Y
Myanmar	N	N	N
Namibia	Yi	Y	N
Nauru	N	N	N
Nepal	Y	N	N
Netherlands	N	Y	N
New Zealand	N	N	N
Nicaragua	Y	Y	Y
Niger	Y	Y	Y
Nigeria	Yi	Y	Y
North Macedonia	Y	Y	Y
Norway	Y	Y	Y
Oman	N	N	N
Pakistan	Yi	N	N
Palau	N	N	Y
Panama	Yi	Y	Y

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Papua New Guinea	N	N	N
Paraguay	Y	Y	Y
Peru	Y	Y	Y
Philippines	Y	N	Y
Poland	N	Y	N
Portugal	Y	Y	Y
Qatar	N	Y	N
Republic of Korea	Y	N	Y
Republic of Moldova	Y	Y	Y
Romania	Y	Y	Y
Russian Federation	Y	N	Y
Rwanda	Y	Y	Y
Saint Kitts and Nevis	N	Y	N
Saint Lucia	N	N	N
Saint Vincent and the Grenadines	N	Y	N
Samoa	N	N	N
San Marino	N	N	N
Sao Tome and Principe	Y	Y	Y
Saudi Arabia	N	Y	Y
Senegal	Y	Y	Y
Serbia	Y	Y	Y
Seychelles	Y	Y	N
Sierra Leone	N	Y	N
Singapore	N	N	N
Slovakia	Y	Y	Y
Slovenia	Y	Y	Y
Solomon Islands	N	N	N
Somalia	Y	Y	N
South Africa	Y	Y	Y
South Sudan	Y	N	N
Spain	Y	Y	Y
Sri Lanka	Yi	N	N
Sudan	Y	Y	N
Suriname	N	Y	N

	<i>National Constitution</i>	<i>International treaty*</i>	<i>National legislation</i>
Sweden	N	Y	N
Switzerland	N	Y	N
Syrian Arab Republic	N	Y	N
Tajikistan	N	Y	Y
Thailand	Y	N	Y
Timor-Leste	Y	N	Y
Togo	Y	Y	Y
Tonga	N	N	N
Trinidad and Tobago	N	N	N
Tunisia	Y	Y	Y
Turkey	Y	N	N
Turkmenistan	Y	Y	Y
Tuvalu	N	N	N
Uganda	Y	Y	Y
Ukraine	Y	Y	Y
United Arab Emirates	N	Y	N
United Kingdom of Great Britain and Northern Ireland	N	N	N
United Republic of Tanzania	Yi	Y	Y
United States of America	N	N	N
Uruguay	N	Y	Y
Uzbekistan	N	N	Y
Vanuatu	N	N	N
Venezuela (Bolivarian Republic of)	Y	N	Y
Viet Nam	Y	N	Y
Yemen	N	Y	Y
Zambia	N	Y	Y
Zimbabwe	Y	Y	Y
	110	126	101

Y = Yes, Yi= implicit, N = No

* Includes the African Charter, the San Salvador Protocol, the Aarhus Convention, the Arab Charter and the Escazú Agreement.