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ANNUAL REPORT OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS AND REPORTS OF THE OFFICE OF THE HIGH COMMISSIONER AND THE SECRETARY-GENERAL

Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights* **

Summary

This report discusses how observed and projected impacts of climate change have implications for the enjoyment of human rights and for the obligations of States under international human rights law.

Chapter I discusses the main features of climate change as defined in the reports of the Intergovernmental Panel on Climate Change (IPCC) and central aspects of current climate change debates under the United Nations Framework Convention on Climate Change. Chapter II outlines various implications of climate change for human rights, commenting on: (a) the relationship between the environment and human rights; (b) implications of the effects of climate change for the enjoyment of specific rights; (c) vulnerabilities of specific groups; (d) human rights implications of climate change-induced displacement and conflict; and (e) human rights implications of measures to address climate change. Chapter III relates the discussion of the impacts of climate change on human rights with relevant obligations under international human rights law, which are also summarized in annex I to the present report. Chapter IV draws conclusions on the relationship between climate change and human rights.

* Late submission.

** The annex and footnotes are circulated in the language of submission only.

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Introduction

1. The present report is submitted pursuant to Human Rights Council resolution 7/23 in which the Office of the United Nations High Commissioner for Human Rights (OHCHR) was requested to conduct a detailed analytical study of the relationship between climate change and human rights, taking into account the views of States and other stakeholders.

2. Written submissions were received from States, intergovernmental organizations, national human rights institutions, non-governmental organizations, and individual experts. OHCHR also organized a one-day open-ended consultation on the relationship between climate change and human rights, held on 22 October 2008 in Geneva. The inputs received during the consultation process have informed the preparation of this report.[1]

3. This report seeks to outline main aspects of the relationship between climate change and human rights. Climate change debates have traditionally focused on scientific, environmental and economic aspects. As scientific understanding of the causes and consequences of climate change has evolved and impacts on human lives and living conditions have become more evident, the focus of debates has progressively broadened with increasing attention being given to human and social dimensions of climate change. Human Rights Council resolution 7/23 on human rights and climate change exemplifies this broadening of the debate.

4. Special procedures of the Human Rights Council have also addressed the human rights implications of climate change in recent statements and reports,[2] while the Organization of American States and the Alliance of Small Island States have recently drawn attention to the relationship between climate change and human rights.[3] In addition, a growing volume of reports and studies address the interface between climate change and human rights.[4]

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[1] Most of the submissions made and a summary of discussions of the consultation meeting containing various recommendations made by participants are available at http://www2.ohchr.org/english/issues/climatechange/study.htm.

[2] For example, in a joint statement on International Human Rights Day, 10 December 2008, the special procedures mandate holders of the Human Rights Council emphasized that climate change has "potentially massive human rights and development implications".

[3] AG/RES.2429 (XXXVIII-O/08), Human rights and climate change in the Americas; Male' Declaration on the Human Dimension of Global Climate Change, 2007.

[4] Many of these studies and reports have been submitted to the Office of the United Nations High Commissioner for Human Rights (OHCHR) and are available at: http://www2.ohchr.org/english/issues/climatechange/submissions.htm.

I. CLIMATE CHANGE: AN OVERVIEW

Global warming and its causes

5. The United Nations Framework Convention on Climate Change, which has near universal membership, provides the common international framework to address the causes and consequences of climate change, also referred to as "global warming". The Convention defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods".[5]

6. The Intergovernmental Panel on Climate Change (IPCC) has greatly contributed to improving understanding about and raising awareness of climate change risks.[6] Since the publication of its First Assessment Report (IPCC AR1) in 1990, climate science has rapidly evolved, enabling the IPCC to make increasingly definitive statements about the reality, causes and consequences of climate change. Its Fourth Assessment Report (IPCC AR4), issued in 2007, presents a clear scientific consensus that global warming "is unequivocal" and that, with more than 90 per cent certainty, most of the warming observed over the past 50 years is caused by manmade greenhouse gas emissions.[7] Current levels of greenhouse gas concentrations far exceed pre-industrial levels as recorded in polar ice cores dating back 650,000 years, and the predominant source of this increase is the combustion of fossil fuels.[8]

7. The IPCC AR4 presents the current scientific consensus on climate change. It is based on the contributions of three working groups focusing on: the physical science basis (Working Group I); impacts, adaptation and vulnerability (Working Group II); and mitigation of climate change (Working Group III). The Synthesis Report and Summaries for Policymakers have been adopted and approved by member States at an IPCC plenary session. The findings provide the main scientific resource for this study in exploring the relationship between climate change and human rights.

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[5] United Nations Framework Convention on Climate Change (UNFCCC), art. 1, para. 2. The Intergovernmental Panel on Climate Change (IPCC) uses a similar definition, the main difference being that IPCC covers all aspects of climate change and does not make a distinction between climate change attributable to human activity and climate change and variability attributable to natural causes.

[6] IPCC was set up jointly by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) in 1988 to provide authoritative assessments, based on the best available scientific literature, on climate change causes, impacts and possible response strategies.

[7] Climate Change 2007 - Synthesis Report, adopted at IPCC Plenary XXVII, Valencia, Spain, 12-17 November 2007 (IPCC AR4 Synthesis Report), p. 72.

[8] See IPCC AR4 Working Group I (WGI) Report, pp. 23-25.

Observed and projected impacts

8. Amongst the main observed and projected changes in weather patterns related to global warming are:[9]

- Contraction of snow-covered areas and shrinking of sea ice
- Sea level rise and higher water temperatures
- Increased frequency of hot extremes and heatwaves
- Heavy precipitation events and increase in areas affected by drought
- Increased intensity of tropical cyclones (typhoons and hurricanes)

9. The IPCC assessments and a growing volume of studies provide an increasingly detailed picture of how these changes in the physical climate will impact on human lives. IPCC AR4 outlines impacts in six main areas: ecosystems; food; water; health; coasts; and industry, settlement and society,[10] some of which are described further below in relation to their implications for specific human rights.

Unequal burden and the equity principle

10. Industrialized countries, defined as annex I countries under the United Nations Framework Convention on Climate Change, have historically contributed most to manmade greenhouse gas emissions. At the same time, the impacts of climate change are distributed very unevenly, disproportionally affecting poorer regions and countries, that is, those who have generally contributed the least to human-induced climate change.

11. The unequal burden of the effects of climate change is reflected in article 3 of the Convention (referred to as "the equity article"). It stipulates that parties should protect the climate system "on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities"; that developed countries "should take the lead in combating climate change and the adverse effects thereof" and that full consideration should be given to the needs of developing countries, especially "those that are particularly vulnerable to the adverse effects of climate change" and "that would have to bear a disproportionate or abnormal burden under the Convention".[11] Giving operational meaning to the "equity principle" is a key challenge in ongoing climate change negotiations.

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[9] With the exception of impacts on tropical cyclones, the IPCC AR4 considers these impacts *very likely* (more than 90 per cent certainty). Projections on increased intensity of tropical cyclones are considered *likely* (more than 66 per cent certainty).

[10] See IPCC AR4 Synthesis Report, pp. 48-53.

[11] UNFCCC, art. 3, paras. 1 and 2.

Response measures: mitigation and adaptation

12. Mitigation and adaptation are the two main strategies to address climate change. Mitigation aims to minimize the extent of global warming by reducing emission levels and stabilizing greenhouse gas concentrations in the atmosphere. Adaptation aims to strengthen the capacity of societies and ecosystems to cope with and adapt to climate change risks and impacts.

13. Reaching an agreement on required global mitigation measures lies at the heart of international climate change negotiations. Article 2 defines the "ultimate objective" of the Convention and associated instruments as "the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". A key question is to operationally define the term "dangerous".[12]

14. Over the past decades, scientific studies and policy considerations have converged towards a threshold for dangerous climate change of a maximum rise in global average temperature of 2º C above the pre-industrial level.[13] Staying below this threshold will significantly reduce the adverse impacts on ecosystems and human lives. It will require that global greenhouse gas emissions peak within the next decade and be reduced to less than 50 per cent of the current level by 2050. Yet, even this stabilization scenario would lead to a "best estimate" global average temperature increase of 2° C - 2.4° C above pre-industrial levels.[14] Moreover, the possibility of containing the temperature rise to around 2°C becomes increasingly unlikely if emission reductions are postponed beyond the next 15 years.

15. Adaptation and the financing of adaptation measures are also central in international climate change negotiations. Irrespective of the scale of mitigation measures taken today and over the next decades, global warming will continue due to the inertia of the climate system and the long-term effects of previous greenhouse gas emissions. Consequently, adaptation measures are required to enable societies to cope with the effects of now unavoidable global warming. Climate change adaptation covers a wide range of actions and strategies, such as building sea defences, relocating populations from flood-prone areas, improved water management, and early warning systems. Equally, adaptation requires strengthening the capacities and coping mechanisms of individuals and communities.

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[12] While UNFCCC does not include specific greenhouse gas reduction targets, its Kyoto Protocol assigns legally binding caps on greenhouse gas emissions for industrialized countries and emerging economies for the period 2008-2012. The Protocol entered into force in 2005 and has to date been ratified by 183 parties to UNFCCC.

[13] See IPCC AR4 Working Group III (WGIII) Report, pp. 99-100.

[14] Four other scenarios of higher stabilization levels estimate the likely temperature increases in the range of 2.8º C to 6.1º C, IPCC AR4 WGIII Report, pp. 227-228.

II. IMPLICATIONS FOR THE ENJOYMENT OF HUMAN RIGHTS

A. Climate change, environmental harm and human rights

16. An increase in global average temperatures of approximately 2° C will have major, and predominantly negative, effects on ecosystems across the globe, on the goods and services they provide. Already today, climate change is among the most important drivers of ecosystem changes, along with overexploitation of resources and pollution.[15] Moreover, global warming will exacerbate the harmful effects of environmental pollution, including higher levels of ground-level ozone in urban areas. In view of such effects, which have implications for a wide range of human rights, it is relevant to discuss the relationship between human rights and the environment.

17. Principle 1 of the 1972 Declaration of the United Nations Conference on the Human Environment (the Stockholm Declaration) states that there is "a fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being". The Stockholm Declaration reflects a general recognition of the interdependence and interrelatedness of human rights and the environment.[16]

18. While the universal human rights treaties do not refer to a specific right to a safe and healthy environment, the United Nations human rights treaty bodies all recognize the intrinsic link between the environment and the realization of a range of human rights, such as the right to life, to health, to food, to water, and to housing.[17] The Convention on the Rights of the Child provides that States parties shall take appropriate measures to combat disease and malnutrition "through the provision of adequate nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution".[18]

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[15] See Millennium Ecosystems Assessment 2005, *Ecosystems and Human Well-being*, Synthesis, pp. 67 and 79.

[16] A joint seminar on human rights and the environment organized by OHCHR and UNEP in 2002 also documented a growing recognition of the connection between human rights, environmental protection and sustainable development (see E/CN.4/2002/WP.7).

[17] ILO Convention No. 169 (1989) concerning Indigenous and Tribal Peoples in Independent Countries provides for special protection of the environment of the areas which indigenous peoples occupy or otherwise use. At the regional level, the African Charter on Human and Peoples' Rights and the San Salvador Protocol to the American Convention on Human Rights recognize the right to live in a healthy or satisfactory environment. Moreover, many national constitutions refer to a right to an environment of a certain quality.

[18] Convention on the Rights of the Child (CRC), art. 24, para. 2 (c).

19. Equally, the Committee on Economic, Social and Cultural Rights (CESCR) has clarified that the right to adequate food requires the adoption of "appropriate economic, environmental and social policies" and that the right to health extends to its underlying determinants, including a healthy environment.[19]

B. Effects on specific rights

20. Whereas global warming will potentially have implications for the full range of human rights, the following subsections provide examples of rights which seem to relate most directly to climate change-related impacts identified by IPCC.

1. The right to life

21. The right to life is explicitly protected under the International Covenant on Civil and Political Rights and the Convention on the Rights of the Child.[20] The Human Rights Committee has described the right to life as the "supreme right", "basic to all human rights", and it is a right from which no derogation is permitted even in time of public emergency.[21] Moreover, the Committee has clarified that the right to life imposes an obligation on States to take positive measures for its protection, including taking measures to reduce infant mortality, malnutrition and epidemics.[22] The Convention on the Rights of the Child explicitly links the right to life to the obligation of States "to ensure to the maximum extent possible the survival and development of the child".[23] According to the Committee on the Rights of the Child, the right to survival and development must be implemented in a holistic manner, "through the enforcement of all the other provisions of the Convention, including rights to health, adequate nutrition, social security, an adequate standard of living, a healthy and safe environment …".[24]

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[19] Committee on Economic, Social and Cultural Rights (CESCR), general comments No. 12 (1999) on the right to adequate food (art. 11), para. 4, and No. 14 (2000) on the right to the highest attainable standard of health (art. 12), para. 4.

[20] International Covenant on Civil and Political Rights (ICCPR), art. 6; CRC, art. 6.

[21] Human Rights Committee, general comments No. 6 (1982) on art. 6 (Right to life), para. 1, and No. 14 (1984) on art. 6 (Right to life), para. 1.

[22] Human Rights Committee, general comment No. 6, para. 5. Likewise, the Committee has asked States to provide data on pregnancy and childbirth-related deaths and gender-disaggregated data on infant mortality rates when reporting on the status of implementation of the right to life (general comment No. 28 (2000) on art. 3 (The equality of rights between men and women), para. 10).

[23] CRC, art. 6, para. 2.

[24] Committee on the Rights of the Child, general comment No. 7 (2006) on implementing rights in early childhood, para. 10.

22. A number of observed and projected effects of climate change will pose direct and indirect threats to human lives. IPCC AR4 projects with high confidence an increase in people suffering from death, disease and injury from heatwaves, floods, storms, fires and droughts. Equally, climate change will affect the right to life through an increase in hunger and malnutrition and related disorders impacting on child growth and development; cardiorespiratory morbidity and mortality related to ground-level ozone.[25]

23. Climate change will exacerbate weather-related disasters which already have devastating effects on people and their enjoyment of the right to life, particularly in the developing world. For example, an estimated 262 million people were affected by climate disasters annually from 2000 to 2004, of whom over 98 per cent live in developing countries.[26] Tropical cyclone hazards, affecting approximately 120 million people annually, killed an estimated 250,000 people from 1980 to 2000.[27]

24. Protection of the right to life, generally and in the context of climate change, is closely related to measures for the fulfilment of other rights, such as those related to food, water, health and housing. With regard to weather-related natural disasters, this close interconnectedness of rights is reflected in the Inter-Agency Standing Committee (IASC) operational guidelines on human rights and natural disasters.[28]

2. The right to adequate food

25. The right to food is explicitly mentioned under the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities and implied in general provisions on an adequate standard of living of the Convention on the Elimination of All Forms of Discrimination against Women and the International Convention on the Elimination of All Forms of Racial Discrimination.[29] In addition to a right to adequate food, the International Covenant on Economic, Social and

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[25] IPCC AR4 Working Group II (WGII) Report, p. 393.

[26] United Nations Development Programme (UNDP), Human Development Report 2007/2008, *Fighting climate change: Human solidarity in a divided world*, p. 8.

[27] IPCC AR4 Working Group II Report, p. 317.

[28] Inter-Agency Standing Committee, *Protecting Persons Affected by Natural Disasters - IASC Operational Guidelines on Human Rights and Natural Disasters*, Brooking-Bern Project on Internal Displacement, 2006.

[29] International Covenant on Economic, Social and Cultural Rights (ICESCR), art. 11; CRC, art. 24 (c); Convention on the Rights of Persons with Disabilities (CRPD), art. 25 (f) and art. 28, para. 1; Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), art. 14, para. 2 (h); International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), art. 5 (e).

Cultural Rights also enshrines "the fundamental right of everyone to be free from hunger".[30] Elements of the right to food include the availability of adequate food (including through the possibility of feeding oneself from natural resources) and accessible to all individuals under the jurisdiction of a State. Equally, States must ensure freedom from hunger and take necessary action to alleviate hunger, even in times of natural or other disasters.[31]

26. As a consequence of climate change, the potential for food production is projected initially to increase at mid to high latitudes with an increase in global average temperature in the range of 1-3° C. However, at lower latitudes crop productivity is projected to decrease, increasing the risk of hunger and food insecurity in the poorer regions of the word.[32] According to one estimate, an additional 600 million people will face malnutrition due to climate change,[33] with a particularly negative effect on sub-Saharan Africa.[34] Poor people living in developing countries are particularly vulnerable given their disproportionate dependency on climate-sensitive resources for their food and livelihoods.[35]

27. The Special Rapporteur on the right to food has documented how extreme climate events are increasingly threatening livelihoods and food security.[36] In responding to this threat, the realization of the right to adequate food requires that special attention be given to vulnerable and disadvantaged groups, including people living in disaster prone areas and indigenous peoples whose livelihood may be threatened.[37]

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[30] ICESCR, art. 11, para. 2.

[31] CESCR general comment No. 12 (1999) on the right to adequate food (art. 11), para. 6.

[32] IPCC AR4 Synthesis Report, p. 48.

[33] UNDP Human Development Report 2006, *Beyond scarcity: Power, poverty and the global water crisis*.

[34] IPCC AR4 WGII Report, p. 275.

[35] IPCC AR4 WGII, p. 359. United Nations Millennium Project 2005, *Halving Hunger: It Can Be Done*, Task Force on Hunger, p. 66. Furthermore, according to the Human Rights Council Special Rapporteur on the right to food, "half of the world's hungry people … depend for their survival on lands which are inherently poor and which may be becoming less fertile and less productive as a result of the impacts of repeated droughts, climate change and unsustainable land use" (A/HRC/7/5, para. 51).

[36] See e.g. A/HRC/7/5, para. 51; A/HRC/7/5/Add.2, paras. 11 and 15.

[37] See e.g. CESCR general comment No. 12 (1999) on the right to adequate food (art. 11), para. 28.

3. The right to water

28. CESCR has defined the right to water as the right of everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses, such as drinking, food preparation and personal and household hygiene.[38] The Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of Persons with Disabilities explicitly refer to access to water services in provisions on an adequate standard of living, while the Convention on the Rights of the Child refers to the provision of "clean drinking water" as part of the measures States shall take to combat disease and malnutrition.[39]

29. Loss of glaciers and reductions in snow cover are projected to increase and to negatively affect water availability for more than one-sixth of the world's population supplied by meltwater from mountain ranges. Weather extremes, such as drought and flooding, will also impact on water supplies.[40] Climate change will thus exacerbate existing stresses on water resources and compound the problem of access to safe drinking water, currently denied to an estimated 1.1 billion people globally and a major cause of morbidity and disease.[41] In this regard, climate change interacts with a range of other causes of water stress, such as population growth, environmental degradation, poor water management, poverty and inequality.[42]

30. As various studies document, the negative effects of climate change on water supply and on the effective enjoyment of the right to water can be mitigated through the adoption of appropriate measures and policies.[43]

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[38] CESCR general comment No. 15 (2002) on the right to water (arts. 11 and 12), para. 2. While not explicitly mentioned in ICESCR, the right is seen to be implicit in arts. 11 (adequate standard of living) and 12 (heath). General comment No. 15 provides further guidance on the normative contents of the right to water and related obligations of States.

[39] See CEDAW, art. 14, para. 2 (h); CRPD, art. 28, para. 2 (a); CRC, art. 24, para. 2 (c).

[40] IPCC AR4 Synthesis Report, pp. 48-49.

[41] Millennium Ecosystems Assessment 2005, *Ecosystems and Human Well-being*, Synthesis, p. 52.

[42] According to the UNDP Human Development Report 2006, the root causes of the current water crisis lie in poor water management, poverty and inequality, rather than in an absolute shortage of physical supply.

[43] IPCC AR4 WGII Report, p. 191. UNDP Human Development Report 2006.

4. The right to health

31. The right to the highest attainable standard of physical and mental health (the right to health) is most comprehensively addressed in article 12 of the International Covenant on Economic, Social and Cultural Rights and referred to in five other core international human rights treaties.[44] This right implies the enjoyment of, and equal access to, appropriate health care and, more broadly, to goods, services and conditions which enable a person to live a healthy life. Underlying determinants of health include adequate food and nutrition, housing, safe drinking water and adequate sanitation, and a healthy environment.[45] Other key elements are the availability, accessibility (both physically and economically), and quality of health and health-care facilities, goods and services.[46]

32. Climate change is projected to affect the health status of millions of people, including through increases in malnutrition, increased diseases and injury due to extreme weather events, and an increased burden of diarrhoeal, cardiorespiratory and infectious diseases.[47] Global warming may also affect the spread of malaria and other vector borne diseases in some parts of the world.[48] Overall, the negative health effects will disproportionately be felt in sub-Saharan Africa, South Asia and the Middle East. Poor health and malnutrition increases vulnerability and reduces the capacity of individuals and groups to adapt to climate change.

33. Climate change constitutes a severe additional stress to health systems worldwide, prompting the Special Rapporteur on the right to health to warn that a failure of the international community to confront the health threats posed by global warming will endanger the lives of millions of people.[49] Most at risk are those individuals and communities with a low adaptive capacity. Conversely, addressing poor health is one central aspect of reducing vulnerability to the effects of climate change.

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[44] CEDAW, arts. 12 and 14, para. 2 (b); ICERD, art. 5 (e) (iv); CRC, art. 24; CRPD, arts. 16, para. 4, 22, para. 2, and 25; International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICRMW), arts. 43, para. 1 (e), 45, para. 1 (c), and 70. See also ICESCR arts. 7 (b) and 10.

[45] CESCR general comment No. 12, para. 8.

[46] See CESCR general comment No. 12, CEDAW general recommendation No. 24 (1999) on art. 12 of the Convention (women and health); CRC general comment No. 4 (2003) on Adolescent health and development in the context of the Convention on the Rights of the Child.

[47] IPCC AR4 Synthesis, p. 48.

[48] Uncertainty remains about the potential impact of climate change on malaria at local and global scales because of a lack of data and the interplay of other contributing non-climatic factors such as socio-economic development, immunity and drug resistance (see IPCC WGII Report, p. 404).

[49] A/62/214, para. 102.

34. Non-climate related factors, such as education, health care, public health initiatives, are critical in determining how global warming will affect the health of populations.[50] Protecting the right to health in the face of climate change will require comprehensive measures, including mitigating the adverse impacts of global warming on underlying determinants of health and giving priority to protecting vulnerable individuals and communities.

5. The right to adequate housing

35. The right to adequate housing is enshrined in several core international human rights instruments and most comprehensively under the International Covenant on Economic, Social and Cultural Rights as an element of the right to an adequate standard of living.[51] The right to adequate housing has been defined as "the right to live somewhere in security, peace and dignity".[52] Core elements of this right include security of tenure, protection against forced evictions,[53] availability of services, materials, facilities and infrastructure, affordability, habitability, accessibility, location and cultural adequacy.[54]

36. Observed and projected climate change will affect the right to adequate housing in several ways. Sea level rise and storm surges will have a direct impact on many coastal settlements.[55] In the Arctic region and in low-lying island States such impacts have already led to the relocation of peoples and communities.[56] Settlements in low-lying mega-deltas are also particularly at risk, as evidenced by the millions of people and homes affected by flooding in recent years.

37. The erosion of livelihoods, partly caused by climate change, is a main "push" factor for increasing rural to urban migration. Many will move to urban slums and informal settlements where they are often forced to build shelters in hazardous areas.[57] Already today, an estimated 1 billion people live in urban slums on fragile hillsides or flood-prone riverbanks and face acute vulnerability to extreme climate events.[58]

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[50] IPCC AR4 WGII Report, p. 12.

[51] ICESCR, art. 11. See also Universal Declaration of Human Rights, art. 25, para. 1; ICERD, art. 5 (e) (iii); CEDAW, art. 14, para. 2; CRC, art. 27, para. 3; ICRMW, art. 43, para. 1 (d); CRPD, arts. 9, para. 1 (a), and 28, paras. 1 and 2 (d).

[52] CESCR general comment No. 12, para. 6.

[53] See CESCR general comment No. 7 (1997) on the right to adequate housing (art. 11 (1) of the Covenant): Forced evictions.

[54] CESCR general comment No. 12, para. 8.

[55] IPCC AR4 WGII Report, p. 333.

[56] IPCC AR4 WGII Report, p. 672.

[57] A/63/275, paras. 31-38.

[58] UNDP Human Development Report 2007/2008, *Fighting climate change: Human solidarity in a divided world*, p. 9.

38. Human rights guarantees in the context of climate change include: (a) adequate protection of housing from weather hazards (habitability of housing); (b) access to housing away from hazardous zones; (c) access to shelter and disaster preparedness in cases of displacement caused by extreme weather events; (d) protection of communities that are relocated away from hazardous zones, including protection against forced evictions without appropriate forms of legal or other protection, including adequate consultation with affected persons.[59]

6. The right to self-determination

39. The right to self-determination is a fundamental principle of international law. Common article 1, paragraph 1, of the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights establishes that "all peoples have the right of self-determination", by virtue of which "they freely determine their political status and freely pursue their economic, social and cultural development".[60] Important aspects of the right to self-determination include the right of a people not to be deprived of its own means of subsistence and the obligation of a State party to promote the realization of the right to self-determination, including for people living outside its territory.[61] While the right to self-determination is a collective right held by peoples rather than individuals, its realization is an essential condition for the effective enjoyment of individual human rights.

40. Sea level rise and extreme weather events related to climate change are threatening the habitability and, in the longer term, the territorial existence of a number of low-lying island States. Equally, changes in the climate threaten to deprive indigenous peoples of their traditional territories and sources of livelihood. Either of these impacts would have implications for the right to self-determination.

41. The inundation and disappearance of small island States would have implications for the right to self-determination, as well as for the full range of human rights for which individuals depend on the State for their protection. The disappearance of a State for climate change-related reasons would give rise to a range of legal questions, including concerning the status of people inhabiting such disappearing territories and the protection afforded to them under international law (discussed further below). While there is no clear precedence to follow, it is clear that insofar as climate change poses a threat to the right of peoples to self-determination, States have

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[59] In this regard the Guiding Principles on Internal Displacement (E/CN.4/1998/53/Add.2, annex) provide that "at the minimum, regardless of the circumstances, and without discrimination, competent authorities shall provide internally displaced persons with and ensure safe access to: … basic shelter and housing" (principle 18).

[60] The right to self-determination is enshrined in Articles 1 and 55 of the Charter of the United Nations and also contained in the Declaration on the Right to Development, art. 1, para. 2, and the United Nations Declaration on the Rights of Indigenous Peoples, arts. 3 and 4.

[61] Human Rights Committee, general comment No. 12 (1984) on art. 1 (Right to self-determination), para. 6. See also Committee on the Elimination of Racial Discrimination (CERD), general recommendation 21 (1996) on the right to self-determination.

a duty to take positive action, individually and jointly, to address and avert this threat. Equally, States have an obligation to take action to avert climate change impacts which threaten the cultural and social identity of indigenous peoples.

C. Effects on specific groups

42. The effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations due to factors such as poverty, gender, age, minority status, and disability.[62] Under international human rights law, States are legally bound to address such vulnerabilities in accordance with the principle of equality and non-discrimination.

43. Vulnerability and impact assessments in the context of climate change largely focus on impacts on economic sectors, such as health and water, rather than on the vulnerabilities of specific segments of the population.[63] Submissions to this report and other studies indicate awareness of the need for more detailed assessments at the country level and point to some of the factors which affect individuals and communities.

44. The present section focuses on factors determining vulnerability to climate change for women, children and indigenous peoples.

1. Women

45. Women are especially exposed to climate change-related risks due to existing gender discrimination, inequality and inhibiting gender roles. It is established that women, particularly elderly women and girls, are affected more severely and are more at risk during all phases of weather-related disasters: risk preparedness, warning communication and response, social and economic impacts, recovery and reconstruction.[64] The death rate of women is markedly higher than that of men during natural disasters (often linked to reasons such as: women are more likely to be looking after children, to be wearing clothes which inhibit movement and are less likely to be able to swim). This is particularly the case in disaster-affected societies in which the socio-economic status of women is low.[65] Women are susceptible to gender-based violence

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[62] See e.g. IPCC AR4 WGII Report, p. 374.

[63] National communications, submitted according to arts. 4 and 12 of UNFCCC, make frequent references to the human impacts of climate change, but generally do so in an aggregate and general manner, mentioning for example that people living in poverty are particularly vulnerable.

[64] IPCC AR4 WGII, p. 398. See also submission by the United Nations Development Fund for Women available at: http://www2.ohchr.org/english/issues/climatechange/index.htm.

[65] E. Neumayer and T. Plümper, *The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002*, available at http://ssrn.com/abstract=874965. As the authors conclude, based on the study of disasters in 141 countries, "[a] systematic effect on the gender gap in life expectancy is only plausible if natural disasters exacerbate previously existing patterns of discrimination that render females more vulnerable to the fatal impact of disasters" (p. 27).

during natural disasters and during migration, and girls are more likely to drop out of school when households come under additional stress. Rural women are particularly affected by effects on agriculture and deteriorating living conditions in rural areas. Vulnerability is exacerbated by factors such as unequal rights to property, exclusion from decision-making and difficulties in accessing information and financial services.[66]

46. Studies document how crucial for successful climate change adaptation the knowledge and capacities of women are. For example, there are numerous examples of how measures to empower women and to address discriminatory practices have increased the capacity of communities to cope with extreme weather events.[67]

47. International human rights standards and principles underline the need to adequately assess and address the gender-differentiated impacts of climate change. In the context of negotiations on the United Nations Framework Convention on Climate Change, States have highlighted gender-specific vulnerability assessments as important elements in determining adaptation options.[68] Yet, there is a general lack of accurate data disaggregated by gender data in this area.

2. Children

48. Studies show that climate change will exacerbate existing health risks and undermine support structures that protect children from harm.[69] Overall, the health burden of climate change will primarily be borne by children in the developing world.[70] For example, extreme weather events and increased water stress already constitute leading causes of malnutrition and infant and child mortality and morbidity. Likewise, increased stress on livelihoods will make it more difficult for children to attend school. Girls will be particularly affected as traditional household chores, such as collecting firewood and water, require more time and energy when supplies are scarce. Moreover, like women, children have a higher mortality rate as a result of weather-related disasters.

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[66] Y. Lambrou and R. Laub, "Gender perspectives on the conventions on biodiversity, climate change and desertification", *Food and Agriculture Organization of the United Nations (FAO), Gender and Population Division*, pp. 7-8.

[67] See e.g. IPCC AR4 WGII Report, p. 398; International Strategy for Disaster Reduction, *Gender Perspectives: Integrating Disaster Risk Reduction into Climate Change Adaptation. Good Practices and Lessons Learned*, UN/ISDR 2008.

[68] UNFCCC, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing Countries*, 2007, p. 16.

[69] UNICEF Innocenti Research Centre, *Climate Change and Children: A Human Security Challenge*, New York and Florence, 2008; UNICEF UK, *Our Climate, Our Children, Our Responsibility: The Implications of Climate Change for the World's Children*, London, 2008.

[70] World Bank, *Global Monitoring Report 2008 - MDGs and the Environment: Agenda for Inclusive and Sustainable Development*, p. 211.

49. As today's children and young persons will shape the world of tomorrow, children are central actors in promoting behaviour change required to mitigate the effects of global warming. Children's knowledge and awareness of climate change also influence wider households and community actions.[71] Education on environmental matters among children is crucial and various initiatives at national and international levels seek to engage children and young people as actors in the climate change agenda.[72]

50. The Convention on the Rights of the Child, which enjoys near universal ratification, obliges States to take action to ensure the realization of all rights in the Convention for all children in their jurisdiction, including measures to safeguard children's right to life, survival and development through, inter alia, addressing problems of environmental pollution and degradation. Importantly, children must be recognized as active participants and stewards of natural resources in the promotion and protection of a safe and healthy environment.[73]

3. Indigenous peoples

51. Climate change, together with pollution and environmental degradation, poses a serious threat to indigenous peoples, who often live in marginal lands and fragile ecosystems which are particularly sensitive to alterations in the physical environment.[74] Climate change-related impacts have already led to the relocation of Inuit communities in polar regions and affected their traditional livelihoods. Indigenous peoples inhabiting low-lying island States face similar pressures, threatening their cultural identity which is closely linked to their traditional lands and livelihoods.[75]

52. Indigenous peoples have been voicing their concern about the impacts of climate change on their collective human rights and their rights as distinct peoples.[76] In particular, indigenous peoples have stressed the importance of giving them a voice in policymaking on climate change at both national and international levels and of taking into account and building upon their

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[71] UNICEF UK (see footnote 69 above), p. 29.

[72] For example, UNEP and UNICEF have developed an environmental resource pack for child-friendly schools designed to empower children (see footnote 69 above, UNICEF Innocenti Research Centre, p. 28).

[73] See e.g. CRC, general comment No. 4 (2003) on adolescent health and development in the context of the Convention on the Rights of the Child.

[74] M. Macchi and others, *Indigenous and Traditional Peoples and Climate Change*, International Union for Conservation of Nature, 2008.

[75] See e.g. report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous peoples, A/HRC/4/32, para. 49.

[76] In April 2008, the Permanent Forum for Indigenous Issues stated that climate change "is an urgent and immediate threat to human rights" (E/C.19/2008/13, para. 23).

traditional knowledge.[77] As a study cited by the IPCC in its Fourth Assessment Report observes, "Incorporating indigenous knowledge into climate change policies can lead to the development of effective adaptation strategies that are cost-effective, participatory and sustainable".[78]

53. The United Nations Declaration on the Rights of Indigenous Peoples sets out several rights and principles of relevance to threats posed by climate change.[79] Core international human rights treaties also provide for protection of indigenous peoples, in particular with regard to the right to self-determination and rights related to culture.[80] The rights of indigenous peoples are also enshrined in ILO Convention No. 169 (1989) concerning Indigenous and Tribal Peoples in Independent Countries.

54. Indigenous peoples have brought several cases before national courts and regional and international human rights bodies claiming violations of human rights related to environmental issues. In 2005, a group of Inuit in the Canadian and Alaskan Arctic presented a case before the Inter-American Commission on Human Rights seeking compensation for alleged violations of their human rights resulting from climate change caused by greenhouse gas emissions from the United States of America.[81] While the Inter-American Commission deemed the case inadmissible, it drew international attention to the threats posed by climate change to indigenous peoples.

D. Displacement

55. The First Assessment Report of the IPCC (1990) noted that the greatest single impact of climate change might be on human migration. The report estimated that by 2050, 150 million people could be displaced by climate change-related phenomena, such as desertification,

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[77] E/C.19/2008/13, para. 4. The Permanent Forum also recommended that a mechanism be put in place for the participation of indigenous peoples in climate change negotiations under UNFCCC (ibid., para. 30).

[78] IPCC AR4 WGII Report, p. 865 (citing Robinson and Herbert, 2001).

[79] Key provisions include the right to effective mechanisms for prevention of, and redress for, actions which have the aim or effect of dispossessing them of their lands, territories or resources (art. 8); the principle of free, prior and informed consent (art. 19), the right to the conservation and protection of the environment and indigenous lands and territories (art. 29), the right to maintain, control, protect and develop their cultural heritage and traditional knowledge and cultural expressions (art. 31).

[80] See the provisions on cultural rights in ICCPR, art. 27, and ICESCR, art. 15.

[81] Available at: http://inuitcircumpolar.com/files/uploads/icc-files/FINALPetitionICC.pdf.

increasing water scarcity, and floods and storms.[82] It is estimated that climate change-related displacement will primarily occur within countries and that it will affect primarily poorer regions and countries.[83]

56. It is possible to distinguish between four main climate change-related displacement scenarios,[84] where displacement is caused by:

- Weather-related disasters, such as hurricanes and flooding
- Gradual environmental deterioration and slow onset disasters, such as desertification, sinking of coastal zones and possible total submersion of low-lying island States
- Increased disaster risks resulting in relocation of people from high-risk zones
- Social upheaval and violence attributable to climate change-related factors

57. Persons affected by displacement within national borders are entitled to the full range of human rights guarantees by a given State,[85] including protection against arbitrary or forced displacement and rights related to housing and property restitution for displaced persons.[86] To the extent that movement has been forced, persons would also qualify for increased assistance and protection as a vulnerable group in accordance with the Guiding Principles on Internal

[82] More recent studies refer to estimates for the same period of 200 million (Stern Review on the Economics of Climate Change, 2006, available at http://www.hm-treasury.gov.uk/sternreview_ index.htm) and 250 million (*Human tide: the real migration crisis*, Christian Aid 2007). See also IPCC AR4 WGII Report, p. 365 and the Norwegian Refugee Council, *Future floods of refugees: A comment on climate change, conflict and forced migration*, 2008.

[83] See e.g. contributions to *Forced Migration Review, vol. 1, No. 31*, October 2008.

[84] Adapted from typology proposed by the Representative of the Secretary-General on human rights of internally displaced persons and also used in the working paper submitted by the IASC informal group on migration/displacement and climate change, "Climate Change, Migration and Displacement: who will be affected", 31 October 2008.

[85] Guiding Principles on Internal Displacement (E/CN.4/1998/53/Add.2, annex), principles 1, para. 1, and 6, para. 1 .

[86] Principle 8.2, Principles on Housing and Property Restitution for Refugees and Displaced Persons (endorsed by the Sub-Commission on the Promotion and Protection of Human Rights in resolution 2005/2); FAO/IDMC/NRC/OCHA/OHCHR/UN-Habitat/UNHCR: *Housing and Property Restitution for Refugees and Displaced Persons: Implementing the "Pinheiro Principles"*, 2007.

Displacement.[87] However, with regard to slow-onset disasters and environmental degradation it remains challenging to distinguish between voluntary and forced population movements.

58. Persons moving voluntarily or forcibly across an international border due to environmental factors would be entitled to general human rights guarantees in a receiving State, but would often not have a right of entry to that State. Persons forcibly displaced across borders for environmental reasons have been referred to as "climate refugees" or "environmental refugees". The Office of the United Nations High Commissioner for Refugees, the International Organization for Migration and other humanitarian organizations have advised that these terms have no legal basis in international refugee law and should be avoided in order not to undermine the international legal regime for the protection of refugees.[88]

59. The Representative of the Secretary-General on human rights of internally displaced persons has suggested that a person who cannot be reasonably expected to return (e.g. if assistance and protection provided by the country of origin is far below international standards) should be considered a victim of forced displacement and be granted at least a temporary stay.[89]

60. One possible scenario of forcible displacement across national borders is the eventual total submergence of small island States.[90] Two working papers of the Sub-Commission on the Promotion and Protection of Human Rights point to some of the human rights issues such situations would raise, such as the rights of affected populations vis-à-vis receiving States and possible entitlement to live in community.[91] Human rights law does not provide clear answers as to the status of populations who have been displaced from sinking island States. Arguably,

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[87] The Guiding Principles have gained wide acceptance and were recognized by the General Assembly in the 2005 World Summit Outcome (A/RES/60/1) "as an important international framework for the protection of internally displaced persons".

[88] See IASC working paper referred to in footnote 84 above.

[89] Representative of the Secretary-General on human rights of internally displaced persons, *Displacement Caused by the Effects of Climate Change: Who will be affected and what are the gaps in the normative framework for their protection?* background paper, 2008, available at: http://www2.ohchr.org/english/issues/climatechange/submissions.htm.

[90] In the face of rising sea levels, migration is one adaptation strategy which is already being implemented in low-lying island States, such as Kiribati, the Maldives, and Tuvalu. So far this population movement has mainly taken the form of in-country resettlement schemes (IPCC AR4 WGII Report, p. 708).

[91] The papers (E/CN.4/Sub.2/AC.4/2004/CRP.1; E/CN.4/Sub.2/2005/28) were prepared by Françoise Hampson pursuant to a request from the Commission on Human Rights (decision 2004/122) to prepare a report on the legal implications of the disappearance of States for environmental reasons. A questionnaire was prepared in 2006 (E/CN.4/Sub.2/AC.4/2006/CRP.2) with a view to obtaining more accurate data on the nature, scale and imminence of the problem, but as yet no follow-up has been given to this initiative.

dealing with such possible disasters and protecting the human rights of the people affected will first and foremost require adequate long-term political solutions, rather than new legal instruments.[92]

E. Conflict and security risks

61. Recent reports and studies identify climate change as a key challenge to global peace and stability.[93] This was also recognized by the Norwegian Nobel Committee when, in 2007, it awarded the Nobel Peace Prize jointly to the IPCC and Al Gore for raising awareness of man-made climate change.[94] Equally, in 2007, the Security Council held a day-long debate on the impact of climate change on peace and security.

62. According to one study, the effects of climate change interacting with economic, social and political problems will create a high risk of violent conflict in 46 countries - home to 2.7 billion people.[95] These countries, mainly in sub-Saharan Africa, Asia and Latin America, are also the countries which are particularly exposed to projected negative impacts of climate change.

63. Climate change-related conflicts could be one driver of forced displacement. In such cases, in addition to the general human rights protection framework, other international standards would be applicable, including the Guiding Principles on Internal Displacement, international humanitarian law, international refugee law and subsidiary and temporary protection regimes for persons fleeing from armed conflict. Violent conflict, irrespective of its causes, has direct implications for the protection and enjoyment of human rights.

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[92] This point was made by Ms. Hampson and other panellists at the consultation meeting organized by OHCHR on 22 October 2008, summary of discussions available at: http://www2.ohchr.org/english/issues/climatechange/docs/SummaryofDiscussions.doc.

[93] See e.g. Government of the United Kingdom of Great Britain and Northern Ireland, *The National Security Strategy of the United Kingdom: Security in an interdependent world*, 2008 and German Advisory Council on Global Change, *World in Transition - Climate Change as a Security Risk*, 2008.

[94] As the Chairman of the Nobel Committee stated: "The chief threats may be direct violence, but deaths may also have less direct sources in starvation, disease, or natural disasters" (Presentation speech 10 December 2007).

[95] International Alert and Swedish International Development Cooperation Agency (SIDA), *A Climate of Conflict*, 2008, p. 7. In the same vein, the Special Rapporteur on the right to food observes that conflicts in Africa, including in the Darfur region, are linked to land degradation and related fights over resources (A/HRC/7/5, para. 51).

64. It should be noted, however, that knowledge remains limited as to the causal linkages between environmental factors and conflict and there is little empirical evidence to substantiate the projected impacts of environmental factors on armed conflict.[96]

F. Human rights implications of response measures

65. The United Nations Framework Convention on Climate Change and its Kyoto Protocol commit States parties to minimize adverse economic, social and environmental impacts resulting from the implementation of measures taken to mitigate or adapt to climate change impacts ("response measures").[97] With regard to measures to reduce the concentration of greenhouse gases in the atmosphere (mitigation), agro-fuel production is one example of how mitigation measures may have adverse secondary effects on human rights, especially the right to food.[98]

66. Whereas agro-fuel production could bring positive benefits for climate change and for farmers in developing countries, agro-fuels have also contributed to increasing the price of food commodities "because of the competition between food, feed and fuel for scarce arable land".[99] CESCR has urged States to implement strategies to combat global climate change that do not negatively affect the right to adequate food and freedom from hunger, but rather promote sustainable agriculture, as required by article 2 of the United Nations Framework Convention on Climate Change.[100]

67. Apart from the impact on the right to food, concerns have also been raised that demand for biofuels could encroach on the rights of indigenous peoples to their traditional lands and culture.[101]

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[96] See e.g. H. Buhaug, N.P. Gleditsch and O.M. Theisen, *Implications of Climate Change for Armed Conflict*, 2008. As the IPCC AR4 WGII Report points out (citing Fairhead, 2004) there are many other intervening and contributing causes of conflict and many environmentally-influenced conflicts in Africa are related to abundance of natural resources (e.g. oil and diamonds) rather than scarcity, suggesting "caution in the prediction of such conflicts as a result of climate change" (p. 365).

[97] UNFCCC, art. 4, para. 8, and Kyoto Protocol, arts. 2, para. 3, and 3, para. 14.

[98] For a discussion of the human rights dimensions of mitigation and adaptation policies see International Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide*, 2008, chapter II.

[99] Statement of the Special Rapporteur on the right to food, 22 May 2008, at the special session of the Human Rights Council on the global food crisis.

[100] E/C.12/2008/1, para. 13.

[101] See e.g. M. Macchi and others, *Indigenous and Traditional Peoples and Climate Change*, International Union for Conservation of Nature, 2008. CERD expressed concern about plans to establish a large-scale biofuel plantation and the threat it constituted to the rights of indigenous peoples to own their lands and enjoy their culture (CERD/C/IDN/CO/3, para. 17).

68. Concerns have also been raised about possible adverse effects of reduced emissions from deforestation and degradation (REDD) programmes. These programmes provide compensation for retaining forest cover and could potentially benefit indigenous peoples who depend on those forest resources. However, indigenous communities fear expropriation of their lands and displacement and have concerns about the current framework for REDD. The Permanent Forum on Indigenous Issues stated that new proposals for reduced emissions from deforestation "must address the need for global and national policy reforms … respecting rights to land, territories and resources, and the rights of self-determination and the free, prior and informed consent of the indigenous peoples concerned".[102]

III. RELEVANT HUMAN RIGHTS OBLIGATIONS

69. There exists broad agreement that climate change has generally negative effects on the realization of human rights. This section seeks to outline how the empirical reality and projections of the adverse effects of climate change on the effective enjoyment of human rights relate to obligations assumed by States under the international human rights treaties.

70. While climate change has obvious implications for the enjoyment of human rights, it is less obvious whether, and to what extent, such effects can be qualified as human rights violations in a strict legal sense.[103] Qualifying the effects of climate change as human rights violations poses a series of difficulties. First, it is virtually impossible to disentangle the complex causal relationships linking historical greenhouse gas emissions of a particular country with a specific climate change-related effect, let alone with the range of direct and indirect implications for human rights. Second, global warming is often one of several contributing factors to climate change-related effects, such as hurricanes, environmental degradation and water stress. Accordingly, it is often impossible to establish the extent to which a concrete climate change-related event with implications for human rights is attributable to global warming. Third, adverse effects of global warming are often projections about future impacts, whereas human rights violations are normally established after the harm has occurred.[104]

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[102] E/C.19/2008/13, para. 45.

[103] In recent years, several lawsuits related to greenhouse gas emissions and their contribution to climate change have been filed at national level against State authorities and private actors. However, the Inuit petition to the Inter-American Commission on Human Rights (see footnote 81 above) remains the only case to have invoked human rights law. For an overview of recent climate change-related lawsuits, see e.g. International Council for Human Rights Policy, *Climate Change and Human Rights: A Rough Guide*, 2008.

[104] The Human Rights Committee has clarified that for a person to claim to be a victim of a violation of a right, "he or she must show either that an act or an omission of a State party has already adversely affected his or her enjoyment of such a right, or that such an effect is imminent …" *Aalbersberg v. The Netherlands* (No. 1440/2005). In several cases concerning environmental harms, the Committee has found that the author(s) did not meet these criteria for a victim of a human rights violation.

71. Irrespective of whether or not climate change effects can be construed as human rights violations, human rights obligations provide important protection to the individuals whose rights are affected by climate change or by measures taken to respond to climate change.

A. National level obligations

72. Under international human rights law, individuals rely first and foremost on their own States for the protection of their human rights. In the face of climate change, however, it is doubtful, for the reasons mentioned above, that an individual would be able to hold a particular State responsible for harm caused by climate change. Human rights law provides more effective protection with regard to measures taken by States to address climate change and their impact on human rights.

73. For example, if individuals have to move away from a high-risk zone, the State must ensure adequate safeguards and take measures to avoid forced evictions. Equally, several claims about environmental harm have been considered by national, regional and international judicial and quasi-judicial bodies, including the Human Rights Committee, regarding the impact on human rights, such as the right to life, to heath, to privacy and family life and to information.[105] Similar cases in which an environmental harm is linked to climate change could also be considered by courts and quasi-judicial human rights treaty bodies. In such cases, it would appear that the matter of the case would rest on whether the State through its acts or omissions had failed to protect an individual against a harm affecting the enjoyment of human rights.

74. In some cases, States may have an obligation to protect individuals against foreseeable threats to human rights related to climate change, such as an increased risk of flooding in certain areas. In that regard, the jurisprudence of the European Court of Human Rights gives some indication of how a failure to take measures against foreseeable risks could possibly amount to a violation of human rights. The Court found a violation of the right to life in a case where State authorities had failed to implement land-planning and emergency relief policies while they were aware of an increasing risk of a large-scale mudslide. The Court also noted that the population had not been adequately informed about the risk.[106]

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[105] For a review of relevant jurisprudence, see Asia Pacific Forum of National Human Rights Institutions, *Human Rights and the Environment,* 12th Annual Meeting, Sydney, 2007; D. Shelton, "Human rights and the environment: jurisprudence of human rights bodies", background paper No. 2, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, January 2002, available at http://www.unhchr.ch/environment/bp2.html.

[106] *Budayeva and Others v. Russia*, European Court of Human Rights (ECHR), No. 15339/02.

1. Progressive realization of economic, social and cultural rights

75. As discussed in chapter II, climate change will have implications for a number of economic, social and cultural rights. As specified in the relevant treaty provisions, States are obliged to take measures towards the full realization of economic, social and cultural rights to the maximum extent of their available resources.[107] As climate change will place an additional burden on the resources available to States, economic and social rights are likely to suffer.

76. While international human rights treaties recognize that some aspects of economic, social and cultural rights may only be realized progressively over time, they also impose obligations which require immediate implementation. First, States parties must take deliberate, concrete and targeted measures, making the most efficient use of available resources, to move as expeditiously and effectively as possible towards the full realization of rights.[108] Second, irrespective of resource limitations, States must guarantee non-discrimination in access to economic, social and cultural rights. Third, States have a core obligation to ensure, at the very least, minimum essential levels of each right enshrined in the Covenant. For example, a State party in which "any significant number of individuals is deprived of essential foodstuffs, of essential primary health care, of basic shelter and housing, or of the most basic forms of education" would be failing to meet its minimum core obligations and, prima facie, be in violation of the Covenant.[109]

77. In sum, irrespective of the additional strain climate change-related events may place on available resources, States remain under an obligation to ensure the widest possible enjoyment of economic, social and cultural rights under any given circumstances. Importantly, States must, as a matter of priority, seek to satisfy core obligations and protect groups in society who are in a particularly vulnerable situation.[110]

2. Access to information and participation in decision-making

78. Awareness-raising and access to information are critical to efforts to address climate change. For example, it is critically important that early-warning information be provided in a manner accessible to all sectors of society. Under the United Nations Framework Convention on Climate Change, the parties commit to promote and facilitate public access to information on climate change.[111] Under international human rights law, access to information is implied in the

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[107] See CESCR general comment No. 3 (1990) on the nature of States parties' obligations (art. 2, para. 1, of the Covenant). For a discussion of the concept of progressive realization under the international human rights treaties, see report of the United Nations High Commissioner for Human Rights to the Economic and Social Council (E/2007/82).

[108] See e.g. CESCR general comments No. 3, paras. 2 and 9, and No. 14 (2000) on the right to the highest attainable standard of health (art. 12), para. 31.

[109] CESCR general comment No. 3, para. 10.

[110] See Statement by CESCR (E/C.12/2007/1, paras. 4 and 6).

[111] UNFCCC, art. 6.

rights to freedom of opinion and expression.[112] Jurisprudence of regional human rights courts has also underlined the importance of access to information in relation to environmental risks.[113]

79. Participation in decision-making is of key importance in efforts to tackle climate change. For example, adequate and meaningful consultation with affected persons should precede decisions to relocate people away from hazardous zones.[114] Under the Convention, States parties shall promote and facilitate "public participation in addressing climate change and its effects and developing adequate responses".[115] The right to participation in decision-making is implied in article 25 of the International Covenant on Civil and Political Rights which guarantees the right to "take part in the conduct of public affairs". Equally, the United Nations Declaration on the Rights of Indigenous Peoples states that States shall consult and cooperate with indigenous peoples "to obtain their free, prior and informed consent" before adopting measures that may affect them.[116] The Convention on the Rights of the Child in article 12 enshrines the right of children to express their views freely in all matters affecting them.

3. Guiding principles for policymaking

80. Human rights standards and principles should inform and strengthen policymaking in the area of climate change, promoting policy coherence and sustainable outcomes. The human rights framework draws attention to the importance of aligning climate change policies and measures with overall human rights objectives, including through assessing possible effects of such policies and measures on human rights.

81. Moreover, looking at climate change vulnerability and adaptive capacity in human rights terms highlights the importance of analysing power relationships, addressing underlying causes of inequality and discrimination, and gives particular attention to marginalized and vulnerable members of society. The human rights framework seeks to empower individuals and underlines the critical importance of effective participation of individuals and communities in decision-making processes affecting their lives.

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[112] Universal Declaration of Human Rights, art. 19, and ICCPR, art. 19.

[113] See e.g. *Guerra and Others v. Italy*, ECHR 14967/89; Inter-American Court of Human Rights, Case of *Claude Reyes et al. v. Chile*. Merits, Reparations and Costs, Series C, No. 151.

[114] See A/63/275, para. 38.

[115] Article 6. The amended New Delhi work programme on article 6 elaborates on and reinforces this point (FCCC/CP/2007/6/Add.1, decision 9/CP.13, annex, para. 17 (k)).

[116] United Nations Declaration on the Rights of Indigenous Peoples, art. 19.

82. Equally, human rights standards underline the need to prioritize access of all persons to at least basic levels of economic, social and cultural rights, such as access to basic medical care, essential drugs and to compulsory primary education free of charge.

83. The human rights framework also stresses the importance of accountability mechanisms in the implementation of measures and policies in the area of climate change and requires access to administrative and judicial remedies in cases of human rights violations.[117]

B. Obligations of international cooperation

84. Climate change can only be effectively addressed through cooperation of all members of the international community.[118] Moreover, international cooperation is important because the effects and risk of climate change are significantly higher in low-income countries.

85. International cooperation to promote and protect human rights lies at the heart of the Charter of the United Nations.[119] The importance of such cooperation is explicitly stated in provisions of the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of the Child, the Convention on the Rights of People with Disabilities and in the Declaration on the Right to Development.[120] According to CESCR and the Committee on the Rights of the Child, the obligation to take steps to the maximum of available resources to implement economic, social and cultural rights includes an obligation of States, where necessary, to seek international cooperation.[121] States have also committed themselves not only to

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[117] Useful guidance on how human rights standards and principles can be incorporated into policy measures are found in various guidance tools, including *Frequently Asked Questions on a Human Rights-Based Approach to Development Cooperation*; OHCHR (2006), *Principles and Guidelines for a Human Rights Approach to Poverty Reduction Strategies*, available at http://www.ohchr.org/EN/PublicationsResources/Pages/SpecialIssues.aspx.

[118] In the words of the special procedures mandate holders of the Human Rights Council, in a joint statement on International Human Rights Day, 10 December 2008: “Today the interests of States, and the impacts of actions by States, are ever more interconnected. New challenges include ensuring global access to food, and those presented by climate change and financial crisis have potentially massive human rights and development implications. If we are to confront them effectively we must do so collectively.”

[119] See articles 1, paragraph 3, 55 and 56.

[120] ICESCR, arts. 2, para. 1, 11, para. 2, 15, para. 4, 22 and 23; Convention on the Rights of the Child, arts. 4 and 24, para. 4; CRPD, art. 32; Declaration on the Right to Development, arts. 3, 4 and 6.

[121] CESCR, general comment No. 3, para. 11; Committee on the Rights of the Child, general comment No. 5 (2003) on general measures of implementation of the Convention on the Rights of the Child (arts. 4, 42 and 44, para. 6), para. 7.

implement the treaties within their jurisdiction, but also to contribute, through international cooperation, to global implementation.[122] Developed States have a particular responsibility and interest to assist the poorer developing States.[123]

86. The Committee on Economic, Social and Cultural Rights identifies four types of extraterritorial obligations to promote and protect economic, social and cultural rights. Accordingly, States have legal obligations to:

- Refrain from interfering with the enjoyment of human rights in other countries
- Take measures to prevent third parties (e.g. private companies) over which they hold influence from interfering with the enjoyment of human rights in other countries
- Take steps through international assistance and cooperation, depending on the availability of resources, to facilitate fulfilment of human rights in other countries, including disaster relief, emergency assistance, and assistance to refugees and displaced persons
- Ensure that human rights are given due attention in international agreements and that such agreements do not adversely impact upon human rights[124]

87. Human rights standards and principles are consistent with and further emphasize "the principle of common but differentiated responsibilities" contained in the United Nations Framework Convention on Climate Change. According to this principle, developed country Parties (annex I) commit to assisting developing country Parties (non-annex I) in meeting the costs of adaptation to the adverse effects of climate change and to take full account of the specific needs of least developed countries in funding and transfer of technology.[125] The human rights framework complements the Convention by underlining that "the human person is the central subject of development",[126] and that international cooperation is not merely a matter of the obligations of a State towards other States, but also of the obligations towards individuals.

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[122] See e.g. CRC, general comment No. 5, para. 7.

[123] See CESCR general comment No. 3, para. 14.

[124] See e.g. CESCR general comments No. 12 (1999) on the right to adequate food (art. 11); No. 13 (1999) on the right to education (art. 13); No. 14 (2000) on the right to the highest attainable standard of health (art. 12); and No. 15 (2002) on the right to water (arts. 11 and 12 of the Covenant).

[125] UNFCCC, art. 4, paras. 4 and 9.

[126] Declaration on the Right to Development, art. 2, para. 1.

88. Human rights standards and principles, underpinned by universally recognized moral values, can usefully inform debates on equity and fair distribution of mitigation and adaptation burdens. Above all, human rights principles and standards focus attention on how a given distribution of burden affects the enjoyment of human rights.

Intergenerational equity and the precautionary principle

89. The United Nations Framework Convention on Climate Change stresses principles of particular importance in the context of climate change which are less well developed in human rights law. Notably, these include the notion of "intergenerational equity and justice" and "the precautionary principle", both of which are well-established in international environmental law.

90. Human rights treaty bodies have alluded to the notion of intergenerational equity.[127] However, the human rights principles of equality and non-discrimination generally focus on situations in the present, even if it is understood that the value of these core human rights principles would not diminish over time and be equally applicable to future generations.[128]

91. The precautionary principle reflected in article 3 of the United Nations Framework Convention on Climate Change, states that lack of full scientific certainty should not be used as a reason for postponing precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. As discussed above, human rights litigation is not well-suited to promote precautionary measures based on risk assessments, unless such risks pose an imminent threat to the human rights of specific individuals. Yet, by drawing attention to the broader human rights implications of climate change risks, the human rights perspective, in line with the precautionary principle, emphasizes the need to avoid unnecessary delay in taking action to contain the threat of global warming.

IV. CONCLUSIONS

92. **Climate change-related impacts, as set out in the assessment reports of the Intergovernmental Panel on Climate Change, have a range of implications for the effective enjoyment of human rights. The effects on human rights can be of a direct nature, such as the threat extreme weather events may pose to the right to life, but will often have an indirect and gradual effect on human rights, such as increasing stress on health systems and vulnerabilities related to climate change-induced migration.**

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[127] See CESCR general comments No. 12, para. 7, and No. 15, para. 11. Equally the concern for how current needs and rights affect the future health and development of the child is central to the Convention on the Rights of the Child (see e.g. Committee on the Rights of the Child general comment No. 4 (2003) on adolescent health and development in the context of the Convention on the Rights of the Child, para. 13).

[128] For a discussion on the relationship between intergenerational equity and human rights in the context of climate change, see S. Caney, "Human rights, climate change, and discounting", *Environmental Politics*, vol. 17, No. 4, August 2008, p. 536.

93. **The effects of climate change are already being felt by individuals and communities around the world. Particularly vulnerable are those living on the "front line" of climate change, in places where even small climatic changes can have catastrophic consequences for lives and livelihoods. Vulnerability due to geography is often compounded by a low capacity to adapt, rendering many of the poorest countries and communities particularly vulnerable to the effects of climate change.**

94. **Within countries, existing vulnerabilities are exacerbated by the effects of climate change. Groups such as children, women, the elderly and persons with disabilities are often particularly vulnerable to the adverse effects of climate change on the enjoyment of their human rights. The application of a human rights approach in preventing and responding to the effects of climate change serves to empower individuals and groups, who should be perceived as active agents of change and not as passive victims.**

95. **Often the effects of climate change on human rights are determined by non-climatic factors, including discrimination and unequal power relationships. This underlines the importance of addressing human rights threats posed by climate change through adequate policies and measures which are coherent with overall human rights objectives. Human rights standards and principles should inform and strengthen policy measures in the area of climate change.**

96. **The physical impacts of global warming cannot easily be classified as human rights violations, not least because climate change-related harm often cannot clearly be attributed to acts or omissions of specific States. Yet, addressing that harm remains a critical human rights concern and obligation under international law. Hence, legal protection remains relevant as a safeguard against climate change-related risks and infringements of human rights resulting from policies and measures taken at the national level to address climate change.**

97. **There is a need for more detailed studies and data collection at country level in order to assess the human rights impact of climate change-related phenomena and of policies and measures adopted to address climate change. In this regard, States could usefully provide information on measures to assess and address vulnerabilities and impacts related to climate change as they affect individuals and groups, in reporting to the United Nations human rights treaty monitoring bodies and the United Nations Framework Convention on Climate Change.**

98. **Further study is also needed of protection mechanisms for persons who may be considered to have been displaced within or across national borders due to climate change-related events and for those populations which may be permanently displaced as a consequence of inundation of low-lying areas and island States.**

99. **Global warming can only be dealt with through cooperation by all members of the international community. Equally, international assistance is required to ensure sustainable development pathways in developing countries and enable them to adapt to now unavoidable climate change. International human rights law complements the United Nations Framework Convention on Climate Change by underlining that international cooperation is not only expedient but also a human rights obligation and that its central objective is the realization of human rights.**

Annex

SELECTED HUMAN RIGHTS STANDARDS AND GUIDELINES RELEVANT TO EFFECTS OF CLIMATE CHANGE[a]

Effects	Examples of rights affected	Human rights standards and climate change
Extreme weather events	Right to life: ICCPR art. 5; CRC art. 6; Universal Declaration of Human Rights, art. 3.	Human Rights Committee, general comment No. 6 (1982) on article 6 (Right to life). Inter-Agency Standing Committee, *Protecting Persons Affected by Natural Disasters - IASC Operational Guidelines on Human Rights and Natural Disasters.* Guiding Principles on Internal Displacement (E/CN.4/1998/53/Add.2, annex).
Increased food insecurity and risk of hunger	Right to adequate food, right to be free from hunger: ICESCR art. 11; CRC art. 24 (c); CRPD arts. 25 (f), 28, para. 1; CEDAW art. 14, para. 2 (h); ICERD art. 5 (e); Universal Declaration of Human Rights, art. 25.	CESCR, general comment No. 12 (1999) on the right to adequate food (art. 11). FAO, *Voluntary guidelines to support the progressive realization of the right to adequate food.*
Increased water stress	Right to safe drinking water: ICESCR arts. 11 and 12; CEDAW art. 14, para. 2 (h); CRPD art. 28, para. 2 (a); CRC art. 24, para. 2 (c).	CESCR, general comment No. 15 (2002) on the right to water (arts. 11 and 12 of the Covenant). Report of the United Nations High Commissioner for Human Rights on the scope and content of human rights obligations related to equitable access to safe drinking water and sanitation under international human rights instruments (A/HRC/6/3). Realization of the right to drinking water and sanitation (E/CN.4/Sub.2/2005/25).

[a] General comments/recommendations of the treaty bodies are available in document HRI/GEN/1/Rev.9 (vols. I and II).

Effects	Examples of rights affected	Human rights standards and climate change
Stress on health status	Right to the highest attainable standard of health: ICESCR arts. 7 (b), 10 and 12; CEDAW arts. 12 and 14, para. 2 (b); Universal Declaration of Human Rights, art. 25; ICERD art. 5 (e) (iv); CRC art. 24; CRPD arts. 16, para. 4, 22, para. 2, and 25; ICRMW arts. 43, para. 1 (e), 45, para. 1 (c) and 70.	CESCR, general comment No. 14 (2000) on the right to the highest attainable standard of health (art. 12). Committee on the Rights of the Child, general comment No. 4 (2003) on adolescent health and development in the context of the Convention on the Rights of the Child. Committee on the Elimination of Discrimination against Women, general recommendation No. 24 (1999) on article 12 of the Convention (women and health). Human Rights Committee, general comment No. 6.
Sea-level rise and flooding	Right to adequate housing: ICESCR art. 11; ICERD art. 5 (e) (iii); CEDAW art. 14, para. 2; CRC art. 27, para. 3; ICRMW art. 43, para. 1 (d); CRPD arts. 9, para. 1 (a), 28, paras. 1 and 2 (d); Universal Declaration of Human Rights, art. 25.	CESCR, general comment No. 4 (1991) on the right to adequate housing (art. 11, para. 1, of the Covenant). CESCR, general comment No. 7 (1997) on the right to adequate housing (art. 11, para. 1, of the Covenant): Forced evictions. OHCHR, OCHA, UN-HABITAT, UNHCR, FAO, NRC, *Handbook on Housing and Property Restitution for Refugees and Displaced Persons - Implementing the "Pinheiro Principles"*.

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Analytical study on the relationship between climate change and the human right of everyone to the enjoyment of the highest attainable standard of physical and mental health

Report of the Office of the United Nations High Commissioner for Human Rights

Summary

The present analytical study on the relationship between climate change and the human right of everyone to the enjoyment of the highest attainable standard of physical and mental health is submitted pursuant to Human Rights Council resolution 29/15. In the study, the Office of the United Nations High Commissioner for Human Rights examines the impacts of climate change on human rights, particularly the right to health; related human rights obligations and responsibilities of States and other actors; and the elements and benefits of a rights-based approach to addressing climate change. It concludes with several recommendations.

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Contents

I. Introduction

1. The present study is submitted pursuant to Human Rights Council resolution 29/15, in which the Council requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to conduct a detailed analytical study, in consultation with relevant stakeholders, on the relationship between climate change and the human right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

2. On 21 August 2015, OHCHR circulated a note verbale and questionnaire to Member States requesting inputs for the study. Communications were also sent to other stakeholders, including civil society organizations, international organizations and national human rights institutions. These inputs were summarized in a conference room paper[1] prepared by OHCHR in advance of the Human Rights Council panel discussion on climate change and the right to health which was held on 3 March 2016.[2] The panel discussion, the above-mentioned written submissions and independent research have informed the study.

3. In the present study, OHCHR examines the impacts of climate change on human rights, particularly the right to health, related human rights obligations and responsibilities of States and other actors, and the elements and benefits of a rights-based approach to addressing the impacts of climate change on human health. It concludes with concrete recommendations for fulfilling human rights obligations, particularly those relating to health, in the context of climate change.

II. Impacts of climate change on enjoyment of the right to health

4. All human rights are universal, inalienable, indivisible, interdependent and interrelated. In the context of the right to health, these characteristics are eminently clear. Enjoyment of the right to health is contingent upon the availability of, inter alia, good quality health services, safe working conditions, adequate housing, food, water and sanitation, a healthy environment, and education, all on the basis of non-discrimination, as well as broad stakeholder participation in health policy formulation and implementation.[3] Climate change is real, human-made greenhouse gas emissions are its primary cause, and it contributes, among other things, to the increasing frequency of extreme weather events and natural disasters, rising sea levels, floods, heatwaves, drought and the spread of tropical and vector-borne diseases.[4] These extremes alter ecosystems, disrupt food production and water supply, damage infrastructure and settlements and increase morbidity and mortality. They are also responsible for the displacement of affected communities, among whom an important consequence is an increased incidence of poor mental and physical health. Thus, climate change directly and indirectly threatens the full and effective enjoyment of a range of human rights, including the rights to life, water and sanitation, food, health, housing, self-determination, culture and development.

[1] The questionnaire, the original inputs received and their summary are available from www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/StudyImpact.aspx. In the present study, references to stakeholder inputs will be to "(Stakeholder name) input".

[2] The summary report of the panel is contained in A/HRC/32/24. Full statements are available from www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/StudyImpact.aspx.

[3] In paragraph 3 of its general comment 14 (2000) on the right to the highest attainable standard of health, the Committee on Economic, Social and Cultural Rights states that the right to health is closely related to and dependent upon the realization of other human rights.

[4] See Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*.

5. Many of the negative impacts of climate change, such as loss of livelihood, reductions in crop yields, destruction of homes, increased food prices and food insecurity, are disproportionately borne by persons and communities already in disadvantageous situations owing to geography, poverty, gender, age, disability, or cultural or ethnic background, among others, who have historically contributed the least to greenhouse gas emissions. In the Fifth Assessment Report of the Intergovernmental Panel on Climate Change it is stated that people who are socially, economically, culturally, politically, institutionally or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses.[5] For example, the biofuel agro-industry, hydroelectric power and forest conservation efforts can contribute to food insecurity and displacement. Persons, communities and even entire States that occupy low-lying coastal lands, tundra and Arctic ice, arid lands and other delicate ecosystems and territories at risk and rely upon such land for housing and subsistence, face substantial risks of displacement.

6. The World Health Organization (WHO) maintains that climate change is affecting health now, and will do so in the future. WHO describes the main health risks posed by climate change as more intense heatwaves and fires; increased prevalence of food-, water- and vector-borne diseases; increased likelihood of undernutrition; and lost work capacity in vulnerable populations. Additional potential risks include: breakdown in food systems; violent conflict associated with resource scarcity and population movement; and exacerbation of poverty. Climate change is expected to widen existing health inequalities, both between and within populations, and "the overall health effects of a changing climate are likely to be overwhelmingly negative".[6]

7. The Intergovernmental Panel on Climate Change confirms that the health of human populations is sensitive to shifts in weather patterns and other aspects of climate change. Direct effects on health occur "due to changes in temperature and precipitation and occurrence of heat waves, floods, droughts, and fires", while indirectly, "health may be damaged by ecological disruptions brought on by climate change (crop failures, shifting patterns of disease vectors), or social responses to climate change (such as displacement of populations following prolonged drought)".[7]

8. At its most extreme, climate change kills. A study commissioned by the Climate Vulnerable Forum linked 400,000 deaths worldwide to climate change each year.[8] WHO has estimated that between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year from malnutrition, malaria, diarrhoea and heat stress alone.[9] Taken by themselves, premature deaths from climate change would be ample cause for urgent action. Climate change, however, also endangers the underlying determinants of health at every level, acting as a threat multiplier. According to the *Lancet* Commission on Health and Climate Change, climate change threatens to undermine the last

[5] Intergovernmental Panel on Climate Change, *Climate Change 2014—Impacts, Adaptation, and Vulnerability: Summary for Policymakers*, p. 6.

[6] WHO input (see footnote 1 above); WHO, "Climate change and health", Fact sheet No. 266, available from www.who.int/mediacentre/factsheets/fs266/en/.

[7] K.R. Smith and others, "Human health: impacts, adaptation, and co-benefits", *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, p. 713.

[8] See DARA, *Climate Vulnerability Monitor: A Guide to the Cold Calculus of a Hot Planet*, 2nd ed. (2012).

[9] See WHO, *Quantitative Risk Assessment of the Effects of Climate Change on Selected Causes of Death, 2030s and 2050s* (2014).

half century of gains in development and global health.[10] One recent study found that "unmitigated warming is expected to reshape the global economy by reducing average global incomes roughly 23 per cent by 2100 and widening global income inequality, relative to scenarios without climate change".[11]

9. In the Human Rights Council panel discussion and in their written submissions, stakeholders overwhelmingly agreed that climate change posed a grave threat to human health, including the social and environmental determinants of health such as clean air, safe drinking water, sufficient food and secure shelter (see A/HRC/32/24). This is confirmed by expert analysis. For example, the World Bank has estimated that climate change may result in 1 billion to 2 billion people lacking an adequate supply of water.[12]

10. Negative impacts caused by climate change are global, contemporaneous and expected to increase exponentially according to the degree of climate change that ultimately takes place. Climate change, therefore, requires a global, rights-based response. The Human Rights Council, its special procedures mechanisms and OHCHR have consistently brought attention to the links between human rights and climate change through a series of resolutions, reports and activities on the subject, and by advocating a human rights-based approach.[13] A rights-based approach to climate change, as called for in various Council resolutions,[14] has the potential to inform and strengthen international, regional and national policy, promoting policy coherence, human well-being and sustainable development.

11. The importance of a rights-based approach and the right to health is explicitly recognized in the Paris Agreement, which calls on States to respect, promote and consider human rights, including the right to health, in their respective climate actions. Improved understanding of the key impacts of climate change on the health of all persons, particularly those in vulnerable situations, should inform a rights-based approach. Some of these impacts are detailed below.

A. Key impacts of climate change on health

1. Heat-related health impacts

12. According to WHO, projected increases in average seasonal temperatures and the frequency and intensity of heatwaves will contribute to increases in heat-related deaths among people aged over 65 years. Compared to a future without climate change, this is projected to result in nearly 38,000 additional deaths per year as of 2030 and nearly 100,000 additional deaths per year as of 2050. The largest impacts will be felt in South-East Asia.[15]

13. Heatwaves also contribute to respiratory and cardiovascular disease, and pose a health risk for people working outdoors or under ineffectively climate-controlled conditions. Occupational health risks include clinical heatstroke and death. Increasing temperatures also have implications for labour productivity and poverty reduction,

[10] See *Lancet* Commission on Health and Climate Change, "Health and climate change: policy responses to protect public health" (2015).

[11] M. Burke, S.M. Hsiang and E. Miguel, "Global non-linear effect of temperature on economic production", *Nature*, vol. 527, pp. 235-239 (12 November 2015).

[12] *World Development Report 2010: Development and Climate Change*, p. 5.

[13] See www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimateChangeIndex.aspx.

[14] See resolutions 7/23, 10/4, 18/22, 26/27 and 29/15.

[15] WHO, *Quantitative Risk Assessment*.

increasing the vulnerability of poor populations particularly in developing countries, many of which also have a weak health infrastructure.[16]

2. Impacts of air pollution

14. Air pollution is not caused by climate change, but climate change can exacerbate some forms of air pollution, and the sources of greenhouse gas emissions and air pollutants are often the same. Promoting access to clean energy would simultaneously reduce levels of greenhouse gas emissions and other harmful pollutants. Given that household air pollution and ambient air pollution are estimated to cause nearly 4.3 million deaths and 3.7 million deaths per year, respectively,[17] this would have substantial health benefits. Air pollutants have also been linked to health impacts, such as cardiovascular and respiratory disease and autism,[18] which can affect quality of life and labour productivity.

3. Extreme weather events and natural disasters

15. Direct impacts on health are caused by crises such as hurricanes, heatwaves, flooding, landslides, drought and wildfires, among others. Climate change contributes to the increasing frequency and intensity of these events and their associated health impacts, which include injury, disability, death and infectious disease transmission. For example, climate change is expected to enhance coastal flooding hazards through both a rise in sea levels and the increasing intensity and frequency of extreme weather events. In addition to mortality, flooding can cause injuries, infections, mental health problems, loss of income and crops, and damage to water and sanitation facilities and other infrastructure with resultant health impacts such as increased transmission of vector-borne diseases.[19]

16. Between 2005 and 2015, more than 1.5 billion people were affected by disasters, with women, children and people in vulnerable situations being disproportionately affected.[20] The Internal Displacement Monitoring Centre has estimated that over the past seven years 22.5 million people have been displaced each year by climate or weather-related disasters.[21]

17. The impacts of these crises are disproportionately felt by persons in vulnerable situations. For example, when there are gendered inequalities in access to economic, social and cultural rights, women suffer from higher rates of mortality as a consequence of natural disasters.[22] Further, a direct correlation has been observed between women's status in society and their likelihood of receiving adequate health care in times of disaster and environmental stress.[23]

4. Expanding disease vectors

18. Climate change helps expand disease vectors in a number of ways. Natural disasters destroy water and sanitation infrastructure, leading to outbreaks of water and insect-borne

[16] United Nations Development Programme input.
[17] See WHO, "Climate change and health".
[18] See M.F. Cortez, "Air pollution exposure in pregnancy linked to autism in study" (Bloomberg, 18 December 2014).
[19] WHO, *Quantitative Risk Assessment*.
[20] United Nations Development Programme input.
[21] *Global Estimates 2015: People Displaced by Disasters*, p. 8 (July 2015).
[22] E. Neumayer and T. Plümper, "The gendered nature of natural disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981-2002", *Annals of the Association of American Geographers*, vol. 97 (3), pp. 551-566 (2007).
[23] See WHO, "Gender inequities in environmental health", document EUR/5067874/151 (2008).

diseases. Cholera, for example, thrives in a warming climate and insects and other carriers of disease are very sensitive to heat, humidity and rainfall. Climate change has greatly expanded the range of dengue fever and could do the same for malaria. More than half of the world's population currently lives in an area where *Aedes aegypti* mosquitoes, the principal vector for zika, dengue and chikungunya, are present. Warming temperatures threaten to expand this geographical range even further. In addition to the aforementioned diseases, panellists and survey respondents linked climate change to outbreaks of leptospirosis, diarrhoea, viral infections, meningitis, varicella, viral hepatitis, leishmaniasis and pertussis.[24]

19. Changes in the climate have multiple impacts on transmission of diseases, including lengthening their transmission season and expanding their geographic range. WHO has projected that these impacts will result in 48,000 additional deaths from diarrhoeal disease for children aged under 15 years and 60,000 additional deaths from malaria by the year 2030. These increases in mortality would have a disproportionate impact on persons living in Africa and South-East Asia.[25]

5. Nutrition

20. Climate change affects nutrition through changes in crop yields, loss of livelihood, increases in poverty, and reduced access to food, water and sanitation, among others. Elevated carbon dioxide levels cause climate change and directly decrease the protein, mineral and vitamin content of many staple food crops.[26] The World Bank recently estimated that a 2°C increase in average global temperature would put between 100 million and 400 million more people at risk of hunger and could result in over 3 million additional deaths from malnutrition each year.[27] By 2050, climate change is expected to result in an additional 24 million undernourished children.[28] WHO estimates that climate change will lead to nearly 95,000 additional deaths per year due to undernutrition in children aged 5 years or less by 2030.[29] Beyond starvation, undernutrition contributes to higher incidences of morbidity and mortality from diseases such as diarrhoea, pneumonia, malaria and measles. These impacts will be felt disproportionately in South Asia and sub-Saharan Africa. Climate change is projected to increase severe child stunting by 23 per cent in central sub-Saharan Africa and by 62 per cent in South Asia by 2050.[30]

6. Impacts on mental health

21. The consequences of climate change can have a profound impact on mental health through both its direct impact and its impact on social support systems and cultural traditions. People who experience the loss of homes or loved ones, or are exposed to life-threatening situations, face higher risks of developing stress and anxiety-related conditions,

[24] Various inputs, including WHO; and G. Mercer, "The link between Zika and climate change", *The Atlantic* (24 February 2016).

[25] WHO, *Quantitative Risk Assessment*.

[26] L. Ziska and others, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, U.S. Global Change Research Program (Washington, D.C., 2016), pp. 189-216.

[27] World Bank, *World Development Report 2010*, pp. 4-5.

[28] See G.C. Nelson and others, *Climate change: Impact on Agriculture and Costs of Adaptation*, International Food Policy Research Institute (Washington, D.C., 2009).

[29] WHO, *Quantitative Risk Assessment*.

[30] S.J. Lloyd, R. Sari Kovats and Zaid Chalabi, "Climate change, crop yields, and undernutrition: development of a model to quantify the impact of climate scenarios on child undernutrition", *Environmental Health Perspectives*, vol. 119, pp. 1817-1823 (2011).

including post-traumatic stress disorder and depression.[31] Climate impacts on mental health stem from the immediate physical effects of climate change and the more gradual effects on the environment, human systems and infrastructure.[32] For example, a study on the mental-health effects of climate change found that prolonged drought can lead to increasing farmer suicides, along with impaired mental health and stress.[33]

7. Other health impacts of climate change

22. As a threat multiplier, climate change has more impacts on health than can be addressed in the present report. It has, for example, been linked to displacement, forced migration, insecurity and violent conflict, all of which pose substantial health risks.[34] Declining biodiversity as a result of climate change also has an impact on the development of new medicines and access to medicines. Ecosystem damage has far-ranging implications for health, infrastructure, ecosystem services and traditional livelihoods. Climate change and associated natural disasters further increase burdens on Governments struggling to allocate limited resources to fulfil human rights obligations.

B. Disproportionate impacts on persons and groups in vulnerable situations

23. Negative impacts of climate change are disproportionately felt by the poor, women, children, migrants, persons with disabilities, minorities, indigenous peoples and others in vulnerable situations, particularly those living in geographically vulnerable developing countries. Populations living in small island developing States, on coasts, in high mountains, in deserts, at the poles and in other delicate ecosystems are most vulnerable to climate change.[35] For example, persons living in small island developing States currently suffer from climate-sensitive health problems and vulnerability to extreme weather events, which can have short and long-term health effects, including drowning, injuries, increased disease transmission and deterioration of water quantity and quality.[36] In extreme cases, rising sea levels threaten the very existence of some atoll nations the residents of which face imminent displacement and associated physical and mental health impacts.

24. The *Lancet* Commission on Health and Climate Change affirmed that certain population groups are particularly vulnerable to the health effects of climate change due, inter alia. to existing socioeconomic inequalities, cultural norms and intrinsic psychological factors.[37] The World Bank has emphasized that poor people are disproportionately affected by climate-related shocks and that climate change could result in an additional 100 million

[31] Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of health, statement made during the panel discussion on climate change and the right to health on 3 March 2016.

[32] See S. Clayton, C. Manning and C. Hodge, *Beyond Storms & Droughts: The Psychological Impacts of Climate Change* (Washington, D.C., American Psychological Association and ecoAmerica, 2014).

[33] S.K. Padhy and others, "Mental health effects of climate change", *Indian Journal of Occupational and Environmental Medicine*, vol. 19 (1), pp. 3-7 (2014).

[34] See statement by the Special Rapporteur on the right to health during the panel discussion; and S.M. Hsiang, M. Burke and E. Miguel, "Quantifying the influence of climate on human conflict", *Science*, vol. 341, issue 6151 (13 September 2013).

[35] See WHO, "Climate change and health".

[36] Smith and others, "Human health".

[37] *Lancet* Commission, "Health and climate change".

people living in extreme poverty by 2030.[38] Climate change increases the incidence and range of diseases like malaria and diarrhoea that disproportionately affect the poor. The Intergovernmental Panel on Climate Change has also highlighted the fact that health losses due to climate change-induced undernutrition occur mainly in areas that are already food insecure.[39] These types of impact increase health expenditures and ill-health among those who can least afford it, contributing further to the vicious cycle of poverty.

1. Health impacts and gender

25. Gender differences in health risks are likely to be exacerbated by climate change.[40] At the global level, natural disasters kill more women than men, with younger women being more vulnerable. Evidence suggests that differences are also present in vulnerability to indirect and long-term effects of climate change. For example, during droughts, the health of women and girls suffers disproportionately due to reduced water availability for drinking, cooking and hygiene, and food insecurity. The poorest households in the world typically rely on the most polluting energy sources for household activities such as cooking, which are often performed by women and girls. Use of such energy sources is associated with more than 4.3 million deaths each year.[41]

2. Health impacts on children

26. Many of the countries that are highly vulnerable to climate change also have higher proportions of children in their overall population. According to the United Nations Children Fund (UNICEF), the right to health of children is particularly affected by climate change. Children are especially vulnerable to changes in air and water quality, temperature, humidity, and vector-, water-, and food-borne infections due to their less developed physiology and immune systems. The majority of the existing global disease burden resulting from climate change occurs in children, and their main causes of death (diarrhoea, malaria, malnutrition) are likely to increase owing to the impact of climate change. Children are also more likely than adults to die because of natural hazards or succumb to malnutrition, injuries or disease in their aftermath.[42] The risk of extreme weather events and other climatic impacts can affect children's futures in a number of other significant ways. There has, for example, been a link to an increase in child marriage as a component of family survival strategies.[43]

27. Climate change has a disproportionate effect on marginalized and excluded individuals and groups, including those whose ways of life are inextricably linked to the environment, such as indigenous children. It exacerbates existing health inequities and threatens the very notion of intergenerational equity because its impacts will be felt most severely by children and future generations who have contributed little or nothing to its making.

[38] See S. Hallegatte and others, *Shock Waves: Managing the Impacts of Climate Change on Poverty*, Climate Change and Development Series (Washington, D.C., World Bank, 2016).

[39] Smith and others, "Human health".

[40] See WHO, *Gender, Climate Change and Health* (2014); and *Mainstreaming Gender in Health Adaptation to Climate Change Programmes: User's Guide* (2012).

[41] See WHO, "Climate change and health".

[42] UNICEF input.

[43] Human Rights Watch input.

3. Health impacts on migrants

28. Environmental factors and climate change are critical drivers of migration. Although migration can be a strategy for adapting to climate change, it also contributes to increased health risks. According to the International Organization for Migration, health risks associated with migration or displacement are caused by reduced access to health-care facilities, goods and services; loss of social networks and assets; and other negative impacts on availability of and access to the underlying determinants of health. In the case of displacement owing to sudden onset disasters, infectious disease can be a major cause of mortality. Population movement due to natural disasters often occurs within vulnerable areas, posing major challenges to public health systems and access to health goods and services. Migrants may also suffer mental health impacts resulting from their displacement and the discrimination to which they may be subject.[44]

4. Health impacts on indigenous peoples

29. Climate change has an impact on the livelihoods and traditions of indigenous peoples, and can have particularly severe repercussions on their mental and physical health. For many indigenous peoples, their health is directly related to their immediate environment, which often serves as their primary source of water, food and medicine.[45] A recent study carried out in Latin America and the Caribbean found that indigenous communities face multiple difficulties in adapting to environmental changes which contribute to food insecurity and poor health. For instance, climatic changes in the Andean and sub-Andean region have resulted in variations in seasonality that affect the food security, social stability, health and psychological well-being of Aymara and Quechua peoples.[46]

30. Similarly, nomadic herders are greatly affected by changes in rainfall that threaten their herds, reduce milk production and cause the premature death of young cattle. Droughts also increase respiratory diseases, diseases related to malnutrition and waterborne diseases such as cholera, particularly affecting women and young children.[47] The Intergovernmental Panel on Climate Change has observed that health inequities rooted in race and ethnicity can increase vulnerability to climate change.[48] This is especially the case for many indigenous peoples who are at a greater risk of economic hardship, discrimination and poor health and often rely on vulnerable ecosystems for subsistence.

III. General human rights obligations and principles that apply in the context of climate change

31. Human rights are universal legal guarantees that protect individuals, groups and peoples against actions and omissions that interfere with their fundamental freedoms and entitlements. Human rights law obliges Governments (principally) and other duty bearers to respect, promote, protect and fulfil all human rights. Human rights are legally protected, and impose obligations in relation to actions and omissions, particularly of States but also of other duty bearers. Human rights obligations, standards and principles have the power to

[44] International Organization for Migration input.

[45] Statement by Hindou Ibrahim during the panel discussion on climate change and the right to health.

[46] See J. Kronik and D. Verner, *Indigenous Peoples and Climate Change in Latin America and the Caribbean* (Washington, D.C., World Bank, 2010).

[47] Statement by Hindou Ibrahim.

[48] Smith and others, “Human health”.

shape policies for climate change mitigation and adaptation and hold countries accountable for implementation of climate commitments.

32. As the preceding analysis indicates, climate change caused by human activity has negative impacts on the full enjoyment of human rights, particularly the right to health. These impacts trigger obligations and responsibilities among all duty bearers.[49] States, for example, must limit anthropogenic emissions of greenhouse gases (for example, mitigate climate change), including through regulatory measures, in order to prevent to the greatest extent possible current and future negative human rights impacts of climate change. When climate mitigation efforts fail to adequately protect rights, States must ensure that appropriate adaptation measures are taken to protect and fulfil the rights of all persons, particularly those most endangered by the negative impacts of climate change.

33. The human rights framework requires that global efforts to mitigate and adapt to climate change be guided by relevant human rights norms and principles, including the rights to participation and information, transparency, accountability, equity and non-discrimination.

34. The Charter of the United Nations, the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, and the Declaration on the Right to Development all make clear that human rights obligations of States require both individual action and international cooperation. Under these core human rights instruments, States acting individually and collectively are obligated to mobilize and allocate the maximum available resources for the progressive realization of economic, social and cultural rights, as well as for the advancement of civil and political rights and the right to development. Failure to adopt reasonable measures to mobilize resources to prevent foreseeable human rights harm caused by climate change breaches this obligation.

35. In the Declaration on the Right to Development, States are called on to establish, through their individual and collective actions, national and international conditions favourable to the realization of all human rights, including through international cooperation to provide developing countries with appropriate means and facilities to foster their comprehensive development. The International Covenant on Economic, Social and Cultural Rights further states that everyone has the right to enjoy the benefits of science and its applications. All States should, therefore, actively support the development and sharing of new climate mitigation and adaptation technologies.

36. The Declaration on the Right to Development also emphasizes that all human beings have a responsibility for development, and they should therefore promote and protect an appropriate political, social and economic order for development. The Guiding Principles on Business and Human Rights affirm that States have an obligation to protect human rights from harm by businesses, while businesses have a responsibility to respect human rights and to do no harm. Accordingly, all actors should be accountable for negative impacts caused by their activities and share responsibility for remedying them.[50] In particular, businesses must be accountable for their climate impacts and participate responsibly in climate mitigation and adaptation actions that fully respect human rights.

37. The human rights principles of equality and non-discrimination require action to address and remedy the disproportionate impacts of climate change on the most

[49] See OHCHR, Key messages on human rights and climate change (2015), available from www.ohchr.org/Documents/Issues/ClimateChange/KeyMessages_on_HR_CC.pdf.

[50] The legal obligations of States and enterprises to address climate change are subject to growing consensus and analysis. See, for example, the Oslo Principles on Global Climate Change Obligations (1 March 2015).

marginalized; to ensure that climate actions benefit persons, groups and peoples in vulnerable situations; and to reduce inequalities. Efforts to address climate change should not exacerbate inequalities within or between States. For example, indigenous peoples' rights should be fully reflected in line with the United Nations Declaration on the Rights of Indigenous Peoples and actions likely to have an impact on their rights should not be taken without their free, prior and informed consent. Care should also be taken to ensure that a gender perspective, including efforts to ensure gender equality, is included in all planning for climate change mitigation and adaptation. The rights of children, older persons, minorities, migrants and others in vulnerable situations must be effectively protected.

38. The disproportionate impact of climate change on persons in vulnerable situations raises concerns of climate justice, fairness, equity and access to remedy. The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and other human rights instruments make it clear that all persons who suffer human rights harm are entitled to access to effective remedies. Those affected by climate change, now and in the future, must have access to meaningful remedies, including judicial and other redress mechanisms. The obligations of States in the context of climate change and other environmental harm extend to all rights holders and to harm that occurs both inside and beyond boundaries. States should be accountable to rights holders for their contributions to climate change, including for failure to adequately regulate the emissions of businesses under their jurisdiction.

39. The Rio Declaration on Environment and Development, the Vienna Declaration and Programme of Action, and the outcome document of the United Nations Conference on Sustainable Development all call for the right to development to be fulfilled so as to meet equitably the developmental and environmental needs of present and future generations. The United Nations Framework Convention on Climate Change calls on States to protect future generations and take action on climate change on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. While climate change affects people everywhere, those who have contributed the least to greenhouse gas emissions (that is, the poor, children and future generations) are often those most affected. Equity in climate action requires that efforts to address climate change benefit people in developing countries, indigenous peoples, future generations and others in vulnerable situations.

40. The United Nations Framework Convention on Climate Change is subject to evolution and continuing negotiations regarding its implementation that take place during its annual Conference of the Parties. In these negotiations and related processes, the human rights principles of transparency, participation and accountability have an important role to play.[51] In order to ensure sustainable development and appropriate mechanisms for climate mitigation and adaptation, climate negotiations should be participatory and transparent. A rights-based framework should shape both the substantive commitments of Parties and the processes by which they are agreed and carried out.

41. The International Covenant on Civil and Political Rights and other human rights instruments, such as the Declaration on the Right to Development, guarantee all persons the right to free, active, meaningful and informed participation in public affairs. Particular care should be taken to comply with relevant human rights obligations relating to participation of persons, groups and peoples in vulnerable situations in decision-making processes and to ensure that adaptation and mitigation efforts do not adversely affect those that they should

[51] The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) highlights these principles in the context of environmental issues.

be benefiting. With regard to environmental issues, the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters provides a potential model for promoting good environmental governance and addressing the interlinked rights of access to information, public participation and access to justice.[52]

IV. Climate change and the human right to health

42. The protection of all human rights from the impact of climate change is fundamental for the protection of the right to health. Internationally, however, there is growing recognition of the specific interlinkages between climate change and the human right to health. Elements of this relationship are recognized in the text of the United Nations Framework Convention on Climate Change. Article 1 defines the adverse effects of climate change as changes in the physical environment or biotite resulting from climate change which have significant deleterious effects on human health and welfare. Article 3 calls upon Parties to the Convention to take measures to minimize the causes of climate change and minimize its adverse effects, including on health. Article 4 further calls for Parties to minimize the public health implications of mitigation and adaptation projects and measures they undertake, using relevant tools such as impact assessments. The first direct reference to human rights in the context of the Convention was made in 2010 in decision 1/CP.16, in which the Conference of the Parties refers to Human Rights Council resolution 10/4 in which the Council recognizes the adverse effects of climate change on the effective enjoyment of human rights. In the decision, it is emphasized that Parties to the Convention should fully respect human rights in all climate change-related actions.

43. Subsequent negotiations and discussions led to the inclusion of human rights language in the outcome reached at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change. The outcome of the twenty-first session makes reference to the outcome of the sixteenth session, which included health as a priority sector for adaptation, and includes explicit references to the right to health in the preambles of both its decision and the Paris Agreement. The outcome emphasizes the importance of health co-benefits under the section relating to enhanced action prior to 2020. The Agreement also calls on States to respect, promote and consider human rights, including the right to health, in their respective climate actions.

44. The right to health is explicitly protected in a number of international human rights treaties, including the International Convention on the Elimination of All Forms of Racial Discrimination, the International Covenant on Economic, Social and Cultural Rights, the Convention on the Elimination of All Forms of Discrimination against Women, the Convention on the Rights of the Child, the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families and the Convention on the Rights of Persons with Disabilities. Countries that have ratified international legal instruments relating to climate change and/or the right to health are obliged to implement them and translate their obligations into national law.

45. States, therefore, have clear obligations to take measures to prevent and remedy the negative impacts of climate change on the right to health, including with regard to the environmental and social determinants of health. This was explicitly recognized by the Committee on the Rights of the Child in its general comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health, in which the Committee calls on States to take measures that address the dangers and risks that local

[52] United Nations Economic Commission for Europe input.

environmental pollution poses to children's health in all settings, and to implement environmental interventions that "should, inter alia, address climate change, as this is one of the biggest threats to children's health and exacerbates health disparities". Since climate change disproportionately affects the rights of persons living in vulnerable situations, the principles of equality and non-discrimination are particularly relevant to climate actions, requiring that States ensure that health facilities, goods and services are available, accessible, acceptable and of good quality. For example, in the context of climate displacement, the right to health requires that States enact and implement transparent and socially inclusive public health strategies that give priority to the needs of vulnerable and marginalized groups, including migrants.[53]

V. Applying a rights-based approach to health and climate action

46. The 2030 Agenda for Sustainable Development, the Paris Agreement, the Sendai Framework for Disaster Risk Reduction and the Addis Ababa Action Agenda of the Third International Conference on Financing for Development all reaffirm State commitments to a rights-based approach to development and climate action. These commitments must now be implemented. The Declaration on the Right to Development and the Statement of Common Understanding among United Nations agencies on Human Rights-Based Approaches to Development Cooperation and Programming offer a road map for doing so.[54] A rights-based approach analyses obligations, inequalities and vulnerabilities, and seeks to redress discriminatory practices and unjust distributions of power. It anchors plans, policies and programmes in a system of rights and corresponding obligations established by international law. The essential attributes of a human rights-based approach are the following:

(a) As policies and programmes are formulated, the main objective should be to fulfil human rights;

(b) The rights holders and their entitlements must be identified to strengthen their capacity to make claims and ensure their participation in relevant decision-making processes;

(c) The duty bearers and their obligations must be clarified to ensure their accountability;

(d) Principles and standards derived from international human rights law — especially the Universal Declaration of Human Rights and the core universal human rights treaties, should guide all policies and programming.

47. This approach should be integrated in any climate change adaptation or mitigation measure, such as the promotion of alternative energy sources, forest conservation, tree-planting projects and resettlement schemes. Individuals and communities affected must participate, without discrimination, in the design and implementation of the projects. They must have access to due process and to remedy if their rights are violated. Climate justice requires a rights-based approach to climate action founded on principles of equity, accountability, equality, inclusiveness and solidarity. These principles are essential in guiding support for developing countries, including financial and technological assistance. Faced with climate change, persons in vulnerable situations must have their rights

[53] International Organization for Migration input.

[54] See http://hrbaportal.org/the-human-rights-based-approach-to-development-cooperation-towards-a-common-understanding-among-un-agencies.

protected, obtain access to measures of adaptation and resilience, and receive the support of the international community.

48. Critically, it is not enough to simply focus on ensuring that action against climate change respects human rights. A rights-based approach requires States to take affirmative action to respect, protect, promote and fulfil all human rights for all persons. Failure to prevent foreseeable human rights harm caused by climate change, or at the very least to mobilize maximum available resources in an effort to do so, constitutes a breach of this obligation. Action should focus on protecting the rights of all those vulnerable to climate change. Human rights principles articulated in the Declaration on the Right to Development and other instruments call for such climate action to be both individual and collective and for it to benefit all persons, particularly the most marginalized.

49. The United Nations Framework Convention on Climate Change further elaborates upon the need for equitable climate action, calling on States to address climate change in accordance with their common but differentiated responsibilities and respective capabilities in order to benefit present and future generations.[55] State commitments require international cooperation, including financial, technological and capacity-building support, to realize low-carbon, climate-resilient and sustainable development, while also rapidly reducing greenhouse gas emissions. By integrating human rights in climate actions and policies, and empowering people to participate in policy formulation, States can promote sustainability and hold duty bearers accountable for their actions. This, in turn, will promote consistency, policy coherence and the enjoyment of all human rights, including the right to health.

50. A human rights framework for realizing the right to health calls for national Governments to ensure that health facilities, goods and services are available in sufficient quantity, and are physically accessible and affordable on the basis of non-discrimination. Health facilities, goods and services are also required to be gender sensitive and culturally appropriate, scientifically and medically appropriate, of good quality, and respectful of medical ethics. All relevant stakeholders should be able to participate, through transparent processes, in the development and implementation of health policies. Health authorities and other duty bearers should be held accountable for meeting human rights obligations in the area of public health, including through the possibility of seeking effective remedies via complaints mechanisms or other avenues for redress. A human rights-based approach also takes account of, and incorporates, the many factors which affect the enjoyment of the right to health — the underlying determinants of health — such as access to safe and potable water and adequate sanitation, an adequate supply of safe food and nutrition, healthy occupational and environmental conditions, and adequate housing.[56]

51. In addition to being a legal and ethical imperative, a rights-based approach to climate action counters the negative impacts of climate change on health and prevents mitigation and adaptation efforts from undermining all human rights. Accountability, transparency and meaningful and informed participation can strengthen mitigation and adaptation efforts, making them more ambitious, effective, inclusive, responsive and collaborative while ensuring that they leave no one behind. While the impact of climate change will be overwhelmingly negative on health, tackling climate change could also be an important global health opportunity.[57] WHO has noted that there is a tremendous

[55] See also the Paris Agreement.

[56] See Committee on Economic, Social and Cultural Rights general comment No. 14 (2000) on the right to the highest attainable standard of health, paras. 4 and 11.

[57] *Lancet* Commission, "Health and climate change".

potential for health co-benefits from policies that address climate change.[58] A rights-based approach has a crucial role to play in identifying and implementing effective climate actions that benefit people and the planet.

52. For instance, a study by the World Resources Institute has found that legal recognition of community forest rights can substantially reduce carbon dioxide emissions from deforestation.[59] Importantly, such actions also protect traditional livelihoods and access to traditional foods and medicines with positive health benefits for local communities. In this way, a rights-based approach has the potential to address cross-cutting issues relating to health, sustainable development, natural resource management and climate change, while empowering the most marginalized. It is imperative for States to employ rights-based approaches across all aspects of climate action at the international, regional, national and local levels, if they are to successfully meet their human rights obligations and effectively address the threat posed by climate change.

VI. Conclusions and recommendations

53. **Participants in the Human Rights Council panel discussion on climate change and the right to health and those who responded to the call for inputs to the present study overwhelmingly agreed that climate change has substantial negative impacts on the enjoyment of the highest attainable standard of physical and mental health. In order to fulfil the right to health, Governments, civil society, the private sector, international partners and individuals must collaborate to protect the environment and achieve sustainable development that meets the needs of present and future generations.**

54. **Since climate change directly contributes to the violation of human rights, States have an affirmative obligation to take measures to mitigate climate change; to prevent negative human rights impacts; to ensure that all persons, particularly those in vulnerable situations, have adequate capacity to adapt to changing climactic conditions; and to regulate the private sector in order to mitigate its contribution to climate change and ensure respect for human rights.**

55. **The negative health impacts of climate change will increase exponentially with every incremental increase in warming. Limiting warming to the greatest extent possible and achieving the target of 1.5°C above pre-industrial levels should therefore be the objective of all climate action. Beyond setting and achieving an ambitious goal, protecting the right to health from climate change will require climate mitigation and adaptation measures that are rights-based, effective and participatory and benefit the vulnerable.**

56. **This starts with effective laws and policies at all levels and ends with effective monitoring and implementation. Many States reported that they had constitutional protection of health and the environment and employed concrete measures focusing on mitigation of and adaptation to the negative impacts of climate change on human health. Further analysis of those policies and actions is needed to identify and promote good practices. States should integrate policies on health and human rights in their national action plans for climate mitigation and adaptation, in the intended nationally**

[58] See WHO, "Promoting health while mitigating climate change", Technical briefing for the World Health Organization Conference on Health and Climate Change (27-29 August 2014).

[59] See C. Stevens and others, *Securing Rights, Combating Climate Change: How Strengthening Community Forest Rights Mitigates Climate Change* (World Resources Institute, 2014).

determined contributions submitted to the United Nations Convention on Climate Change, and in other climate policies and actions at all levels. They should improve cross-sectoral cooperation and design specialized frameworks for tackling threats to health relating to climate change.

57. **To ensure climate-resilient populations, States should also take measures to develop sustainable and resilient health systems and infrastructure, including for water and sanitation, and to fulfil their minimum core obligations with regard to the right to health,[60] including by promoting universal health coverage and social protection floors.**

58. **Effective rights-based climate action requires open and participatory institutions and processes, as well as accurate and transparent measurements of greenhouse gas emissions, climate change, including its impacts. States should make early-warning information regarding climate effects and natural disasters publicly available and easily accessible. Adaptation and mitigation plans should be public and transparently financed and designed in consultation with the groups affected. Vulnerable groups must participate in efforts to integrate human rights in climate policies and be empowered to address climate change and its impacts, including throughout relevant processes and mechanisms relating to the United Nations Framework Convention on Climate Change. Health and climate education should be promoted to facilitate the meaningful, informed participation of those groups. Impact assessments should ensure that climate actions respect human rights, particularly the right to health.[61] Further, States should develop and monitor relevant human rights indicators in the context of climate change; keep disaggregated data to track the varied impacts of climate change across demographic groups; and enable effective, rights-compliant climate action.**

59. **Climate mitigation and adaptation efforts should place people at the centre, be gender sensitive, and ensure the rights of persons, groups and peoples in vulnerable situations, including women, children, indigenous peoples, migrants and the poor. States should develop a rights-based approach to environmental migration by integrating climate change and migrants' health into their development, health and disaster risk reduction and management plans and policies. To ensure gender equality and women's empowerment, States should promote the full and equal participation of women in decision-making processes, including those relating to disaster risk reduction and resilience; and improve women's access to education, land, technologies, credit, social protection and resilient health systems. Measures should also be taken to protect indigenous peoples' traditional knowledge, lands and resources and ensure their participation in relevant decision-making processes.**

60. **Health protection should be a priority for investment in climate adaptation and mitigation. Efforts should be targeted to capitalize on climate and health co-benefits that lead to direct reductions in the burden of ill-health, enhance community resilience, alleviate poverty and address global inequity. These could include, for example, measures that: reduce local emissions of air pollutants from energy systems through improved energy efficiency and cleaner energy sources; promote active transport systems leading to lower emissions and better health; shift consumption away from animal products towards more sustainable and healthier diets; provide access to reproductive health services, including modern family planning; and protect**

[60] See Committee on Economic, Social and Cultural Rights general comment No. 14, para. 43.

[61] See article 4 of the United Nations Framework Convention on Climate Change (committing States to consider the public health impacts of their mitigation and adaptation activities).

community landownership.[62] Conversely, it must be ensured that climate action does not adversely affect human rights as, for example, might sometimes be the case in relation to biofuels and food security or displacement and hydroelectric dams.

61. **States should enhance cooperation and development assistance on the basis of principles of equity and common but differentiated responsibility to ensure adequate funding of, and research into, adaptation measures that help the poorest countries and those persons, groups and peoples most at risk. Specific measures could include: equitable access to technology, including, if necessary, the lowering of intellectual property standards and facilitation of technology transfer; targeted poverty reduction efforts; and establishment of a special climate justice fund to finance climate mitigation and adaptation policies with funds from both the public and private sectors. Resources should be mobilized to enhance research and development relating to, inter alia, data collection for the implementation of efficient and timely responses to the negative impacts of climate change on determinants of health; diagnosis and treatment of diseases and control of disease vectors; climate-resilient crops; renewable sources of energy and energy conservation; and linkages between ecological health, animal health and human health. Climate finance and adaptation should support effective measures that bring health co-benefits particularly to persons in vulnerable situations and in developing countries. Climate finance should be innovative, long term and additional to existing funding for poverty reduction and sustainable development.**

62. **It is also critical that mechanisms to address loss and damages be strengthened and that both the public and private sectors be accountable for their actions. National human rights institutions, for example, can combine analysis and action to promote remedies for individual violations of human rights and systematic deficiencies relating to climate change. Courts and other legal institutions must also play a role in protecting the most vulnerable, ensuring accountability and providing access to remedy.**

63. **Emergency responses need to be comprehensive and cover a broad range of areas such as mental health, sexual and reproductive health, disability, loss and damages. Immediate social protection measures, such as price subsidies, food programmes, employment programmes, retraining programmes, loans for vulnerable populations and special packages for children's nutrition and for sexual and reproductive health, should be included in emergency assistance. States should establish, inter alia, early warning systems; utilize community-based monitoring, including traditional knowledge; enhance emergency response capabilities; and improve coordination in addressing climate migration and protecting migrants' right to health in disaster risk reduction and adaptation.**

64. **Human rights policies, climate change policies and development policies, as well as relevant experts, all need to support rights-based climate action. Instruments like the Geneva Pledge for Human Rights in Climate Action can provide a vehicle for furthering this objective. States that have not done so should consider signing the Pledge. The human rights machinery should be mobilized to monitor climate commitments, including through consideration of the human rights impacts of climate change during the universal periodic review and by treaty bodies and Human Rights Council special procedure mandate holders. OHCHR, the secretariat of the United Nations Framework Convention on Climate Change and WHO should work together, along with other relevant partners and States, to develop tools and promote climate**

[62] See, for example, Smith and others, "Human health".

policies that benefit people and the planet and further the implementation of relevant commitments such as those in the Addis Ababa Action Agenda, the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction and the Paris Agreement.

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Annual report of the United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and the Secretary-General

Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Right to development*

Report of the Secretary-General and the United Nations High Commissioner for Human Rights

Summary

The present report contains an overview of the activities of the Office of the United Nations High Commissioner for Human Rights relating to the promotion and realization of the right to development. It covers the period from May 2015 to June 2016 and complements the report of the Secretary-General and the High Commissioner on the right to development submitted to the Human Rights Council at its thirtieth session (A/HRC/30/22).

* The annexes are being circulated as received in the language of submission only.

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I. Introduction

1. In its resolution 48/141 establishing the post of United Nations High Commissioner for Human Rights, the General Assembly decided that the High Commissioner would, inter alia, promote and protect the realization of the right to development and enhance support from relevant bodies of the United Nations system for this purpose. The Assembly also decided that the High Commissioner would recognize the importance of promoting a balanced and sustainable development for all people and of ensuring the realization of the right to development, as established in the United Nations Declaration on the Right to Development.

2. The Human Rights Council, in its resolution 30/28, requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to continue to submit to the Council an annual report on its activities, including on inter-agency coordination within the United Nations system, relating to the promotion and the realization of the right to development.

3. In its resolution 70/155, the General Assembly reaffirmed the request to the High Commissioner, in mainstreaming the right to development, to effectively undertake activities aimed at strengthening the global partnership for development among Member States, development agencies and the international development, financial and trade institutions and to reflect those activities in detail in his next report to the Human Rights Council.

4. In the same resolution, the General Assembly requested the Secretary-General to submit a report to the Assembly at its seventy-first session and an interim report to the Human Rights Council on the implementation of the resolution, including efforts undertaken at the national, regional and international levels in the promotion and realization of the right to development.

5. The present report is submitted in accordance with the above requests and provides information on the activities undertaken by OHCHR and the United Nations human rights mechanisms between May 2015 and June 2016.

II. Activities of the Office of the United Nations High Commissioner for Human Rights

6. In implementing its mandate to promote and protect the realization of the right to development, OHCHR is guided by the Declaration on the Right to Development, the Vienna Declaration and Programme of Action, relevant resolutions of the General Assembly, the Commission on Human Rights and the Human Rights Council and agreed conclusions and recommendations of the Working Group on the Right to Development.

7. The OHCHR operational programme for the realization of the right to development is contained in the Secretary-General's strategic framework for the period 2016-2017 and the OHCHR management plan for the period 2014-2017.[1]

[1] See A/69/6/Rev.1, pp. 465-466; OHCHR Management Plan 2014-2017: Working for your rights, pp. 63-71; and A/HRC/27/27, paras. 6-13.

A. Support to the Working Group on the Right to Development

8. OHCHR provided support to the Working Group on the Right to Development for the organization of its resumed sixteenth annual session,[2] held from 1 to 4 September 2015, and its seventeenth annual session,[3] held from 25 April to 3 May 2016. OHCHR also supported the Chair-Rapporteur during the intersessional period, in holding informal consultations and presenting the report of the Working Group to the Human Rights Council and the General Assembly.

9. At its sixteenth session, the Working Group considered a draft framework to improve the effectiveness and efficiency of the Working Group, prepared by the former Chair-Rapporteur.[4] At its seventeenth session, it considered standards for the implementation of the right to development, prepared by the Chair-Rapporteur.[5] The Working Group also completed the second reading of the draft right to development criteria and operational subcriteria.[6]

10. The Working Group held an interactive dialogue on the 2030 Agenda for Sustainable Development with the former co-facilitators of the intergovernmental negotiations on the post-2015 development agenda, the Permanent Representative of Ireland to the United Nations and the Permanent Representative of Kenya to the United Nations.[7]

B. Activities relating to the promotion and realization of the right to development

11. During the period under review, OHCHR conducted numerous activities, many of which were devoted to marking the thirtieth anniversary of the Declaration on the Right to Development. Examples of these activities are summarized below.[8] In addition, OHCHR paid due attention to the right to development in the context of its support to human rights mechanisms.

12. In Colombia, OHCHR advocated for the incorporation of a human rights-based approach to the national development plan as a means of achieving the right to development and peace. Special attention was paid to devising indicators for measuring the realization of economic, social and cultural rights. OHCHR also worked to promote and protect the right to development of indigenous peoples and Afro-Colombians and supported the creation of a network of 14 indigenous peoples to claim their collective rights.

13. In Uganda, OHCHR focused on building institutional capacities to promote and protect the right to development. It provided technical assistance to the Government on integrating a human rights-based approach to programming in the national development plan, including by integrating human rights indicators in its monitoring and evaluation framework. OHCHR strengthened the capacity of non-governmental organizations to effectively participate in the development process and to monitor the implementation of the plan and supported the launch of a network of public interest litigators, with a focus on

[2] See A/HRC/30/71.
[3] See A/HRC/33/45.
[4] A/HRC/WG.2/16/2.
[5] A/HRC/WG.2/17/2.
[6] A/HRC/15/WG.2/TF/2/Add.2.
[7] See A/HRC/33/45.
[8] More information on these and other activities is available at www.ohchr.org/EN/Issues/Development/Pages/DevelopmentIndex.aspx.

economic, social and cultural rights. In parallel, OHCHR conducted training sessions for judges of the Supreme Court, the Court of Appeal and the Constitutional Court on adjudicating violations of economic, social and cultural rights. Finally, the OHCHR office in Uganda supported a consortium of civil society organizations and legal networks, which organized the second National Conference on Economic, Social and Cultural Rights on the theme "Tackling social exclusion in access to socioeconomic goods and services for sustainable development".

14. In South America, OHCHR supported the implementation of the Sustainable Development Goals from a human rights-based perspective and focused on the dissemination of OHCHR key messages on human rights in the 2030 Agenda for Sustainable Development, training and capacity-building. In Africa, OHCHR continued to work on a human rights impact assessment of the Continental Free Trade Area agreement in collaboration with the Economic Commission for Africa through a scoping study.[9] Several risks were identified in relation to the negotiation of the agreement and preliminary recommendations were made with regard to food security, employment and freedom of movement. The assessment provides the negotiating countries with an evidence base and policy recommendations from which to develop an effective and cohesive trade policy that is aligned with human rights and development commitments and priorities.

15. At the global level, OHCHR advocated integrating the right to development into the financing for development, climate change and sustainable development processes, provided technical advice in the areas of trade and investment, intellectual property and access to medicines and supported special procedure mandate holders in these areas.

16. OHCHR also prepared a think piece on responsible contracting and harnessing human rights to transform investment[10] for the E15 initiative on strengthening the global trade and investment system for sustainable development, which was coordinated by the World Economic Forum and the International Centre for Trade and Sustainable Development. The paper was aimed at infusing ethical and normative considerations into State-investor contracts and incorporating human rights into these contracts. In addition, OHCHR published the report "Principles for responsible contracts: integrating the management of human rights risks into State-investor contract negotiations – Guidance for negotiators",[11] carried out research and issued a report and a companion document setting out guidance to improve corporate accountability and access to judicial remedies for victims of business-related human rights abuse.[12]

17. OHCHR prepared the annual report of the Secretary-General to the General Assembly on globalization and its impact on the full enjoyment of all human rights.[13] In the report, common concerns were identified and recommendations were made on how to address the negative impact of globalization on the full enjoyment of human rights. OHCHR published an illustrated report on access to medicines in the context of the right to health[14] that outlines the main conclusions and recommendations of the 2015 Social Forum

[9] See "Designing the Continental Free Trade Area (CFTA): an African human rights perspective" (May 2012), available at www.fes-globalization.org/geneva/documents/2016/2016_05_HRIA%20of%20the%20CFTA_Publication.pdf.

[10] Available at www.ohchr.org/Documents/Issues/Globalization/E15-Investment-OHCHR.pdf.

[11] See A/HRC/17/31/Add.3; also available at www.ohchr.org/Documents/Publications/Principles_ResponsibleContracts_HR_PUB_15_1_EN.pdf.

[12] See A/HRC/32/19 and Add.1.

[13] A/70/154.

[14] Available at www.ohchr.org/Documents/Issues/SForum/SForum2015/OHCHR_2015-Access_medicines_EN_WEB.pdf.

of the Human Rights Council on the same topic. OHCHR finalized a publication on human rights and budgets, which will become available during the course of 2016.

18. To mark the thirtieth anniversary of the Declaration on the Right to Development, OHCHR published a fact sheet entitled "Frequently asked questions on the right to development" and produced a short video entitled "The right to development – development is a human right".[15] OHCHR also published the booklet "International Decade for People of African Descent, 2015-2024: recognition – justice – development", which contains a chapter on the right to development and measures against poverty.[16]

19. In May 2015, OHCHR co-organized with the Prince Claus Chair, the International Institute of Social Studies (Erasmus University, Rotterdam) and The Hague Institute for Global Justice a high-level round table on the theme "Thinking ahead: the right to development approaching 30". The objective of the round table was to consider the continued relevance of the right to development and how it could be revitalized and implemented so as to equitably meet the developmental and environmental needs of present and future generations. During the discussion, OHCHR underscored the continued relevance of the right to development, in particular as a framework for achieving sustainable development.[17]

20. In September 2015, the Office organized the first Human Rights Council biennial panel discussion on unilateral coercive measures and human rights. The objective of the discussion was to increase awareness of the negative impact that unilateral coercive measures can have on the enjoyment of human rights in targeted and non-targeted countries.[18]

21. During the March 2016 session of the Human Rights Council, OHCHR organized a panel discussion on human rights mainstreaming, focusing on the 2030 Agenda for Sustainable Development and human rights, with an emphasis on the right to development. The United Nations High Commissioner for Human Rights underscored that the right to development provided an enabling environment to ensure that the goals of the 2030 Agenda would be achieved in practice, and that processes of development were inclusive and just. Referring to further convergences between the 2030 Agenda and the Declaration, the High Commissioner noted that the Declaration addressed the structural impediments that disadvantaged the poor and prevented development from benefiting all.[19]

22. OHCHR also organized, together with the University for Peace and the Forum of Catholic-inspired Non-governmental Organizations, a side-event entitled "In search of dignity and sustainable development for all". The objective of the event was to consider how operationalizing the right to development could create an environment conducive to the realization of the 2030 Agenda and how the 2030 Agenda could support the realization of the right to development. Participants also discussed the means to integrate, claim and build capacity on the right to development among local communities, and research and educational programmes.[20]

[15] Available at www.ohchr.org/Documents/Publications/FSheet37_RtD_EN.pdf and www.youtube.com/watch?v=pdKfypBTtdI#t=16, respectively.

[16] Available at www.un.org/en/events/africandescentdecade/pdf/African%20Descent%20Booklet_WEB_English.pdf.

[17] See www.ohchr.org/Documents/Issues/Development/PrinceClausReport27May2015.pdf.

[18] See A/HRC/31/82.

[19] See www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=17109&LangID=E.

[20] See www.ohchr.org/EN/Issues/Development/Pages/SearchOfDignity.aspx.

23. The Deputy High Commissioner for Human Rights delivered remarks at the African Group side event on the right to development. She highlighted the importance of the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda of the Third International Conference on Financing for Development and the Paris Agreement on climate change for the realization of the right to development. She also underlined the need to combat inequality within and among countries so as to leave no one behind, starting first, wherever possible, with those furthest behind. She stated that persistent poverty and deepening inequalities were major threats to human rights and development, and thus directly to peace and security.[21]

24. OHCHR supported the intergovernmental processes leading to the adoption of the Addis Ababa Action Agenda on financing for development, the 2030 Agenda, including the Sustainable Development Goals and the Paris Agreement on climate change. OHCHR published the advocacy tool "Key messages on human rights and financing for development" (see annex I). The High Commissioner sent an open letter on human rights in the financing for development agenda[22] to States calling upon them to take specific measures to ensure an inclusive and participatory financing for development agenda that would benefit the most vulnerable, hold all parties and stakeholders accountable, and fulfil the human rights commitments to work together towards a better world.

25. OHCHR also organized a side event and delivered a statement on behalf of the High Commissioner to the plenary session of the Third International Conference on Financing for Development. In the statement, the High Commissioner underscored that financing for development must satisfy the demands of all persons to have their most basic needs met in a world that did not lack the means, but had failed to demonstrate the will, to make human rights a reality for all. He called upon States to ensure that their efforts to finance the 2030 Agenda for Sustainable Development reflected the needs and demands of people, that they fully integrated relevant human rights commitments and encapsulated the imperative of human rights-based policy coherence.[23]

26. As a result of advocacy by OHCHR and others, the Addis Ababa Action Agenda contains numerous human rights considerations such as the Guiding Principles on Business and Human Rights, reporting on environmental, social and governance impacts and the need for environmental and social safeguards in the context of activities by businesses and development banks. Members States agreed to promote financial inclusion, reduce inequalities, seek to eradicate extreme poverty, ensure gender equality and provide social protection and essential public services for all, with a focus on those furthest below the poverty line. Civil society organizations increasingly adopted a rights-based analysis to financing for development.

27. OHCHR advocated for the centrality of all human rights, including the right to development, in the 2030 Agenda for Sustainable Development, and called for more equitable development, including at the global level. OHCHR has consistently emphasized that the 2030 Agenda is explicitly guided by the purposes and principles of the Charter of the United Nations, including full respect for international law, grounded in the Universal Declaration of Human Rights, international human rights treaties and informed by other instruments, including the Declaration on the Right to Development.[24] OHCHR played an active role in the development of the Sustainable Development Goal indicators and

[21] See www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=17126&LangID=E.

[22] See letter at www.ohchr.org/Documents/Issues/MDGs/Post2015/20150617_HC_open_letter_HR_FFD.pdf.

[23] See statement at www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=16246.

[24] See General Assembly resolution 70/1, para. 10.

advocated for data disaggregation in line with the recognized grounds of discrimination, to capture progress in combatting inequalities, inequities and discrimination. OHCHR published the guidance note to data collection and disaggregation entitled "A human rights-based approach to data: leaving no one behind in the 2030 Agenda".[25]

28. OHCHR organized the signing ceremony for the Geneva Pledge for Human Rights in Climate Action, which was hosted by the Permanent Mission of Costa Rica to the United Nations Office and other international organizations in Geneva. The pledge calls for meaningful collaboration among national representatives in the human rights and climate change processes to inform climate action. OHCHR engaged in the negotiations of the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Paris in December 2015. OHCHR advocated the most ambitious climate mitigation target possible, demanded accelerated and equitable climate action and called for all such action to respect and protect human rights, including the right to development. The OHCHR "Key messages on human rights and climate change" (see annex II) served as the basis for this advocacy.

29. The High Commissioner issued an op-ed and press releases and called for, inter alia, limiting warming to no more than 1.5°C above pre-industrial levels, improved international cooperation to address climate change and the inclusion of strong human rights language in the operative part of the Paris Agreement. OHCHR submitted a paper entitled "Understanding human rights and climate change"[26] to the twenty-first session of the Conference of the Parties in Paris, supported several special procedure mandate holders in their engagement in the negotiations, participated in multiple side events and organized a press conference on human rights and climate change during Human Rights Day. During the twenty-ninth session of the Human Rights Council, OHCHR organized a panel discussion on the impacts of climate change on the enjoyment of the right to health. Panellists, including the Director General of the World Health Organization and the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, emphasized the need for a rights-based approach to climate action.[27]

30. As a result of this and other advocacy, the Paris Agreement is the first multilateral climate agreement of its kind to include explicit reference to human rights. The Agreement also contains the ambitious objective of limiting warming to below 2°C and pursuing efforts to bring it to 1.5°C. Other positive elements include references to the principle of common but differentiated responsibility and equity, commitments on climate finance, a new transparency framework, a mechanism for monitoring and ratcheting up climate commitments, strengthened cooperation on loss and damages and special provisions for least developed countries and small island developing States as well as vulnerable groups, gender equality and women's empowerment.

C. Inter-agency cooperation and mainstreaming the right to development

31. Mainstreaming human rights, including the right to development, into United Nations system policies, operational activities, guidelines and tools on development

[25] See www.ohchr.org/Documents/Issues/HRIndicators/GuidanceNoteonApproachtoData.pdf.

[26] See www.ohchr.org/Documents/Issues/ClimateChange/COP21.pdf.

[27] See A/HRC/32/24 and A/HRC/32/23, also www.google.ch/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwix94Pc_obOAhUBECwKHZVXDeEQFgglMAE&url=http%3A%2F%2Fwww.ohchr.org%2FEN%2FHRBodies%2FHRC%2FRegularSessions%2FSession31%2FDocuments%2FClimateChange.doc&usg=AFQjCNFCFELeQzIQ8zwDseu8SZ8xY_yC8A.

programming is an integral part of the High Commissioner's mandate and a major pillar of the programme of work of the Office.

32. Through its country and regional offices, as well as through the Human Rights Working Group of the United Nations Development Group, OHCHR has provided support and technical assistance, including human rights advisers, to United Nations country teams on the application of a human rights-based approach to common country programming and in their work to assist Member States with the implementation of the 2030 Agenda, including in relation to the means of implementation. OHCHR worked to mainstream human rights and the right to development within the United Nations system, including by strengthening the human rights leadership capacities of resident coordinators and United Nations leaders through leadership dialogues and the induction programme for resident coordinators. OHCHR also contributed to the United Nations Development Group 2015 publication, *Guidance Note on Human Rights for Resident Coordinators and UN Country Teams*.[28]

33. During the 15-year effort to achieve the Millennium Development Goals, multilateral development bank support grew from $50 billion to $127 billion a year in grants, concessional and non-concessional loans, risk-sharing instruments, guarantees and equity investment.[29] However, trillions of dollars will be needed to finance the Sustainable Development Goals, including in high-risk sectors such as large-scale infrastructure. OHCHR has engaged with multilateral development banks since 2014 advocating, in accordance with the principles of the Declaration on the Right to Development, for more equitable development and more rigorous safeguard policies for investment lending with a view to ensuring that supported projects do not cause or contribute to human rights violations. In 2015, OHCHR focused primarily on the Environmental and Social Framework consultation processes of the World Bank and the Asian Infrastructure Investment Bank.

34. OHCHR continued to coordinate and support United Nations and inter-agency initiatives, such as the Fit for Purpose and the Mainstreaming, Acceleration, Policy Support initiatives, on mainstreaming human rights, including the right to development, in United Nations policies and operational programmes. The Human Rights Working Group of the United Nations Development Group, with the financial support of a multi-donor trust fund, advocated the integration of human rights in United Nations development work in all countries. OHCHR also supported the United Nations development system in delivering on the responsibilities and demands of the Human Rights Up Front initiative.

35. In March 2016, the United Nations System Chief Executives Board for Coordination adopted a statement of commitment aimed at placing the imperative of combating inequalities, inequities and discrimination at the forefront of United Nations efforts to support Member States in implementing the 2030 Agenda for Sustainable Development. The statement of commitment was based on a positioning paper on equality and non-discrimination prepared by the High-level Committee on Programmes.[30] As part of this initiative, OHCHR, jointly with the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), is developing a shared framework for action on combating inequalities and discrimination.

[28] Available at https://undg.org/wp-content/uploads/2015/12/UNDG-Guidance-Note-on-Human-Rights-for-RCs-and-UNCTs-final.pdf.

[29] See www.worldbank.org/en/news/speech/2015/07/13/third-international-conference-financing-development.

[30] See CEB/2015/6, annex III.

III. 2030 Agenda for Sustainable Development and the implementation of the right to development

36. As the High Commissioner stated during the Human Rights Council high-level panel discussion on human rights mainstreaming, the 2030 Agenda and the Declaration on the Right to Development are powerfully linked. By placing people at its centre, the 2030 Agenda could generate political momentum for the realization of the right to development, while the right to development provided a vital enabling environment to ensure that the goals of the 2030 Agenda would be achieved in practice and that development processes were inclusive and just.[31]

37. The High Commissioner underscored the substantive convergence between the Declaration and the 2030 Agenda, the overall objective to eradicate discrimination and inequality, the need for international cooperation and assistance and the need to pay equal attention to freedom from fear and freedom from want. He also underlined the importance of accountability and of human rights indicators or data in this regard and the need to link human rights monitoring with the follow-up and review of the implementation of the Sustainable Development Goals.

38. The 2030 Agenda is informed by the Declaration on the Right to Development.[32] It is guided by the purposes and principles of the Charter of the United Nations, including respect for international law and it is grounded in the Universal Declaration of Human Rights and international human rights treaties. The 2030 Agenda recognizes the need to build peaceful, just and inclusive societies that provide equal access to justice and that are based on, inter alia, respect for human rights (including the right to development).[33]

39. In addition to explicit recognition of the right to development, the 2030 Agenda indirectly reaffirms and recognizes that it is grounded in the right to development by citing the Millennium Declaration as a source. In the Declaration, Heads of State and Government committed to making the right to development a reality for everyone and to freeing the entire human race from want.[34] The 2030 Agenda also reaffirms the principles of the Rio Declaration on Environment and Development,[35] of which principle 3 stipulates that the right to development must be fulfilled so as to equitably meet the developmental and environmental needs of present and future generations.

40. Besides this direct and indirect recognition of the linkage between the 2030 Agenda for Sustainable Development and the right to development, there is also substantive convergence. Under article 4 (1) of the Declaration on the Right to Development, States have the duty to take steps, individually and collectively, to formulate international development policies with a view to facilitating the full realization of the right to development. Undoubtedly, the 2030 Agenda for Sustainable Development constitutes such an international development policy.

41. Both the Declaration and the 2030 Agenda envisage a human-centred development process, in which all human rights can be fully realized. They both seek to eradicate poverty, discrimination and inequality, both within and among countries, with a view to improving the well-being of the human person and addressing the structural impediments that disadvantage the poor and prevent development from benefiting all. The 2030 Agenda,

[31] See www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=17107&LangID=E.
[32] See General Assembly resolution 70/1, para. 10.
[33] Ibid., para. 35.
[34] See General Assembly resolution 55/2, para. 11.
[35] See General Assembly resolution 70/1, para. 12.

for example, pledges to leave no one behind and to focus on those furthest behind first. Two goals are dedicated to equality, with commitments to end discrimination against and exclusion of women and girls.

42. The 2030 Agenda acknowledges that freedom from want and freedom from fear need to be addressed together — echoing the emphasis placed by the right to development on human well-being, the indivisibility of all human rights and the right of every member of society to fully and freely participate in decision-making. The Declaration on the Right to Development proclaims development to be a right that entitles everyone to active, free and meaningful participation in development and to fair distribution of its benefits.

43. States have the duty to cooperate with each other to eliminate obstacles to development and to promote an economic order based on sovereign equality. The 2030 Agenda gives effect to this commitment through the specific implementation targets under each Goal as well as through the partnership commitments under Goal 17.

44. The Declaration addresses root causes, systemic issues and structural challenges in its quest for a new order for development at all levels. It recognizes the need for an enabling environment that is conducive to peace, human rights and socially and ecologically sustainable development. Likewise, the 2030 Agenda acknowledges the need to go far beyond the traditional development paradigm — which was focused on economic development — and to replace it with a holistic, transformative vision, covering all three dimensions of development: the economic, social and environmental.

45. Together with the Addis Ababa Action Agenda, Sustainable Development Goal 17 provides momentum for the realization of the right to development. Goal 17 targets announce commitments with regard to the mobilization of requisite financial resources; cooperation on and access to science, technology and innovation and knowledge sharing; enhancing international support for implementing effective and targeted capacity-building in developing countries; and promoting a universal, rules-based, open, non-discriminatory and equitable multilateral trading system.

46. The 2030 Agenda and the Addis Ababa Action Agenda also recognize the positive contribution and role of the private sector in development, while underscoring the need to protect labour rights and environmental and health standards in accordance with relevant international standards, agreements and other initiatives, such as the Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and remedy" Framework.[36]

47. There are also differences between the 2030 Agenda for Sustainable Development and the Declaration on the Right to Development. Most importantly, the right to development is a human right. Expressed as an entitlement, development goes beyond volunteerism and charity; it is a right with corresponding obligations and duties. The Sustainable Development Goals, on the contrary, are an international development policy and a political commitment. The implementation of the Goals contributes to the realization of the right to development.

48. The Working Group on the Right to Development discussed the 2030 Agenda in the context of the right to development. Two of its recommendations are particularly relevant to this topic. It recommended that, in its future deliberations, the Working Group should study the contributions of States to the implementation of the right to development, at the national, regional and international levels, in keeping with the mechanisms relating to the Sustainable Development Goals. It also recommended that OHCHR consider facilitating the participation of experts in the eighteenth session of the Working Group to provide

[36] A/HRC/17/31.

advice in order to contribute to the discussion on the implementation and realization of the right to development and on relevant implications of the 2030 Agenda.[37]

49. These recommendations point to the future direction of the work of the Working Group and their implementation may contribute to making that work less politicized and more attuned to the ongoing intergovernmental process for the implementation of the Sustainable Development Goals.

IV. Conclusions and recommendations

50. **The 2030 Agenda for Sustainable Development can be considered an eminent international development policy and action agenda for the realization of the right to development. It is informed by and grounded in the right to development; indeed the right to development and, by extension, all human rights are at the heart of the 2030 Agenda.**

51. **The 2030 Agenda must be implemented in line with international law, including international human rights law. All human rights, including the right to development, must guide the implementation process at all levels.**

52. **Operationalizing the commitment to leave no one behind demands a coherent and integrated United Nations system-wide approach. All United Nations system policies and programmes relating to the implementation of the 2030 Agenda should therefore be explicitly anchored in and aligned with all human rights, including the right to development. Human rights principles and standards, including those of the right to development, should be increasingly integrated into finance, trade and investment policies in support of the Sustainable Development Goals.**

53. **The follow-up and review of the implementation of the Goals provide a solid basis for assessing the progressive realization of the right to development. Devising indicators to measure and serve as a tool for achieving the Goals, in particular the collection and disaggregation of data, must be based on human rights principles and standards.**

54. **Assessment of the progress in the implementation of the 2030 Agenda can provide complementary information to the human rights mechanisms, including the Working Group on the Right to Development, for their assessment of progress in the realization of human rights, including the right to development. At the same time, recommendations made by the Working Group and other human rights mechanisms can provide useful information for the Financing for Development follow-up and for the High-level Political Forum assessment of progress in the implementation of the 2030 Agenda.**

55. **The Guiding Principles on Business and Human Rights and the principles for responsible contracts[38] provide a solid basis for framing and directing private-sector engagement in the implementation of the 2030 Agenda and the Addis Ababa Action Agenda.**

56. **Efforts of civil society and national human rights institutions aimed at ensuring that all human rights, including the right to development, are respected in the implementation of the 2030 Agenda should be encouraged and supported.**

[37] See A/HRC/33/45.
[38] See A/HRC/17/31/Add.3.

Annex I

Key messages on human rights and financing for development of the Office of the United Nations High Commissioner for Human Rights

1. The following obligations and responsibilities should be reflected in efforts to finance development in order to foster policy coherence and to ensure equitable, inclusive development that benefits all persons without discrimination.

To expend maximum available resources

2. Under core human rights treaties, States acting individually and collectively, are obligated to mobilize and allocate the maximum available resources for the progressive realization of economic, social and cultural rights, as well as the advancement of civil and political rights and the right to development. To eradicate poverty, achieve the Sustainable Development Goals and fulfil their human rights commitments, States must endorse a financing framework that equals these ambitions. To mobilize the unprecedented amount of resources needed for the implementation of the 2030 Agenda for Sustainable Development, all stakeholders will need to effectively mobilize all available resources, including through new and innovative sources of finance (such as financial transaction taxes and carbon taxes) that are additional to traditional official development assistance (ODA), predictable and stable, and distribute global income to reduce inequalities.

International cooperation

3. States have committed to international cooperation for the realization of human rights. Meeting existing ODA commitments fully and in a timely manner will be critical to achieve the goal of ending extreme poverty by 2030 and represents one key step towards the fulfilment of State human rights commitments to mobilize maximum available resources for the promotion, protection and fulfilment of human rights. Pursuant to relevant human rights principles, ODA should be effective and transparent, it should be administered through participatory and accountable processes, and it should be targeted towards the people and groups most in need, including within those States where the ability to mobilize domestic resources is weakest.

To ensure participatory, human rights-based development

4. National Governments bear the primary responsibility for development in their own countries. National financing strategies, fiscal policies, tax systems, subsidies, development plans, and budgets should benefit the poorest and most marginalized and be the product of transparent and participatory processes. Effective governance for sustainable development demands that public institutions in all countries and at all levels conform to international human rights standards and principles and thus that they be non-discriminatory, inclusive, participatory and accountable to people. Laws and institutions must protect human rights under the rule of law, including in the economic sphere.

To create an international order in which all human rights can be realized

5. All countries bear responsibilities for international cooperation and to create an enabling international environment for development. The new global partnership for sustainable development must tackle global inequities, including in trade, finance and investment, as well as combating corruption, illicit flows of funds, trade mispricing and tax evasion.

To guarantee equal access and non-discrimination

6. States have committed to guarantee equality and non-discrimination. They should strive to ensure universal and transparent access to affordable and appropriate financial services across income, gender, geography, age and other groups. This implies establishing effective regulation, recourse mechanisms and consumer protection agencies to prevent predatory lending and ensure greater financial literacy of consumers.

To ensure empowerment of excluded groups

7. Specific barriers to women's access to finance must be eliminated. Women and girls must have equal access to financial services and the right to own land and other assets. Indigenous peoples' rights should be fully reflected in line with the United Nations Declaration on the Rights of Indigenous Peoples. In particular, their rights to their lands, natural resources and territories, and to the benefits from their traditional knowledge should be protected. Actions likely to impact their rights should not be taken without their free, prior and informed consent. Indigenous peoples have the right to participate in decision-making related to and to benefit from the use of their knowledge, innovations and practices. The human rights of migrants should be protected, regardless of their status. Discriminatory barriers to their development should be removed. Migrants should not be treated as an economic commodity. Policies on remittances should take into account that remittances are private sources of finance and seek to reduce their costs.

To respect human rights and do no harm

8. As businesses assume an ever-expanding role in the development and economic spheres their adherence to the human rights responsibilities outlined in the Guiding Principles on Business and Human Rights becomes increasingly critical. Businesses must respect human rights and do no harm. These responsibilities apply in the context of public private partnerships, blended finance instruments, foreign direct investment and all private business activities. With regard to public-private partnerships and blended finance, the risks and benefits of investments should be shared equitably between public and private investors. Both private and public sector partners must meet their respective human rights responsibilities and obligations. In working together, States and businesses should incorporate social, environmental, labour, human rights and gender equality considerations into their activities and subject public private partnerships to human rights safeguards and rigorous due diligence, including human rights impact assessments.

To protect persons from human rights abuses committed by private actors

9. States have an obligation to actively prevent private activities, including investments, from undermining human rights. States should establish appropriate regulations and oversight mechanisms to protect human rights from the potentially negative impacts of public-private partnerships and blended finance instruments. Measures should be taken to ensure that the provisions of international trade and investment agreements do not protect investor interests at the expense of State policy space to promote the realization of human rights.

To ensure accountability

10. All States should adopt policies and institutional, legal and regulatory frameworks to encourage responsible and accountable investment in sustainable development. Such frameworks should include human rights and sustainability criteria and align investor incentives with sustainable development. They should go beyond voluntary reporting and require all companies to undertake mandatory economic, environment, social and

governance reporting commensurate with the level of risk posed by their activities. This will help to identify, prevent and mitigate any risk of adverse human rights impacts.

To guarantee all persons enjoy the rights to food and health as well as the benefits of science and its applications

11. States must take steps to ensure that global intellectual property regimes do not obstruct the realization of the right to food, hinder access to medicines, or impede the benefits of development from reaching the poor and marginalized, including through application of the trade-related aspects of intellectual property rights flexibilities, while at the same time ensuring that intellectual property regimes create appropriate incentives to help meet sustainable development objectives. Environmentally clean and sound technologies should be accessibly priced and broadly disseminated. The cost of their development should be equitably shared, and their benefits should be equitably distributed between and within countries.

To ensure sovereign debt arrangements do not undercut the realization of human rights

12. States have committed to cooperate to mobilize maximum available resources for the progressive realization of human rights. Unsustainable debt burdens should not be permitted to threaten State efforts to fulfil their human rights obligations. All States would benefit from a permanent, fair and effective sovereign debt workout mechanism. All States, international financial institutions, relevant United Nations agencies, funds and programmes and the private sector, should cooperate to avoid sovereign debt crises by agreeing to guidelines that ensure sustainable, transparent lending and borrowing that benefits and is accountable to people, taking into consideration the guiding principles on foreign debt and human rights endorsed by the Human Rights Council.

To address climate harms to human rights

13. Climate change affects people everywhere. Yet, the poorest and most marginalized individuals, communities and countries that have contributed the least to greenhouse emissions often bear the greatest burden. Efforts to mitigate and adapt to the impacts of climate change should therefore meet the special needs and circumstances of developing countries and of vulnerable and marginalized persons everywhere. For example, harmful fossil fuel and agricultural subsidies, both direct and indirect, should be phased out with safeguards that minimize the impact on the poorest and most vulnerable. Conversely, carbon taxes, with appropriate safeguards to minimize impacts on the poorest and most vulnerable, could be designed to internalize environmental externalities and finance sustainable development efforts.

To align economic policies and institutions with human rights standards

14. A road map should be put in place for economic governance reforms that ensure fair representation of emerging and developing countries in international financial and economic decision making, prevent future economic crises and promote sustainable, inclusive economic progress. Policy coherence, particularly human rights policy coherence, will be critical for the successful implementation of the 2030 Agenda. This will entail taking measures to ensure coherence between current international legal regimes for trade, finance, and investment on the one hand and norms and standards for labour, the environment, human rights, equality and sustainability on the other hand.

To monitor human rights progress

15. A people-centred and planet-sensitive post-2015 human rights and development agenda must adopt a broader measure of progress than the gross domestic product. It must take into account the three dimensions of sustainable development and be rooted in a human rights-based approach to development. The objective should be to capture the degree to which the strength of an economy meets the needs and rights of people, and how sustainably and equitably it does so. By monitoring progress toward fulfilment of human rights objectives, States can make informed decisions regarding the effective use of resources for the progressive realization of human rights.

To ensure accountability of all duty bearers to rights holders

16. States should regularly review and monitor the global partnership for sustainable development based on specific, measureable, time-bound targets to ensure the accountability of all States for their commitments. The review of the global partnership for sustainable development should draw upon and feed into existing monitoring mechanisms, including by integrating in a structured manner the work of relevant human rights bodies. The monitoring of financing for development needs to go beyond the tracking of financial flows and also assess the development results of such financial flows as well as progress on addressing systemic issues. Monitoring efforts must be underpinned by a human rights-based data revolution that makes information more available, accessible and more broadly disaggregated to track development impacts for all people in all countries.

Annex II

Key messages on human rights and climate change of the Office of the United Nations High Commissioner for Human Right

1. In order to foster policy coherence and help ensure that climate change mitigation and adaptation efforts are adequate, sufficiently ambitious, non-discriminatory and otherwise compliant with human rights obligations, the following considerations should be reflected in all climate action.

To mitigate climate change and to prevent its negative human rights impacts

2. States have an obligation to respect, protect, fulfil and promote all human rights for all persons without discrimination. Failure to take affirmative measures to prevent human rights harms caused by climate change, including foreseeable long-term harms, breaches this obligation. The fifth assessment report of the Intergovernmental Panel on Climate Change confirms that climate change is caused by anthropogenic emissions of greenhouse gases. Among other impacts, climate change negatively affects people's rights to health, housing, water and food. These negative impacts will increase exponentially according to the degree of climate change that ultimately takes place and will disproportionately affect individuals, groups and peoples in vulnerable situations including, women, children, older persons, indigenous peoples, minorities, migrants, rural workers, persons with disabilities and the poor. Therefore, States must act to limit anthropogenic emissions of greenhouse gases (e.g. mitigate climate change), including through regulatory measures, in order to prevent to the greatest extent possible the current and future negative human rights impacts of climate change.

To ensure that all persons have the necessary capacity to adapt to climate change

3. States must ensure that appropriate adaptation measures are taken to protect and fulfil the rights of all persons, particularly those most endangered by the negative impacts of climate change such as those living in vulnerable areas (e.g. small islands, riparian and low-lying coastal zones, arid regions and the poles). States must build adaptive capacities in vulnerable communities, including by recognizing the manner in which factors such as discrimination, and disparities in education and health affect climate vulnerability, and by devoting adequate resources to the realization of the economic, social and cultural rights of all persons, particularly those facing the greatest risks.

To ensure accountability and effective remedy for human rights harms caused by climate change

4. The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and other human rights instruments require States to guarantee effective remedies for human rights violations. Climate change and its impacts, including sea-level rise, extreme weather events and droughts have already inflicted human rights harms on millions of people. For States and communities on the frontline, survival itself is at stake. Those affected, now and in the future, must have access to meaningful remedies, including judicial and other redress mechanisms. The obligations of States in the context of climate change and other environmental harms extend to all rights holders and to harm that occurs both inside and beyond boundaries. States should be accountable to rights holders for their contributions to climate change, including for failure to adequately regulate the emissions of businesses under their jurisdiction, regardless of where such emissions or their harms actually occur.

To mobilize maximum available resources for sustainable, human rights-based development

5. Under core human rights treaties, States acting individually and collectively are obligated to mobilize and allocate the maximum available resources for the progressive realization of economic, social and cultural rights, as well as for the advancement of civil and political rights and the right to development. The failure to adopt reasonable measures to mobilize available resources to prevent foreseeable human rights harms caused by climate change breaches this obligation. The mobilization of resources to address climate change should complement and not compromise other efforts of Governments to pursue the full realization of all human rights for all, including the right to development. Innovative measures such as carbon taxes, with appropriate safeguards to minimize negative impacts on the poor, can be designed to internalize environmental externalities and mobilize additional resources to finance mitigation and adaptation efforts that benefit the poorest and most marginalized.

International cooperation

6. The Charter of the United Nations, the International Covenant on Economic, Social and Cultural Rights and other human rights instruments impose upon States the duty to cooperate to ensure the realization of all human rights. Climate change is a human rights threat with causes and consequences that cross borders; thus, it requires a global response, underpinned by international solidarity. States should share resources, knowledge and technology in order to address climate change. International assistance for climate change mitigation and adaptation should be additional to existing official development assistance commitments. Pursuant to relevant human rights principles, climate assistance should be adequate, effective and transparent, it should be administered through participatory, accountable and non-discriminatory processes, and it should be targeted toward persons, groups, and peoples most in need. States should engage in cooperative efforts to respond to climate-related displacement and migration and to address climate-related conflicts and security risks.

To ensure equity in climate action

7. The Rio Declaration on Environment and Development, the Vienna Declaration and Programme of Action and The Future We Want all call for the right to development, which is articulated in the Declaration on the Right to Development, to be fulfilled so as to meet equitably the developmental and environmental needs of present and future generations. The United Nations Framework Convention on Climate Change calls for States to protect future generations and to take action on climate change "on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities". While climate change affects people everywhere, those who have contributed the least to greenhouse gas emissions (i.e. the poor, children and future generations) are those most affected. Equity in climate action requires that efforts to mitigate and adapt to the impacts of climate change should benefit people in developing countries, indigenous peoples, people in vulnerable situations and future generations.

To guarantee that everyone enjoys the benefits of science and its applications

8. The International Covenant on Economic, Social and Cultural Rights states that everyone has the right to enjoy the benefits of science and its applications. All States should actively support the development and dissemination of new climate mitigation and adaptation technologies including technologies for sustainable production and consumption. Environmentally clean and sound technologies should be accessibly priced, the cost of their development should be equitably shared, and their benefits should be fairly distributed between and within countries. Technology transfers between States should take place as needed and appropriate to ensure a just, comprehensive and effective international response

to climate change. States should also take steps to ensure that global intellectual property regimes do not obstruct the dissemination of mitigation and adaptation technologies while at the same time ensuring that these regimes create appropriate incentives to help meet sustainable development objectives. The right of indigenous peoples to participate in decision-making related to and benefit from the use of their knowledge, innovations and practices should be protected.

To protect human rights from business harms

9. The Guiding Principles on Business and Human Rights affirm that States have an obligation to protect human rights from harm by businesses, while businesses have a responsibility to respect human rights and to do no harm. States must take adequate measures to protect all persons from human rights harms caused by businesses; to ensure that their own activities, including activities conducted in partnership with the private sector, respect and protect human rights; and where such harms do occur to ensure effective remedies. Businesses are also duty bearers. They must be accountable for their climate impacts and participate responsibly in climate change mitigation and adaptation efforts with full respect for human rights. Where States incorporate private financing or market-based approaches to climate change within the international climate change framework, the compliance of businesses with these responsibilities is especially critical.

To guarantee equality and non-discrimination

10. States have committed to guarantee equality and non-discrimination. Efforts to address climate change should not exacerbate inequalities within or between States. For example, indigenous peoples' rights should be fully reflected in line with the United Nations Declaration on the Rights of Indigenous Peoples and actions likely to impact their rights should not be taken without their free, prior and informed consent. Care should also be taken to ensure that a gender perspective, including efforts to ensure gender equality, is included in all planning for climate change mitigation and adaptation. The rights of children, older persons, minorities, migrants and others in vulnerable situations must be effectively protected.

To ensure meaningful and informed participation

11. The International Covenant on Civil and Political Rights and other human rights instruments guarantee all persons the right to free, active, meaningful and informed participation in public affairs. This is critical for effective rights-based climate action and requires open and participatory institutions and processes, as well as accurate and transparent measurements of greenhouse gas emissions, climate change and its impacts. States should make early-warning information regarding climate effects and natural disasters available to all sectors of society. Adaptation and mitigation plans should be publicly available, transparently financed and developed in consultation with affected groups. Particular care should be taken to comply with relevant human rights obligations related to participation of persons, groups and peoples in vulnerable situations in decision-making processes and to ensure that adaptation and mitigation efforts do not have adverse effects on those that they should be protecting. Human rights impact assessments of climate actions should be employed to ensure that they respect human rights. Further, States should develop and monitor relevant human rights indicators in the context of climate change, keeping disaggregated data to track the varied impacts of climate change across demographic groups and enabling effective, targeted and human rights compliant climate action.

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Promotion and protection of all human rights, civil political, economic, social and cultural rights, including the right to development

Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child

Report of the Office of the United Nations High Commissioner for Human Rights

Summary

The present analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child is submitted pursuant to Human Rights Council resolution 32/33. In the study, the Office of the United Nations High Commissioner for Human Rights examines the impacts of climate change on children and the related human rights obligations and responsibilities of States and other actors, including the elements of a child rights-based approach to climate change policies. The study provides examples of good practices and concludes with several recommendations.

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Contents

I. Introduction

1. The present study is submitted pursuant to Human Rights Council resolution 32/33, in which the Council requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to conduct a detailed analytical study, in consultation with relevant stakeholders, on the relationship between climate change and the full and effective enjoyment of the rights of the child.

2. On 9 September 2016, OHCHR circulated a note verbale and questionnaire to Member States requesting inputs for the study. Communications were also sent to other stakeholders, including international organizations, national human rights institutions and civil society. Their inputs were summarized in a conference room paper prepared by OHCHR in advance of the panel discussion on the adverse impact of climate change on States' efforts to realize the rights of the child and related policies, lessons learned and good practices, held on 2 March 2017.[1] The panel discussion, written inputs, consultations and independent research have informed the present study.

3. In the study, OHCHR examines the impacts of climate change on children and the related human rights obligations and responsibilities of States and other actors, including the elements of a child rights-based approach to climate change policies. It provides examples of good practices and concludes with concrete recommendations for fulfilling human rights obligations, particularly those related to children's rights, in the context of climate change.

II. Key impacts of climate change on children

4. Children are disproportionately affected by changes in their environment, due to their unique metabolism, physiology and developmental needs.[2] Changes in temperature, air and water quality and nutrition are likely to have more severe and long-term impacts on children's health, development and well-being. Young children, because of their less developed physiology and immune systems, will experience most intensely the effects of climate change-related stresses.[3] During childhood, alterations to the social and physical environment can have far-reaching implications for children's long-term physical and mental health and overall quality of life.

5. According to United Nations Children's Fund (UNICEF), there may be no greater threat facing the world's children, and future generations, than climate change.[4] In 2014, there were 2.2 billion children in the world, with approximately 30 per cent of the world's population being under 18 years old.[5] Existing and future demographic trends reveal that many of the countries that have been identified as highly vulnerable to climate change also have higher proportions of children in their overall population. These include parts of South Asia, the Pacific islands and other small island developing States, equatorial Africa and the Pacific coast of South America.

6. As discussed below, some of the most substantial impacts of climate change on children are caused by extreme weather and natural disasters, water scarcity and food insecurity, air pollution and vector-borne diseases and resulting psychological trauma. Children in vulnerable situations are disproportionately affected by climate change.

[1] For the summary of the panel discussion, see A/HRC/35/14. The original inputs received and the informal summary of those inputs are available at www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/RightsChild.aspx.

[2] See generally World Health Organization (WHO), *Inheriting a Sustainable World? Atlas on Children's Health and the Environment* (2017), available at www.who.int/ceh/publications/inheriting-a-sustainable-world/en/.

[3] P.J. Landrigan and A. Garg, "Children are not little adults", in *Children's Health and the Environment: A Global Perspective*, J. Pronczuk-Garbino, ed. (Geneva, WHO, 2005).

[4] UNICEF, *Unless We Act Now: The Impact of Climate Change on Children* (New York, 2015), p. 6.

[5] UNICEF, *The State of the World's Children 2014: Every Child Counts* (New York, 2014).

A. Extreme weather and natural disasters

7. Climate change contributes to the increasing frequency and intensity of extreme weather events. Globally, nearly 160 million children have been identified as living in areas of high or extremely high drought severity.[6] More than half a billion children live in zones of extremely high flood occurrence, and approximately 115 million children live in zones of high or extremely high tropical cyclone risk.[7] Even under a medium-low emission scenario, the Intergovernmental Panel on Climate Change predicts a global sea-level rise of 0.53 metres by 2100, with coastal and low-lying areas at risk of submergence, flood damage, erosion and impeded drainage.[8] Floods and other natural disasters caused by extreme weather are likely to elevate mortality and morbidity among children.

8. Young children are more susceptible to injury and death during natural disasters. In the aftermath of the 2010 floods in Pakistan, rates of under-5 mortality in flood-affected areas were notably higher than the national average.[9] Natural disasters can also result in the separation of children from their family unit, increasing their vulnerability to subsequent harm.

9. Climate change is also expected to increase the duration and intensity of heat waves. This will affect children disproportionately, as their bodies adapt at a slower rate to changes in heat and they may suffer from heat rash, heat-related cramps, exhaustion, renal disease, respiratory illness, stroke and death.[10]

10. Extreme weather events can disrupt access to essential educational, health and housing services. For example, children's access to education can be interrupted by damage to educational facilities and critical infrastructure and by the use of schools as emergency shelters.[11] Similarly, damage to health infrastructure and essential drug supplies can make post-emergency interventions less effective. Floods and landslides, sea-level rise and powerful storms can degrade and destroy housing units and water and sanitation infrastructure, worsening living conditions, particularly for children, in unplanned and underserviced settlements.[12]

11. Climate change-related disasters can also disrupt child protection systems and exacerbate pre-existing tensions and conflicts, leaving children susceptible to abuse, child labour, trafficking and other forms of exploitation.[13]

B. Water scarcity and food insecurity

12. Climate change is already affecting water and food supplies, with severe consequences for children in poor communities. Changing patterns of precipitation, sea-level rise and increased evaporation as a result of climate change will reduce surface and

[6] UNICEF, *Unless We Act Now*.

[7] Ibid.

[8] Christopher B. Field and others, eds., *Climate Change 2014: Impacts, Adaptation and Vulnerability*, Working Group II contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (New York, Cambridge University Press, 2014), pp. 368-369.

[9] UNICEF, *Unless We Act Now*, p. 30; see also WHO, "Pakistan floods 2010: early recovery plan for the health sector" (2011), p. 52.

[10] See, for example, Johns Hopkins Medicine, "Heat-related illnesses (heat cramps, heat exhaustion, heat stroke)", available from www.hopkinsmedicine.org/healthlibrary/conditions/pediatrics/heat-related_illnesses_heat_cramps_heat_exhaustion_heat_stroke_90,P01611/.

[11] Katie Harris and Kelly Hawrylyshyn, "Climate extremes and child rights in South Asia: a neglected priority" (Overseas Development Institute, 2012).

[12] See generally A/64/255 on climate change and the right to adequate housing, para. 21 on the disproportionate impacts on children.

[13] Sheridan Bartlett, "Climate change and urban children: impacts and implications for adaptation in low- and middle-income countries", *Environment and Urbanization*, vol. 20, No. 2 (October 2008), pp. 509-510; Global Protection Cluster, "Strengthening protection in natural disaster response: children", available at www.globalprotectioncluster.org/en/tools-and-guidance/essential-protection-guidance-and-tools/protection-in-natural-disasters-essential-guidance-and-tools.html.

groundwater resources in most dry subtropical regions.[14] Droughts are expected to intensify, reducing access to water for personal consumption, agriculture and economic activities. Acidification and increasing water temperatures further threaten the fisheries upon which many coastal communities rely for subsistence.

13. Shortages of safe drinking water and food staples will have disproportionate impacts on children, particularly the poor. Children's consumption needs per body weight are higher than those of adults and food and water scarcity undermines their physical and cognitive growth.[15] Globally, undernutrition is responsible for nearly half of all under-5 deaths and is a major factor exacerbating the frequency and severity of other diseases and infections.[16] Inadequate responses to malnourishment during the first two years of life result in irreversible stunting with lifelong consequences for children's cognitive capacity, school performance and economic productivity.[17] It is estimated that, by 2030, climate change will result in an additional 7.5 million children under the age of 5 who are moderately or severely stunted.[18]

14. Food and water crises pose additional risks, such as increased incidences of school dropout, child labour and domestic violence. Crop and income loss has been linked to significant increases in the level of child labour used for household chores such as fetching water and searching for firewood.[19] When extreme weather affects the security of household incomes and families increase their reliance on child labour, children have less time and energy to dedicate to school activities.

C. Air pollution

15. In 2012, indoor and outdoor air pollution combined were linked to approximately 700,000 deaths among children under 5 years of age.[20] Although air pollution is not caused by climate change, some forms of air pollution cause climate change. Further, climate change can exacerbate some forms of air pollution, for example, by intensifying the toxicity of pollutants, such as ozone, a trigger of childhood asthma.[21] The heightened risk of wildfires associated with heat waves and drought affects air quality and children's respiratory systems, and warmer temperatures are also linked with the release of airborne allergens that can exacerbate asthma and allergic respiratory diseases.[22] Thus, air pollution and climate change contribute to a vicious cycle that disproportionately affects children, who, due to their higher breathing rate, are more susceptible to respiratory problems and infections related to air pollution.[23]

D. Vector-borne and infectious diseases

16. Children are more susceptible than adults to many vector-borne and infectious diseases. Waterborne diseases typically spread in the aftermath of climate change-related floods and storms, especially when water and sanitation infrastructure is damaged. Poor hygiene and consumption of contaminated water can contribute to increased incidence of diarrhoea and cholera, among other illnesses. Diarrhoea is the second leading cause of

[14] Field and others, *Climate Change 2014*, p. 232.
[15] Landrigan and Garg, "Children", pp. 3-4.
[16] UNICEF, "Undernutrition contributes to nearly half of all deaths in children under 5 and is widespread in Asia and Africa", available at https://data.unicef.org/topic/nutrition/malnutrition/.
[17] Cesar G. Victora, and others, "Maternal and child undernutrition: consequences for adult health and human capital", *Lancet*, vol. 371, No. 9609 (2008).
[18] WHO, *Quantitative Risk Assessment of the Effects of Climate Change on Selected Causes of Death, 2030s and 2050s* (Geneva, 2014), p. 80.
[19] Kathleen Beegle, Rajeev H. Dehejia and Roberta Gatti, "Child labor and agricultural shocks", *Journal of Development Economics*, vol. 81, No. 1 (October 2006).
[20] WHO, *Inheriting a Sustainable World?*, p. 16.
[21] UNICEF, *Unless We Act Now*, p. 44.
[22] Field and others, *Climate Change 2014*, p. 729.
[23] Landrigan and Garg, "Children".

mortality in children under 5.[24] By 2030, it is projected that climate change impacts will result in 48,000 additional deaths from diarrhoeal disease in children under 15.[25]

17. Climate change is also likely to expand the seasonal and geographic range of vector-borne diseases, including insect-borne diseases with hosts sensitive to variations in temperature, humidity and precipitation. Malaria is expected to expand into tropical highland regions where the medical and immunological responses of populations may be ill-equipped to cope.[26] Infants and young and poor children living in areas with substandard health facilities are at particular risk. In 2015, roughly 300,000 children under the age of 5 died from malaria;[27] the majority lived on the African continent. Outbreaks of other diseases that affect children, such as dengue, Zika, leptospirosis, viral infections, meningitis, varicella, viral hepatitis, leishmaniasis and pertussis, have been linked to climate change.[28]

E. Impacts on mental health

18. Climate change and the impacts of traumatic stress connected to climate change, such as war/insecurity, sexual and physical violence and witnessing deaths and injury related to extreme weather disasters, negatively affect children's mental health. Children who lose a family member or experience life-threatening situations as a result of the impacts of climate change have a higher chance of experiencing post-traumatic stress, anxiety disorders, suicidal ideation and depression. Disasters can also affect children's cognitive capacity with corresponding impacts on their emotional well-being. For example, children affected by El Niño during early childhood posted lower scores in language development, memory and spatial reasoning than other children of a similar age.[29] Lower cognitive functioning in early life has been shown to increase the risk of future mental health problems.[30]

19. Children may also experience anxiety related to fear of separation from their families and heightened household tensions resulting from the loss of family livelihoods.[31] Children whose families are affected by climate change may be exposed to higher risks of violence, physical abuse, child labour, trafficking and exploitation. Their needs for rest and play may be subordinated to basic survival interests. In cases of displacement, separation from traditional lands and territories, from communities and from family members can have impacts on children's education, cultural identity and access to social support systems. All of these climate impacts have potentially severe mental health repercussions.

F. Disproportionate impacts on children in vulnerable situations

20. According to the Intergovernmental Panel on Climate Change, "people who are socially, economically, culturally, politically, institutionally or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses".[32] The negative impacts of climate change will disproportionately affect poor children, indigenous children, minorities, migrants and other children on the move, children

[24] WHO, "Diarrhoeal disease", Fact sheet No. 330 (2013), available from www.who.int/mediacentre/factsheets/fs330/en/.

[25] WHO, *Quantitative Risk*, p. 44.

[26] UNICEF, *Unless We Act Now*, p. 48.

[27] WHO, "Malaria in children under 5" (2016), available at www.who.int/malaria/areas/high_risk_groups/children/en/.

[28] A/HRC/32/23.

[29] Arturo Aguilar and Marta Vicarelli, "El Niño and Mexican children: medium-term effects of early-life weather shocks on cognitive and health outcomes" (2011).

[30] Chuan Yu Chen and others, "Mild cognitive impairment in early life and mental health problems in adulthood", *American Journal of Public Health*, vol. 96, No. 10 (October 2006).

[31] Agnes A. Babugara, "Vulnerability of children and youth in drought disasters: a case study of Botswana", *Children, Youth and Environments*, vol. 18, No. 1 (2008).

[32] Field and others, *Climate Change 2014*, p. 50.

with disabilities and others in vulnerable situations. Girls also face heightened risks due to climate change. Additionally, disproportionate impacts will be felt by children living in developing countries, particularly those in geographically vulnerable areas, such as riparian and low-lying coastal areas, arid regions, high mountains, polar zones and other delicate ecosystems. The following sections contain illustrative examples of the disproportionate impacts of climate change on girls, indigenous children, children with disabilities and children on the move.

1. Girls and pregnant women

21. Girls are more likely to be pulled from school to perform household chores, such as eldercare, fetching water and cooking, when households are affected by climate change stresses.[33] To counteract the effects of climate change on livelihoods, girls may sometimes be sold into child marriage, trafficked or forced to work, with resulting impacts on their education, health, liberty and security. Evidence also suggests that food insecurity associated with climate change disproportionately affects girls.[34]

22. Situations of crisis can exacerbate gender inequalities, affecting girls more and differently. Gender inequalities have been linked to higher rates of mortality from natural disasters among women and girls.[35] In post-disaster settings, pregnant women, with their distinct needs for maternal health care, food, water, sanitation and hygiene, face unique health risks. Exposure to extreme temperatures, infection with water- and vector-borne diseases and post-disaster emotional distress during pregnancy have been associated with negative impacts on pregnancy outcomes, including miscarriage, premature birth and anaemia.[36] Girls' security and bodily integrity can also be threatened by climate change-related displacement. Evacuation to shelters lacking safe facilities for girls has been documented to heighten risks of all forms of sexual harassment and violence, including human trafficking. This can result in higher rates of forced girl pregnancies and forced marriages.[37]

2. Indigenous children

23. Many indigenous peoples rely upon climate-sensitive ecosystems for livelihoods as well as spiritual and cultural practices. Therefore, they are particularly threatened by the degradation of land, water and biodiversity. For example, the traditional livelihoods of indigenous peoples in the Arctic have been adversely affected by rising temperatures.[38] Many indigenous children live in impoverished communities which affects their capacity for climate adaptation. Indigenous peoples constitute approximately 15 per cent of the world's poor and one third of the 900 million people living in extreme poverty in rural areas.[39] Indigenous children may also be negatively affected by actions taken to mitigate climate change, such as projects related to the production of biofuel or hydroelectric power, which have sometimes resulted in the displacement of entire indigenous communities without their free, prior and informed consent.[40]

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[33] Global Gender and Climate Alliance, *Gender and Climate Change: A Closer Look at Existing Evidenc*e (2016), pp. 17-18.

[34] Ibid., p. 25.

[35] Eric Neumayer and Thomas Plümper, "The gendered nature of natural disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981-2002", *Annals of the Association of American Geographers*, vol. 97, No. 3 (2007).

[36] Global Gender and Climate Alliance, *Gender and Climate Change*, p. 29.

[37] Anita Swarup and others, *Weathering the Storm: Adolescent Girls and Climate Change* (Plan International, 2011), available at www.ungei.org/files/weatherTheStorm.pdf; and Claudia Feltan-Bierman, "Gender and natural disaster: sexualized violence and the tsunami", *Development*, vol. 49, No. 3 (September 2006).

[38] Field and others, *Climate Change 2014*, p. 1583.

[39] Department of Economic and Social Affairs, *State of the World's Indigenous Peoples* (New York, United Nations, 2009), p. 21.

[40] United Nations Environment Programme, *Climate Change and Human Rights* (Nairobi, 2015), pp. 8-9.

3. Children with disabilities

24. The negative impacts of climate change can exacerbate inequities already experienced by children with disabilities. The Convention on the Rights of Persons with Disabilities highlights that the majority of persons with disabilities live in conditions of poverty. Children with disabilities may experience social and economic exclusion, be left out of decision-making processes and have difficulty accessing social services. They are more likely to live in poverty and to experience physical abuse, while at the same time enjoying less access to educational and medical services.[41] These factors can contribute to the disproportionate impact of climate change on children with disabilities. The negative impacts of climate change on children can also lead to an increased risk of health-related disabilities.

25. In emergencies, children with disabilities may suffer higher rates of abuse, neglect and abandonment.[42] Insufficient accessibility considerations in evacuation, response and relief efforts caused by the exclusion of disability issues from disaster planning renders children with disabilities particularly susceptible to injuries and diseases.[43] Barriers to access to food, drinking water and medical relief in the aftermath of disasters can affect health and exacerbate the effects of children's disabilities.[44]

4. Children on the move

26. Climate change is increasingly recognized as a key driver of human movement. In the most extreme cases, all inhabitants of some small island States and low-lying coastal areas may need to be relocated. An estimated 22.5 million people per year for the seven years leading up to 2015 have already been displaced by climate- or weather-related disasters.[45] These disasters are expected to increase in both frequency and intensity with further climate change.

27. When sudden or slow-onset disasters result in large-scale human movement, children may be separated from their cultural heritage and face barriers in access to schools, adequate health-care facilities and other necessary goods and services. Overcrowded shelters with inadequate sanitation and access to clean water can increase the transmission of diarrhoea and malnutrition rates, both leading causes of child mortality.[46] Inadequate security and protection in some shelters can expose children to abuse and violence. Children travelling alone or separated from their parents can be particularly at risk of emotional, physical and sexual violence.[47]

III. Human rights obligations and responsibilities of States and other actors

28. The Convention on the Rights of the Child states that the recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world. Children's rights are inalienable and universal human rights entitlements enshrined in the Convention, which is the most widely ratified human rights instrument in the world. These rights are also reflected in treaties such

[41] UNICEF, *State of the World's Children 2013: Children with Disabilities* (New York, 2013), available at www.unicef.org/sowc2013/files/SWCR2013_ENG_Lo_res_24_Apr_2013.pdf.

[42] A/HRC/31/30.

[43] Global Partnership for Disability and Development and World Bank, "The impact of climate change on people with disabilities" (2009).

[44] WHO, "Disasters, disability and rehabilitation" (2005), available at www.who.int/violence_injury_prevention/other_injury/disaster_disability2.pdf.

[45] Internal Displacement Monitoring Center, *Global Estimates 2015: People Displaced by Disasters*, p. 8 (Geneva, 2015).

[46] UNICEF and WHO, *Diarrhoea: Why Children Are Still Dying and What Can Be Done* (Geneva, 2009), available at http://apps.who.int/iris/bitstream/10665/44174/1/9789241598415_eng.pdf.

[47] UNICEF, *The Challenges of Climate Change: Children on the Front Line* (Innocenti Insight, Florence, 2014), pp. 29-32.

as the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights. All States are obligated to respect, promote, protect and fulfil a set of interrelated and indivisible civil, political, economic, social and cultural rights for all children without discrimination.

29. The impacts of climate change outlined in the preceding section clearly undermine the effective enjoyment of the rights enshrined in the Convention on the Rights of the Child, including the rights to life, survival and development (art. 6), family relations and not to be separated from one's parents against one's will (arts. 9-10), the highest attainable standard of health (art. 24), adequate standard of living (art. 27), education (art. 28), freedom from any form of violence or exploitation (arts. 19, 32 and 34-36), recreation and play (art. 31) and the enjoyment of one's culture (art. 30).[48] The Committee on the Rights of the Child has identified climate change as one of the biggest threats to children's health and has urged States parties to put children's health concerns at the centre of their climate change adaptation and mitigation strategies.[49] It has emphasized that States have a responsibility to protect children from environmental harms.

30. The negative impacts of climate change on children trigger obligations among all duty bearers to take action to protect all children from its actual and foreseeable adverse effects.[50] The importance of children's rights in the context of climate change is explicitly recognized in the Paris Agreement under the United Nations Framework Convention on Climate Change, in which States are called on to respect, promote and consider their respective obligations on, among other things, the rights of the child and intergenerational equity when taking action to address climate change.

31. The core human rights obligations of States and other duty bearers in the context of climate change are outlined in the key messages on human rights and climate change of OHCHR.[51] These obligations require States to take a human rights-based approach to protect those most vulnerable to climate change from its worst impacts. The 2030 Agenda for Sustainable Development, the Paris Agreement, the Sendai Framework for Disaster Risk Reduction 2015-2030 and the Addis Ababa Action Agenda of the Third International Conference on Financing for Development all reaffirm State commitments to a human rights-based approach to development and climate action. A human rights-based approach analyses obligations, inequalities and vulnerabilities and seeks to redress discriminatory practices and unjust distributions of power.[52] A child rights-based approach to climate change mitigation and adaptation builds upon the essential attributes of human rights-based approaches while incorporating the specificities of children's rights, needs and capacities.

32. The Committee on the Rights of the Child has identified four general principles of a child rights-based approach: non-discrimination, the best interests of the child, the child's right to life, survival and development and the child's right to express his or her views.[53] A child rights-based approach to climate change should take into account the following:

(a) As climate policies and programmes are formulated, the main objective should be to fulfil human rights, taking into account the specific risks faced by children, their unique developmental needs, identification of their best interests and incorporation of their views, in accordance with their evolving capacities;

(b) Children's participation in relevant decision-making processes, including those related to climate adaptation and mitigation policies, must be ensured;

[48] See CRC/C/JAM/CO/3-4, para. 50, CRC/C/LCA/CO/2-4, para. 52, CRC/C/TUV/CO/1, paras. 7 and 55.

[49] General comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health, para. 50.

[50] See, for example, A/HRC/32/23 and A/HRC/31/52.

[51] See A/HRC/33/31, annex II.

[52] See http://hrbaportal.org/the-human-rights-based-approach-to-development-cooperation-towards-a-common-understanding-among-un-agencies.

[53] See general comment No. 5 (2003) on general measures of implementation of the Convention, para. 12.

(c) The obligations and responsibilities of duty bearers, such as States and private actors, must be clarified;

(d) Principles and standards derived from international human rights law, especially the Universal Declaration of Human Rights and the core universal human rights treaties, should guide all policies and programming.

33. A child rights-based approach requires States to take urgent action to mitigate climate change by limiting emissions of greenhouse gases in order to prevent to the greatest extent possible their negative human rights impacts on children and future generations. Protection of children's rights requires stopping development of the most carbon-intensive fossil fuels and transitioning to clean, renewable sources of energy. States also must take adaptation measures to protect and fulfil the rights of all children, and indeed all persons, particularly those most endangered by the negative impacts of climate change. All efforts to mitigate and adapt to climate change should be guided by relevant human rights norms, standards and principles, including those related to participation, access to information, transparency, accountability, equity, non-discrimination and equality.

34. In the United Nations Framework Convention on Climate Change and the Paris Agreement under that Convention, States are called on to take action on climate change on the basis of equity and in accordance with their common but differentiated responsibilities, while the Rio Declaration on Environment and Development and the Vienna Declaration and Programme of Action call for the right to development to be fulfilled so as to meet equitably the developmental and environmental needs of present and future generations. These commitments are reaffirmed in the 2030 Agenda for Sustainable Development, in which a just, equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met and development that benefits current and future generations are envisioned.

35. The principle of intergenerational equity underlying these frameworks places a duty on current generations to act as responsible stewards of the planet and ensure the rights of future generations to meet their developmental and environmental needs. This principle has been applied by the Committee on Economic, Social and Cultural Rights, which directed States to adopt comprehensive and integrated strategies and programmes to ensure that there is sufficient and safe water for present and future generations.[54] States also have a moral and ethical obligation to place the needs of today's children and of future generations at the core of climate change policies and actions.

36. The human rights obligations of States require both individual action and international cooperation. States, acting individually and collectively, are obligated to mobilize and allocate the maximum available resources for the progressive realization of economic, social and cultural rights, as well as for the advancement of civil and political rights and the right to development. Equitable climate action requires that the burden of addressing and preventing the adverse effects of climate change is shared, taking into consideration the common but differentiated responsibilities of States. This means that those developed countries that have contributed the most to climate change should cooperate, including through the mobilization of finance and the transfer of technology and knowledge, to strengthen climate mitigation and adaptation capacity in those developing countries that have contributed the least. Particular attention should be paid to protecting children from the adverse effects of climate change.

37. Actors other than States also bear responsibility for climate change harm. The Guiding Principles on Business and Human Rights affirm that States have an obligation to protect human rights from business harm, while private enterprises have a responsibility to respect human rights and do no harm.[55] The Committee on the Rights of the Child has called on States to protect children's rights from harm caused by business enterprises, through the adoption of mandatory requirements for children's rights due diligence by

[54] See general comment No. 15 (2002) on the right to water, para. 28.

[55] See also UNICEF, The Global Compact and Save the Children, *Children's Rights and Business Principles*, available at http://childrenandbusiness.org/.

businesses.[56] States should also ensure children's access to effective redress mechanisms for violations of their rights by businesses, including through the exercise of extraterritorial jurisdiction as appropriate.[57]

38. States are obligated to provide effective and timely remedies for climate change-related harm, including for harm caused by climate mitigation and adaptation projects. Article 2 (3) of the International Covenant on Civil and Political Rights guarantees all persons, including children, the right to an effective remedy for violations of human rights. The Committee on the Rights of the Child stresses that in cases of violations of children's rights, there should be appropriate reparation, including compensation, and, where needed, measures to promote physical and psychological recovery, rehabilitation and reintegration.[58] Article 12 (2) of the Convention on the Rights of the Child establishes that children are to be provided the opportunity to be heard in any judicial or administrative proceedings affecting them, either directly, or through a representative or an appropriate body. Children's special and dependent status, their frequent absence of legal standing, power imbalances and lack of knowledge, including with regard to climate change, can impair their access to remedies. States are obligated to take appropriate steps to empower children and ensure their access to child-sensitive judicial and administrative processes.

39. The Convention on the Rights of the Child recognizes children's rights to seek and impart information and to have access to an education that fosters respect for the environment and the development of relevant life skills and knowledge.[59] Under article 6 of the United Nations Framework Convention on Climate Change, States parties are required to promote and facilitate public access to information on climate change and its effects. A child rights-based approach to climate action requires States to provide adequate, child-accessible and timely information about climate impacts, risks and hazards. States should conduct and disclose environmental and children's rights impact assessments and ensure an adequate education related to environmental issues in order to inform children's participation in climate decision-making. Education and access to information empower children and other actors, such as health professionals and policymakers, to advocate for children's rights.

40. All children are entitled to participate, according to their age and maturity, in all decisions that have a direct and indirect impact upon their well-being. Under article 12 of the Convention on the Rights of the Child, States are required to create an enabling environment where children can freely express their views and have them given due consideration. In the 2030 Agenda for Sustainable Development children, together with young women and men, are recognized as critical agents of change who can channel their infinite capacities for activism into the creation of a better world.[60] Under article 6 of the United Nations Framework Convention on Climate Change, States are directed to promote and facilitate public participation in addressing climate change and its effects and developing adequate responses. A child rights-based approach to climate change requires that children should not be treated as passive victims of events beyond their influence, but rather as agents of change whose preferences and choices are fairly reflected in policy design and implementation. Ensuring children's education and participation as called for in the 2030 Agenda will be critical to fulfilling this objective.

[56] General comment No. 16 (2013) on State obligations regarding the impact of the business sector on children's rights.

[57] Ibid., para. 44.

[58] Committee on the Rights of the Child, general comment No. 5, para. 24.

[59] See articles 13 and 29 and Committee on the Rights of the Child, general comment No. 1 (2001) on the aims of education, para. 9.

[60] General Assembly resolution 70/1, para. 51.

IV. Good practices in promoting children's rights in climate action

41. Some States, civil society organizations and other actors have already taken measures to integrate children's rights in their climate actions. Existing good practices should be used to inform and enhance further national and intergovernmental action on climate change. These may involve, for example, educational policies, disaster risk reduction measures, strategic litigation and engagement by human rights mechanisms.

A. Educational policies

42. Education on environmental stewardship, climate change and disaster risk reduction can prepare children of all ages to better address emerging environmental challenges. Most States that provided inputs for the present study had climate change education programmes and/or strategies to develop climate change and environmental curricula.[61] The United Nations Educational, Scientific and Cultural Organization, through its Climate Change Education for Sustainable Development programme, has been working with national Governments, particularly in African and small island developing States, to integrate climate change into national curricula through innovative approaches.[62]

43. In Italy, collaboration between the ministries for the environment and for education led to the launch of new guidelines for environmental education.[63] Extracurricular projects can also foster children's activism and involvement in climate change policies. In Zambia, UNICEF has supported the Unite4Climate project, a child-led advocacy programme that empowers young people aged 11 to 17 to become climate ambassadors and agents of change within their communities and in global climate negotiations.[64] Some States have established national platforms for young people to voice their concerns and share their ideas about climate change and other issues, for example, the national environment and health platform for young people in Lithuania[65] and the Children's Parliament in Namibia.[66] In Slovenia, the Administration for Civil Protection and Disaster Relief trains young people in disaster response and ensures access to information for all children, including those with disabilities.[67]

B. Disaster risk reduction

44. The incorporation of the principle of the best interests of the child throughout disaster risk reduction, sustainable development and climate change action is key to protecting children's rights in a changing climate. In the Philippines, the Children's Emergency Relief and Protection Act of 2016 provides for specific measures to protect and educate children in the context of emergencies, ensure their participation in relevant decision-making processes and collect better data.[68] In Viet Nam, a law on environmental protection incorporates the principles of the best interests of the child and gender equality in relation to green growth and climate change;[69] the country is also considering a child-

[61] The inputs used for the study are available at www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/RightsChild.aspx.
[62] United Nations Educational, Scientific and Cultural Organization, *Not Just Hot Air: Putting Climate Change Education into Practice* (Paris, 2015).
[63] Input from Italy.
[64] Input from UNICEF and Germany.
[65] Input from Lithuania.
[66] Input from Namibia.
[67] Input from Slovenia.
[68] Input from the Philippines.
[69] Input from UNICEF.

centred programme on disaster risk reduction for 2017-2021 that would focus on capacity-building in mitigating the impacts of recurring weather risks on children.[70]

45. Indonesia has linked its Child Friendly Cities initiative with climate change and disaster risk reduction objectives by piloting a child-centred climate risk assessment method.[71] In its development cooperation policy, Germany has committed to protecting the best interests of the child and has allocated funding for climate change adaptation, resilience and disaster risk reduction projects involving children and young people.[72] At the national level, Slovakia implements the Convention of the Rights of the Child through its national plan of action for children, which is taken into account in climate policies.[73]

C. Litigation

46. While future generations lack clear legal standing under international law, domestic developments highlight ways in which their interests can be protected through climate change policies and litigation. Some national constitutions have included references to future generations in their provisions on environmental rights. Article 33 of the Constitution of the Plurinational State of Bolivia, for example, enshrines the right to a healthy, protected and balanced environment to enable the development of individuals and collectives of present and future generations. While explicitly referencing future generations, as the Plurinational State of Bolivia has done, could provide a basis for climate litigation directly on behalf of those generations, this may not be explicitly necessary to protect their interests. Climate litigation by today's children has the potential to safeguard the interests of the next generations, and a legal basis for such litigation exists in many countries. For example, in Azerbaijan, articles 30 and 38 of the Law on child rights ensure protection and emergency support to children affected by natural disasters, and article 39 of the Constitution guarantees redress for damages caused by environmental impacts.

47. In some countries, children and their representatives have already engaged in environmental litigation. In *Minors Oposa v. Secretary of the Department of Environmental and Natural Resources*, the Supreme Court of the Philippines ruled on behalf of a class representing children that the State had an intergenerational responsibility to maintain a clean environment. In *Gbemre v. Shell Petroleum Nigeria Limited and Others*, a Nigerian court ordered Shell Petroleum to take immediate steps to cease gas flaring, which contributed to respiratory diseases, greenhouse gas emissions and agricultural problems. It found that gas flaring violated the rights to human dignity and life guaranteed in the Nigerian Constitution and the African Charter on Human and Peoples' Rights. In the United States of America, a group of 21 plaintiffs between the ages of 9 and 20 have filed suit against the federal Government alleging that inadequate climate change mitigation measures constitute a violation of their constitutional rights to life, liberty and property, among others.[74] Precedents such as these demonstrate the potential role of the judicial system in protecting children from harmful activities, including those that contribute to climate change.

D. Engagement by human rights mechanisms

48. National human rights institutions, the human rights treaty bodies and the special procedures and universal periodic review of the Human Rights Council can all play a role in protecting children's rights from the impacts of climate change. The Committee on the Elimination of Discrimination against Women, for example, is currently drafting a general

[70] See www.ohchr.org/Documents/Issues/ClimateChange/RightsChild/Update14.3/StatementPanelCCandrightsofthechildHEMHAKimNgoc.pdf.

[71] Input from UNICEF.

[72] Input from Germany.

[73] Input from Slovakia.

[74] *Juliana et al. v. United States of America et al.* See Our Children's Trust (www.ourchildrenstrust.org/us/federal-lawsuit/).

recommendation on gender-related dimensions of disaster risk reduction in a changing climate,[75] while the Committee on the Rights of the Child has issued, on several occasions, concluding observations including observations and recommendations on climate change.[76] In 2015, the Commonwealth Forum of National Human Rights Institutions issued the St. Julian's Declaration on Climate Justice, in which the institutions committed to, inter alia, "promote the principle of equality and non-discrimination in climate action, including the rights of children". The Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, whose forthcoming report will focus on children, and other special procedure mandate holders have focused on the impacts of climate change on human rights in their reporting.[77] Finally, specific recommendations related to climate change and its impacts on the rights of the child have been issued on several occasions in the context of the universal periodic review of the Human Rights Council.[78]

V. Conclusions and recommendations

49. **The conclusions and recommendations below are derived from the various elements that have informed the present study.**

A. Conclusions

50. **The negative impacts of climate change, including the increasing frequency and intensity of natural disasters, changing precipitation patterns, food and water shortages, and the increased transmission of communicable diseases, threaten the enjoyment by children of their rights to health, life, food, water and sanitation, education, housing, culture and development, among others. Climate change heightens existing social and economic inequalities, intensifies poverty and reverses progress towards improvement in children's well-being. All children are exceptionally vulnerable to the negative impacts of climate change, with the youngest children being most at risk.**

51. **Climate change has a disproportionate impact on some children, including children with disabilities, children on the move, poor children, children separated from their families and indigenous children. Girls also face heightened risks due to climate change. In climate-vulnerable States and climate-sensitive areas, climate change poses a contemporaneous threat to inhabitants' rights to life, survival and development, among others. The rights and opportunities of children living in such areas can be severely affected. Beyond threatening children's physical well-being, climate change poses a threat to their cultural identity, to their connections with the natural environment and to their education.**

52. **The human rights obligations and responsibilities contained in the Convention on the Rights of the Child, the Paris Agreement and other international human rights instruments require States and other duty bearers, including businesses, to take action to protect the rights and best interests of children from the adverse effects of climate change. Many States already have in place laws, policies and commitments related to the protection of children's rights, the preservation of a healthy environment and climate change mitigation and adaptation. However, further action is needed to promote accountability for all actors, ensure children's access to justice and protect children from the negative impacts of climate change. Children have a right to meaningful participation in climate policymaking aimed at accomplishing these**

[75] See www.ohchr.org/EN/HRBodies/CEDAW/Pages/DraftGRDisasterRisk.aspx.

[76] See, for example, CRC/C/GBR/CO/5.

[77] See, for example, A/HRC/31/52 and www.thecvf.org/wp-content/uploads/2015/05/humanrightsSRHRE.pdf.

[78] See, for example, A/HRC/33/6 (Samoa, 2016), A/HRC/30/13 and Corr.1 (Marshall Islands, 2015), A/HRC/26/9 (Vanuatu, 2014), A/HRC/24/8 (Tuvalu, 2013) and A/HRC/16/7 (Maldives, 2011).

objectives and should play an active role in inspiring and shaping more effective climate policies.

53. **Human rights, climate change, development and disaster risk reduction, including relevant international instruments and processes, are inextricably linked. A child rights-based approach to climate change mitigation and adaptation is called for by the intersections of these various frameworks with human rights obligations. It requires States to take affirmative measures to respect, protect, promote and fulfil the human rights of all children and to integrate their rights in all climate mitigation and adaptation policies and actions.**

54. **Fundamentally, a child rights-based approach requires:**

(a) **Ambitious mitigation measures to minimize the future negative impacts of climate change on children to the greatest extent possible by limiting warming to no more than 1.5°C above pre-industrial levels, as called for in the Paris Agreement;**

(b) **Adaptation measures that focus on protecting those children most vulnerable to the impacts of climate change;**

(c) **Mitigation and adaptation actions that are the product of participatory, evidence-based decision-making processes that take into account the ideas and best interests of children as expressed by children themselves.**

55. **Within these efforts, particular attention should be paid to girls, children with disabilities, indigenous children and other children who may be disproportionately affected by climate change. All children should be treated as active participants in climate action.**

56. **Truly sustainable, rights-based development requires climate actions that are informed by and take into consideration children's rights, intergenerational equity and the needs of future generations. These actions should be evidence based and supported by a free, transparent exchange of good practices, resources and technical assistance adequate to address the threat of climate change in line with international human rights laws, norms and standards.**

B. Recommendations

57. **A child-rights based approach to climate change requires all relevant actors to take steps to ensure children's rights policy coherence, empower children to participate in climate policymaking, guarantee children access to remedies for climate harm, better understand the impacts of climate change on children and mobilize adequate resources for child rights-based climate action. When pursuing these objectives, the particular needs of those children most vulnerable to climate change and its impacts must be taken into account.**

1. Ensure children's rights policy coherence

58. **States should ensure that children's rights considerations are integrated in their climate, disaster risk reduction and development activities. Efforts should be taken to link actions, positions and processes related to the United Nations Framework Convention on Climate Change, the Human Rights Council, the 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction 2015-2030 in order to establish a coherent approach to sustainable development that benefits all persons, particularly children. This should include:**

(a) **Implementing the Sustainable Development Goals relating to child poverty and malnutrition, access to education, child mortality and health, and water and sanitation, among others, in such a way as to enhance children's resilience to climate change and reduce inequalities;**

(b) **Integrating children's rights considerations in the implementation of the United Nations Framework Convention on Climate Change, including in the**

transparency framework, in intended nationally determined contributions and other communications and in the work of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts and its taskforce on displacement, in order to promote accountability and more effective climate policies;

(c) **Ensuring that climate adaptation policies improve disaster risk preparedness and enhance the adaptation capacities of all children, taking into account the needs and vulnerabilities of those most at risk. Gender considerations, for example, should be accounted for in climate change and disaster risk management policies, projects and planning processes.**

59. **Human rights mechanisms, including the Committee on the Rights of the Child, should consider ways to hold States accountable for their climate commitments, to better document the impacts of climate change and to promote rights-based climate action. As recommended during the day of general discussion on children's rights and the environment held by the Committee on the Rights of the Child, the issue of the environment could be routinely integrated in concluding observations. Civil society inputs to the Committee review process should address climate change and its impacts on children's rights and draw attention to the adequacy of States' individual contributions to efforts to limit climate change to 1.5°C above pre-industrial levels, as well as the impacts of climate actions. Similarly, States should use the universal periodic review mechanism of the Human Rights Council to promote accountability for climate and human rights commitments.**

2. Empower children to participate in climate policymaking

60. **All children, without discrimination, should be prepared for and included in climate decision-making in order to ensure that their best interests are protected. Children's involvement in the design and implementation of climate policies and climate vulnerability assessments should be facilitated according to their age and maturity.**[79] **Consultative mechanisms, improved dissemination of information and other strategies to engage children are needed for their meaningful participation. States should facilitate the participation of children in ongoing processes related to the United Nations Framework Convention on Climate Change that are likely to affect their development and survival.**

61. **Climate change education can empower educators, parents and children as agents of change. Educational curricula should transfer knowledge and develop skills that will equip children to confront climate-related challenges taking into account each child's particular local context and, as appropriate, traditional knowledge. Climate education should, inter alia:**

(a) **Raise awareness about appropriate lifestyle choices for sustainable development, such as low-carbon transportation, energy and consumption behaviours;**[80]

(b) **Emphasize solidarity, promote cooperation with children from other countries and create opportunities for children's participation in environmental decision-making;**[81]

(c) **Include access to up-to-date, meaningful and age-appropriate information about the causes of climate change, its impacts and adaptive responses, including disaster risk reduction and emergency preparedness.**

[79] For example, the inclusion of girls as participants in the design, planning and implementation of climate strategies will lead to more effective policy formation. See, for example, United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) and Mary Robinson Foundation — Climate Justice, *The Full View: Ensuring a Comprehensive Approach to Achieve the Goal of Gender Balance in the UNFCCC Process*, 2nd ed. (2016), available at www.mrfcj.org/wp-content/uploads/2016/11/MRFCJ-Full-View-Second-Edition.pdf.

[80] See, for example, target 4.7 of the Sustainable Development Goals.

[81] See, for example, Committee on the Rights of the Child, general comment No. 1, paras. 9 and 13.

3. Guarantee children access to remedies

62. **States and other responsible actors should take measures to ensure that children have access to effective remedies when they suffer harm from climate action and inaction. Such measures could include:**

(a) **Integrating the right to a healthy environment and the rights of future generations in national constitutions and legislation in order to promote the justiciability of those rights and strengthen accountability systems;**

(b) **Ratifying the Optional Protocol to the Convention on the Rights of the Child on a communications procedure, which established a complaints procedure for violations of children's rights;**

(c) **Employing extraterritorial jurisdiction and taking other measures, as appropriate, to ensure responsible conduct by businesses not only in emissions reductions but also in remedying past harm;**

(d) **Developing a loss and damage system that ensures effective remedies for climate-related human rights harm, particularly that experienced by children;**

(e) **Ensuring that climate mitigation and adaptation projects provide access to effective redress mechanisms for human rights harm.**

4. Better understand the impacts of climate change on children

63. **In order to better protect children from the impacts of climate change, all actors should support improved understanding of the relationship between climate change and children's rights. This could be promoted through measures such as:**

(a) **Disaggregated data collection;**

(b) **Impact assessments with respect to children's rights and future generations;**

(c) **Enhanced intersectoral cooperation, as called for in the Geneva Pledge for Human Rights in Climate Action;**

(d) **Establishment of standing consultative committees that include children's perspectives;**

(e) **Improved reporting on children's rights and climate change to relevant United Nations Framework Convention on Climate Change and human rights mechanisms.**

64. **In this regard, civil society actors and participants at the 2010 Social Forum have called for the appointment of a United Nations special rapporteur on human rights and climate change.**[82]

5. Mobilize adequate resources for child rights-based climate action

65. **States, keeping in mind their human rights obligations and their common but differentiated responsibilities and respective capabilities, should take measures to mobilize adequate resources for effective climate action that does not harm but rather benefits children. States should ensure transparent, participatory and informed decision-making in the allocation of resources, including by conducting impact assessments with respect to children's rights and future generations. Further, measures should be taken to improve international cooperation and build capacity for climate action in developing countries through the transfer of technology and the sharing of technical expertise. Mitigation must be a top priority, as it is the key to minimizing the negative impacts of climate change. In these efforts, businesses also have human rights responsibilities, which must not be neglected.**

66. **With regard to climate adaptation, resources should be directed towards efforts to promote non-discriminatory access to basic necessities and services for children in**

[82] A/HRC/16/62.

the light of the adverse effects of climate change. Investments in education and related infrastructure are a rights-based, cost-effective and sustainable method of empowering children. Health, water and sanitation, housing infrastructure and related services are also critical to children's adaptation and resilience. Disaster risk reduction, including training for teachers, parents and children, and climate-resilient schools and infrastructure, is another key area for investment. In the aftermath of climate-related disasters, resources should be devoted to ensure children's access to health services, to reunite children with their families and to not only protect them with physical support, such as food and clean water, but also to provide psychosocial care to prevent or address fear and traumas.[83] **Support should take into account children's distinct needs for play and safety.**

[83] See Committee on the Rights of the Child, general comment No. 15, para. 40.

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Protection and promotion of all human rights, civil, political, economic, social and cultural rights, including the right to development

Addressing human rights protection gaps in the context of migration and displacement of persons across international borders resulting from the adverse effects of climate change and supporting the adaptation and mitigation plans of developing countries to bridge the protection gaps

Report of the United Nations High Commissioner for Human Rights

Summary

The present report is submitted pursuant to Human Rights Council resolution 35/20, in which the Council requested the Office of the United Nations High Commissioner for Human Rights to undertake research on human rights protection gaps in the context of cross-border movement resulting from the adverse effects of climate change and the necessary means of implementation for climate change adaptation and mitigation to bridge them, and to submit a report on that research to the Council at its thirty-eighth session. It concludes with several concrete recommendations for addressing those issues.

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Contents

I. Introduction

1. The present report is submitted pursuant to Human Rights Council resolution 35/20, in which the Council requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to undertake research on addressing human rights protection gaps in the context of migration and displacement of persons across international borders resulting from the sudden-onset and slow-onset adverse effects of climate change and the necessary means of implementation of adaptation and mitigation plans of developing countries to bridge the protection gaps, and to submit a report on that research to the Council at its thirty-eighth session.

2. In that resolution, the Council also called for an intersessional panel discussion, with the theme "Human rights, climate change, migrants and persons displaced across international borders". That discussion took place on 6 October 2017, and a summary report of the discussion was submitted to the Council.[1]

3. Throughout 2017, OHCHR, in collaboration with the Platform on Disaster Displacement, undertook research on the slow-onset adverse effects of climate change and human rights protection for cross-border migrants. OHCHR held an expert meeting on the subject on 5 October 2017 and submitted a conference room paper to the Council at its thirty-seventh session.[2]

4. To further inform its research, OHCHR transmitted a note verbale and questionnaire to all Member States requesting their inputs. Additional requests for inputs were sent to international organizations, national human rights institutions and civil society.[3]

5. The panel discussion, written inputs, consultations and independent research informed the present report, which examines the impacts of climate change on human mobility,[4] human rights protection gaps for those crossing international borders in response to the adverse effects of climate change, and the relevant human rights obligations of States. The report shares illustrative good practices and concludes with recommendations for fulfilling human rights obligations in the context of climate change-related cross-border human mobility.

II. Impacts of climate change on human mobility and related human rights risks

6. Climate change is an increasingly important driver of human mobility. The Internal Displacement Monitoring Centre estimates that, on average, 21.7 million people were internally displaced each year in the period 2008–2016 by weather-related disasters.[5] Similar global data is not available on cross-border displacement, but the two forms of displacement are linked and internal displacement figures can help to illustrate the potential

[1] A/HRC/37/35.

[2] See www.ohchr.org/Documents/Issues/ClimateChange/SlowOnset/A_HRC_37_CRP_4.pdf.

[3] For information about the Council panel discussion, the expert meeting, the note verbale, the questionnaire and inputs received, see www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimateChangeAndMigration.aspx (stakeholder inputs are referenced here as "name" input).

[4] There is no universal legal definition or agreed terminology that describes people who move in the context of climate change. For the present report, such movement is referred to broadly as "human mobility" or "movement". The term "displacement" is used to describe movements that are predominately forced, while "migration" is used to describe movement that is not predominately forced but nonetheless may not be entirely voluntary. Where reference is made to people with specific legal entitlements under international law, such as refugees, this is indicated. The term "migrant" refers to any person outside a State of which they are a citizen or national or, in the case of a stateless person, their State of birth or habitual residence.

[5] See Internal Displacement Monitoring Centre, "Global Report on Internal Displacement" (Geneva, 2017), p. 3. Available at www.internal-displacement.org/global-report/grid2017/pdfs/2017-GRID.pdf.

scope of climate change-related displacement.[6] Notably, the above figure does not account for those who moved in whole or in part owing to the slow-onset adverse effects of climate change, such as sea level rise, salinization of groundwater resources, changing precipitation patterns and desertification. The actual number of persons whose decisions to move were affected by climate change is likely to be higher. In its *Fifth Assessment Report*,[7] the Intergovernmental Panel on Climate Change found that climate change would increase future levels of displacement and that populations lacking the resources for planned migration experienced higher exposure to extreme weather events, in particular in developing countries with low incomes.

7. As the Human Rights Council mentions in its resolution 35/20, the adverse effects of climate change have a range of implications for the effective enjoyment of human rights, including the rights to life, food, health, housing, self-determination, water and sanitation, and development. The negative impacts of climate change on health and children have been the subject of two previous reports to the Council by OHCHR.[8] Those impacts can drive human mobility, and when people move out of necessity rather than free choice, they may face a heightened risk of human rights violations.[9]

A. Relationship between climate change and human mobility

8. The relationship between climate change and human mobility is complex. According to the New York Declaration for Refugees and Migrants, people may move to escape armed conflict, poverty, food insecurity, persecution, terrorism, human rights violations and abuses, the adverse effects of climate change, natural disasters (some of which may be linked to climate change), other environmental factors and for a combination of those reasons.

9. Given that, establishing clear causality between the adverse effects of climate change and human movement can be difficult. Decisions to move, even when the adverse effects of climate change are the predominant driver, can be compounded by violations of economic, social, cultural, civil and political rights, some of which may themselves be caused or exacerbated by climate change. According to the Intergovernmental Panel on Climate Change, by amplifying well-documented drivers of conflict, such as poverty and economic shocks, climate change can also indirectly increase the risk of violent conflict.[10] Those complexities pose substantial challenges for quantitative research and can inhibit understanding of the climate change/human mobility nexus, as well as the potential effects of climate change mitigation and adaptation on human mobility.

10. Nevertheless, it is clear that climate change substantially contributes to human rights harms and related human movement.[11] The adverse effects of climate change have a range of implications for the effective enjoyment of human rights. For example, in 2008, it was estimated that roughly half of the world's hungry people relied on degraded lands that will suffer largely negative effects from climate change for their subsistence.[12] It is also estimated that climate change will have a major impact on the people living without access

[6] It is important to note that the majority of climate change-related movement, at least at first, is likely to be internal. See F. Gemenne, "Migration doesn't have to be a failure to adapt" in *Climate Adaptation Futures* (John Wiley & Sons, 2013), p. 238; and K. Warner and T. Afifi, "Enhancing Adaptation Options and Managing Human Mobility: The United Nations Framework Convention on Climate Change", *Social Research: An International Quarterly*, vol. 81, No. 2 (2014) p. 307.

[7] Available at www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf.

[8] A/HRC/32/23 and A/HRC/35/13.

[9] See A/HRC/37/34, paras 12–14.

[10] See *Fifth Assessment Report* (footnote 7 above).

[11] Some international human rights mechanisms have recognized that climate change-related disasters threaten the enjoyment of human rights and are a push factor in women's migration. See, for example, Committee for the Elimination of Discrimination against Women general recommendation No. 37 (2018) on gender-related dimensions of disaster risk reduction in the context of climate change, para. 74.

[12] See A/HRC/7/5, para. 51.

to an adequate water supply.[13] When people lack access to food, water and other necessities, in order to survive, they may attempt to move internally or across borders. The failure of Governments to undertake effective climate change mitigation and adaptation can be an additional push factor for mobility and can exacerbate the situation of the most vulnerable persons who are unable to move. Sometimes, mitigation and adaptation measures themselves can adversely affect the enjoyment of human rights and drive human movement.[14] For instance, some hydroelectric and biofuel projects have resulted in forced evictions, and the planned relocation of those exposed to the adverse effects of climate change involves high risks of human rights harms.

11. As OHCHR confirmed in its study on the slow-onset effects of climate change and human rights protection for cross-border migrants, including its regional case studies on South Asia, the Sahel, the Pacific islands and Central America, climate change-related cross-border movement is most likely to involve movements between developing countries.[15] The study makes the qualitative case that climate change can drive cross-border movement. It describes, for example, how cross-border movement serves a critical adaptive function for those facing drought and desertification in the Sahel[16] and is also an adaptive response in Pacific island States endangered by rising sea levels and the increasing frequency and intensity of extreme weather events.[17]

12. Available data on cross-border movement related to natural disasters further reveals the potential scope of such climate change-related movement, highlighting the need for improved data collection. For example, in 2011, the Office of the United Nations High Commissioner for Refugees (UNHCR) estimated that, 290,000 Somalis would flee across the border into neighbouring countries, mainly to Ethiopia and Kenya, while more than 1.3 million were estimated to have been internally displaced; such movements could be connected to drought, famine, ongoing conflict, insecurity and human rights violations.[18] Similarly, in 2009, after Cyclone Aila, it was reported that thousands of Bangladeshis had moved to India.[19] Those examples illustrate that the adverse effects of climate change may contribute, along with other factors, to both internal and cross-border movement, which threatens the enjoyment of human rights.

B. Human rights risks posed by climate change-related human mobility

13. As the Human Rights Council stated in its resolution 35/20, the adverse effects of climate change are felt most acutely by those segments of the population that are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status, national or social origin, birth or other status and disability. Climate change poses an existential threat to inhabitants of small island-states and low-lying coastal countries, to millions of people facing hunger in Africa, and to countless others who have contributed so little to its causes, yet find themselves at risk.[20] For example, according to

[13] See A/HRC/10/61, para. 29.

[14] See www.ohchr.org/Documents/Issues/ClimateChange/SlowOnset/A_HRC_37_CRP_4.pdf.

[15] See B. Mayer, "The International Legal Challenges of Climate-Induced Migration: Proposal for an International Legal Framework", in *Columbia Journal of International Environmental Law and Policy*, vol. 22, No. 3 p. 397 (2011); and German Advisory Council on Climate Change, *Climate Change as a Security Risk* (Berlin, 2008), p. 118.

[16] See www.ohchr.org/Documents/Issues/ClimateChange/SlowOnset/A_HRC_37_CRP_4.pdf; and World Bank, *Turn Down the Heat: Confronting the New Climate Normal* (Washington, D.C., 2014), p. 144.

[17] See www.ohchr.org/Documents/Issues/ClimateChange/SlowOnset/A_HRC_37_CRP_4.pdf; and Nansen Initiative, "Human Mobility, Natural Disasters and Climate Change in the Pacific" (2013).

[18] See UNHCR Global Report on Somalia (2011). Available at www.unhcr.org/publications/fundraising/4fc880a70/unhcr-global-report-2011-somalia.html.

[19] See Nansen Initiative, "Climate Change, Disasters, and Human Mobility in South Asia and Indian Ocean" (2015), p. 14.

[20] According to one 2015 estimate, roughly 95 per cent of internal displacement over the previous several years had occurred in developing countries. See Internal Displacement Monitoring Centre, "Global Estimates 2015: People displaced by disasters" (Geneva, 2015), p. 9. Available at

the United Nations Children's Fund (UNICEF), the more than 500 million children living in areas with high flood occurrence and 160 million in high drought zones are exceptionally vulnerable.[21]

14. Vulnerability implies less adaptive capacity and can be both "situational" and "personal".[22] It can result from multiple and intersecting forms of discrimination, inequality and structural and societal dynamics that lead to diminished and unequal levels of power and enjoyment of rights.[23] The negative impacts of climate change can reduce adaptive capacity and affect a person's ability to move, the freedom with which they choose to do so, and their vulnerability before, during and after migration. Vulnerability may occur throughout migration and regardless of whether or not movement was "voluntary". It can be enhanced by restrictive migration and border control policies.

15. Although climate change poses unique threats, the risks faced by persons moving because of climate change are similar to those faced by all migrants in vulnerable situations who are unable to have access to safe, affordable and regular migration pathways. They may experience difficulty in exercising their rights throughout the entire migration process and be denied entry through punitive border control regimes. Migration can expose migrants to difficult working conditions and subject them to exploitation, marginalization and human rights violations, in particular if they are in irregular situations. Importantly, some of those most affected by climate change may also be trapped in place and unable to access migration pathways at all.[24]

16. In general, climate change-related cross-border migrants are likely to experience difficulty in gaining access to basic necessities, such as food, water, adequate health care and housing. Other factors — such as reduced access to health-care facilities, goods and services, loss of social safety networks, threats to the economic and social determinants of health, increased exposure to disease vectors and stigmatization and discrimination — also have a negative impact on the physical and mental health of persons moving in response to climate change.

17. Persons moving in response to climate change can be made more vulnerable through increasing barriers to international migration, including its criminalization, migration policies based on deterrence, border restrictions, restrictions on migrants' access to labour markets and a lack of safe, accessible and regular migration pathways for work, education, family unity and humanitarian needs.

18. When persons adversely affected by climate change cross international borders in an irregular manner, they may face expulsion, xenophobia, discrimination, social exclusion and/or persecution, including heightened threats of arbitrary detention, sexual exploitation, human trafficking, violent attack, rape and torture.[25]

19. The human rights risks posed by human mobility can be particularly severe for those disproportionately affected by climate change. For example, the displacement of indigenous peoples and the potential loss of their traditional lands, territories and resources threaten their cultural survival, traditional livelihoods and right to self-determination. Displacement, even as an adaptation strategy or in the context of planned relocation, can prove an existential threat to the enjoyment of their rights and their existence as peoples.

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www.internal-displacement.org/assets/library/Media/201507-globalEstimates-2015/20150713-global-estimates-2015-en-v1.pdf.

[21] See UNICEF, *Unless we act now: The impact of climate change on children* (New York, 2015). Available at www.unicef.org/publications/files/Unless_we_act_now_The_impact_of_climate_change_on_children.pdf.

[22] See A/HRC/37/34, paras. 13–15. See also UNHCR, "Migrants in vulnerable situations" (2017), available at www.refworld.org/pdfid/596787174.pdf.

[23] See A/HRC/37/34, para. 13.

[24] The International Organization for Migration (IOM) refers to such situations as "forced immobility". See also D. Ionesco, D. Mokhnacheva and F. Gemenne, *The Atlas of Environmental Migration* (Routledge, 2017), p. 2.

[25] See A/HRC/37/35, para. 7.

20. Likewise, children who migrate or whose parents migrate due to climate change may be separated from their cultural heritage and face difficulties accessing schools, adequate health care and other necessities.[26] Refugee and other migrant children that miss educational opportunities and/or are left behind by caregivers may suffer long-term socioeconomic impacts, neglect, abuse and exploitation.[27]

21. Climate change-related migration can also exacerbate pre-existing inequalities and intensify gender-specific dimensions of discrimination and poverty.[28] According to the Committee for the Elimination of Discrimination Against Women, in its general recommendation No. 37 (2018) on gender-related dimensions of disaster risk reduction in the context of climate change, women migrants face a heightened risk of gender-based violence, including human trafficking and other forms of discrimination. They may also face specific human rights violations owing to a lack of adequate sexual, reproductive and mental health services, as well as discrimination in accessing employment, social security, education, housing, legal documents and justice. Women who migrate may also be vulnerable to climate change impacts in destination areas. Furthermore, gender-based stereotypes, household responsibilities, discriminatory laws, lack of economic resources and limited access to social capital frequently restrict the ability of women to migrate.

22. Those disproportionately affected by climate change — including migrants — are not inherently vulnerable and do not necessarily lack resilience or agency. They should not be treated as victims. On the contrary, they must be recognized as agents, actors and leaders in addressing climate change and its impacts including those related to human mobility. In the Sendai Framework for Disaster Risk Reduction 2015–2030, for example, it is recognized that migrants contribute to the resilience of communities and societies, and their knowledge, skills and capacities can be useful in the design and implementation of disaster risk reduction. Empowering migrants affected by climate change to contribute to and benefit from climate change mitigation and adaptation efforts will require closing human rights protection gaps and ensuring their access to information, decision-making processes and justice.

III. Closing human rights protection gaps for climate change-related cross-border movement

23. The human rights protection gaps for persons crossing borders in response to climate change result from, inter alia, legal and policy gaps, including failure to implement human rights obligations, inadequate understanding of the linkages between human rights, climate change and human mobility, and insufficient means of implementation to support climate change mitigation and adaptation, including safe, orderly and regular migration.

A. International law and policy frameworks that specifically address human mobility and/or climate change

1. Refugee law

24. Although people on the move in climate contexts may experience similar hardships as refugees, the definition of refugee under the Convention relating to the Status of Refugees excludes the majority of people who cross international borders because of climate change.[29] The Convention defines a refugee as a person outside their country of nationality or habitual residence that cannot return owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social

[26] See A/HRC/35/13, para. 27; and UNICEF input.

[27] UNICEF input.

[28] See *Atlas of Environmental Migration* (footnote 24 above), p. 90.

[29] See J. McAdam, "Climate Change Displacement and International Law: Complementary Protection Standards", (2011), pp. 12–14. Available at www.unhcr.org/protection/globalconsult/4dff16e99/19-climate-change-displacement-international-law-complementary-protection.html.

group or political opinion. Unsuccessful attempts by citizens of Kiribati and Tuvalu to claim refugee status in Australia and New Zealand illustrate the difficulties, under international refugee law, of claiming protection from climate change.[30]

25. The above-mentioned Convention may offer protection to those affected by climate change in a limited set of circumstances[31] where, inter alia: (a) a national authorities' denial of protection from the adverse effects of climate change amounts to persecution; (b) national authorities use the negative impacts of climate change to persecute particular groups or individuals; and (c) serious human rights violations or armed conflict triggered by climate change causes people to flee based on a well-founded fear of persecution. In those cases, protection is centred on action/inaction by national authorities that constitutes persecution on prohibited grounds rather than the adverse effects of climate change.[32]

26. At the regional level, the African Union Convention Governing the Specific Aspects of Refugee Problems in Africa and the Cartagena Declaration on Refugees have adopted broader definitions of the term "refugee" that increase the possibility of refugee status and protections applying to persons displaced by climate change.[33] The Convention extends refugee status to persons who, owing to events seriously disturbing public order, are compelled to seek refuge outside their country of origin or nationality.[34] Similarly, the Declaration extends the definition to persons who have fled their country because their lives, safety or freedom have been threatened by "massive violation of human rights or circumstances which have seriously disturbed public order".[35]

2. Environmental law and policy

27. Environmental law, including climate change law, sometimes addresses human mobility and related protection needs. The Rio Declaration on Environment and Development outlines the foundational principles of international environmental law, including common but differentiated responsibility, the precautionary principle, cooperation, responsibility towards future generations, access to information, participation, access to justice and sustainable development. Those principles are reaffirmed in the 2030 Agenda for Sustainable Development, which sought to realize human rights for all persons. The 2030 Agenda calls for international cooperation to achieve sustainable development and includes specific goals on orderly, safe, regular and responsible migration as well as climate change.

28. Key environmental law principles are also reflected in legally binding multilateral environmental agreements, such as the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. In recent years, the Conferences of the Parties to those Conventions have addressed human mobility.[36]

29. The Framework Convention, its Kyoto Protocol and the Paris Agreement under the Convention, call for States to act jointly and separately to mitigate climate change and adapt to its adverse effects, including the impacts of climate change on human health.

[30] See Refugee Appeal No. 72189/2000 (New Zealand); Refugee Review Tribunal Case No. 0907346 (Australia); and *Ioane Teitiota v. The Chief Executive of the Ministry of Business, Innovation and Employment* (Supreme Court of New Zealand, 2013).

[31] See W. Kälin and N. Schrepfer, "Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches", (2012), pp. 32–34. Available at www.unhcr.org/4f33f1729.pdf.

[32] Ibid. See also UNHCR, "Legal considerations on refugee protection for people fleeing conflict and famine affected countries" (2017). Available at www.refworld.org/docid/5906e0824.html.

[33] See B. Havard, "Seeking Protection: Recognition of Environmentally Displaced Persons under International Human Rights Law", in *Villanova Environmental Law Journal*, Vol. XVIII (2007), pp. 76–77; and J. Cooper, "Environmental Refugees: Meeting the requirements of the refugee definition", in *New York University Environmental Law Journal*, vol. 6 (2) (1998), p. 497.

[34] See Convention Governing the Specific Aspects of Refugee Problems in Africa, art. I. 2.

[35] See Cartagena Declaration on Refugees, art. III (3).

[36] See, for example, part two of the report of the Conference of the Parties on its thirteenth session, held in Ordos, China, from 6 to 16 September 2017 (ICCD/COP(13)/21/Add.1).

While the Convention does not explicitly address migration, the preamble to the Paris Agreement calls upon all States to respect, promote and consider the rights of migrants when taking climate action. The ongoing work of the Conference of the Parties to the Convention and its subsidiary bodies, including the Task Force on Displacement of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts, provide a forum for discussing issues related to the protection of those displaced by the adverse effects of climate change. The Task Force and the Executive Committee of the Mechanism are mandated to develop recommendations for integrated approaches to avert, minimize and address displacement related to climate change.

30. Regional environmental agreements may also protect migrants affected by climate change. The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention) recognizes the right of every person to live in an environment adequate to ensure their health and well-being and establishes legally binding obligations related to access to information, participation in decision-making and access to justice in environmental matters. In March 2018, a similar agreement was adopted by 24 Latin American and Caribbean States.[37]

3. Global compacts

31. The New York Declaration for Refugees and Migrants identifies climate change, disasters and environmental degradation as drivers of human movement that require cooperative, rights-based responses. It calls for preparation of two global compacts — on refugees and on safe, orderly and regular migration — to further its objectives, which include a framework for comprehensive international cooperation on human mobility including human rights protection. According to the Secretary-General, the compact on migration must protect human rights for all and both compacts must respond to the reality that climate change is likely to exacerbate economic, environmental and social pressures to migrate over the next few decades.[38] Current drafts of each compact have made explicit reference to environmental degradation, disaster or climate change. For example, the "zero draft plus" of the global compact on safe, orderly and regular migration[39] calls for the development of tailored migration schemes to facilitate migration as an adaptation strategy to slow-onset environmental degradation related to the adverse effects of climate change.

4. Other relevant law and policy frameworks

32. In rare circumstances, the Convention relating to the Status of Stateless Persons might protect people fleeing the adverse effects of climate change; however, it does not apply to or respond to the needs of most people fleeing the adverse effects of climate change.[40]

33. Although not legally binding, there are also many policy processes and instruments that address important aspects of human mobility in the context of climate change. The Sendai Framework for Disaster Risk Reduction aims to substantially reduce disaster risks, strengthen disaster risk governance and enhance disaster preparedness, particularly for vulnerable populations. The Framework explicitly addresses climate change and disaster displacement. It includes guiding principles that call for promoting and protecting all human rights and developing coherent policies across the climate change, disaster risk reduction and sustainable development agendas.

34. The International Organization for Migration (IOM), through the regular meetings of its governing bodies, offers a platform for State-led efforts to address environmental

[37] See https://negociacionp10.cepal.org/9/en/news/latin-america-and-caribbean-adopts-its-first-binding-regional-agreement-protect-rights-access.

[38] See A/72/643, paras. 1, and 51–52.

[39] Available at https://refugeesmigrants.un.org/sites/default/files/2018mar05_zerodraft.pdf.

[40] See S. Park, "Climate Change and the Risk of Statelessness: The Situation of Low-Lying Island States", (2011), p. 3, available at www.unhcr.org/4df9cb0c9.pdf. See also "Protecting People Crossing Borders" (footnote 32 above), pp. 32–34.

migration, including aspects of a human rights-based approach.[41] Environmental migration has also been discussed and addressed through State-led regional consultative processes on migration.[42] In the Americas, the Regional Conference on Migration has adopted a guide to effective practices for its member countries,[43] which articulates a rights-based approach to the protection of persons crossing borders because of disasters.

35. The Nansen Initiative, a State-led, multi-stakeholder, consultative process, specifically addressed cross-border displacement in the context of disasters and climate change. The Initiative's Protection Agenda,[44] endorsed by 109 States, calls for the integration of human rights-based approaches in disaster risk reduction, adaptation measures, and sustainable development efforts. The Agenda calls for managed human mobility, including the broadened application of humanitarian protection measures and the use of planned relocation as a last resort.

36. Although important, the above-mentioned instruments fail to provide comprehensive protection of persons crossing borders in the context of climate change. Therefore, it falls to international human rights law to provide protection and guide the development and interpretation of new and existing instruments.

B. Applying international human rights law to protect persons crossing borders in response to the adverse effects of climate change

37. In the context of climate change-related cross-border movement, international human rights law, norms and standards offer the most comprehensive, people-centred and flexible framework for the protection of all migrants in vulnerable situations, including those affected by climate change. All persons are rights-holders and all States have ratified at least one international human rights treaty.[45] Human rights treaties, such as the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights, impose obligations on all States to respect, protect and fulfil human rights for all without discrimination. Further, "human rights obligations, standards and principles have the potential to inform and strengthen international, regional and national policymaking in the area of climate change".

38. In its key messages on human rights and climate change,[46] OHCHR prescribed a rights-based approach to climate action. It called upon States to mitigate climate change and prevent its negative human rights impacts; to ensure all persons have the capacity and means to adapt to climate change; and to ensure accountability and access to remedies for human rights harms caused by climate change. In the specific context of human mobility, which can place people in precarious conditions, it is important to further elaborate on those human rights obligations.

39. If persons crossing borders because of the adverse effects of climate change fall outside the specific legal category of "refugee" and have no other access to safe, orderly or regular migration, it becomes especially critical to ensure that their human rights are respected, protected and fulfilled.[47] The Global Migration Group Working Group on Human Rights and Gender Equality, which is co-chaired by OHCHR, recently submitted to the Human Rights Council its Principles and practical guidance on the human rights

[41] See, for example, www.iom.int/jahia/webdav/shared/shared/mainsite/about_iom/en/council/94/MC_INF_288.pdf.

[42] See www.iom.int/inter-state-consultation-mechanisms-migration.

[43] Available at https://disasterdisplacement.org/wp-content/uploads/2016/11/PROTECTION-FOR-PERSONS-MOVING-IN-THE-CONTEXT-OF-DISASTERS.pdf.

[44] Available at https://nanseninitiative.org/wp-content/uploads/2015/02/PROTECTION-AGENDA-VOLUME-1.pdf.

[45] In total, 133 countries have ratified more than 10 such treaties. See OHCHR, Status of Ratification, available at http://indicators.ohchr.org/.

[46] Available at www.ohchr.org/Documents/Issues/ClimateChange/KeyMessages_on_HR_CC.pdf.

[47] See A/HRC/37/34, para. 8.

protection of migrants in vulnerable situations,[48] in which it articulates the human rights protections to which all migrants in vulnerable situations, including those affected by climate change, are entitled as well as their normative foundations.

40. In its Key Messages on Human Rights, Climate Change and Migration,[49] OHCHR further highlights the human rights obligations and responsibilities of States and other duty-bearers addressing climate change-related human mobility challenges.

41. To comply with those obligations, States should facilitate migration with dignity for all migrants, including those affected by climate change, and address their specific human rights protection needs. Protection needs include water and sanitation, adequate food and housing, and access to health care, social security, education and decent work. They also entail upholding the fundamental principle of non-refoulement and the prohibition of collective expulsion, as well as the rights to liberty, personal integrity and family unity; and ensuring the best interests of the child. States should put in place appropriate mechanisms to guarantee that all migrants who require human rights protection and are unable to return to their countries because of climate change are provided with an effective legal status.

42. States are obligated to protect against displacement because it threatens the effective enjoyment of a broad array of rights under the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights. States should therefore address the underlying causes that force people to move by pursuing ambitious climate change mitigation in accordance with the objectives of the Paris Agreement. To further reduce the risk of climate change-related displacement, States should employ effective adaptation measures, including with respect to disasters, extreme weather events and slow-onset processes. Efforts to address the root causes of displacement in the context of climate change should seek to protect rights, strengthen social protection systems, reduce disaster risk and exposure and increase adaptive capacity.

43. Non-discrimination and equality are core human rights principles reflected in the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights and all human rights instruments, including the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Elimination of All Forms of Racial Discrimination. By disproportionately affecting those already marginalized, climate change threatens States' commitments related to non-discrimination and equality. States, therefore, must account for the different needs, capacities and vulnerabilities of those individuals most affected by climate change.

44. Freedom of movement, including movement away from climate change-affected areas, is a fundamental right and may allow individuals and communities to avoid the adverse effects of climate change and improve resilience. The International Covenant on Civil and Political Rights guarantees the rights of all persons to leave any country, including their own, and to move freely and choose their place of residence within a country once lawfully present. Those rights should be protected and may only be limited if necessary to safeguard a State's national security, public order, public health or morals, or the rights or freedom of others.[50] Furthermore, the International Covenant on Civil and Political Rights provides that any migrant seeking to return to his or her own country must not be arbitrarily deprived of the right to do so.

45. Articles 6 and 7 of the International Covenant on Civil and Political Rights guarantee the rights to life and freedom from cruel, inhuman or degrading treatment or punishment. States must not return a migrant who may face these situations, or other

[48] A/HRC/37/34/Add.1.

[49] Available from www.ohchr.org/Documents/Issues/ClimateChange/Key_Messages_HR_CC_Migration.pdf.

[50] The Human Rights Committee has clarified that any restrictions must be consistent with the State's international human rights obligations. See Human Rights Committee, general comment No. 15 (1986) on the position of aliens under the Covenant, para. 8.

serious human rights violations.[51] They should consider measures to admit persons from and/or refrain from returning persons to areas adversely affected by climate change. States are bound by the fundamental principle of non-refoulement to ensure appropriate protection for any persons subject to their jurisdiction or effective control. That means they should refrain from returning persons to an area where there is a high likelihood that climate change-related risks threaten human rights.

46. The International Covenant on Civil and Political Rights and other human rights instruments guarantee all persons the right to information and participation in public affairs. State actions and decisions related to human mobility and climate change should involve the meaningful and informed participation of the most affected persons. Decision-making should be transparent and empower affected persons. For decisions or actions that impact indigenous peoples' rights, States must obtain their free, prior and informed consent in accordance with the United Nations Declaration on the Rights of Indigenous Peoples.

47. Planned relocation can respond to the predicted impacts of climate change by moving individuals and communities away from unsafe areas. However, it should be a measure of last resort.[52] In order to respect, protect and fulfil the right to housing under the International Covenant on Economic, Social and Cultural Rights, States must refrain from, and protect against, forced evictions by ensuring any relocation of persons is grounded in human rights. Planned relocation should also involve the meaningful and informed participation of all affected persons, including migrants and receiving communities and maintain their previous living standards.

48. Finally, the International Covenant on Civil and Political Rights and other human rights instruments require all persons to have access to justice, including effective remedies. States are required to provide effective mechanisms to prevent and redress human rights harms resulting from the adverse effects of climate change, and from climate change mitigation and adaptation. This is critical for migrants who are often unable to access justice due to the conditions they face before, during and after migration. States must be accountable for their contribution to human rights harms regardless of where they occur. Accountability should also include businesses and actors that have contributed to the causes of climate change or violated human rights in their mitigation and adaptation actions.

C. Mobilizing the means of implementation for climate change adaptation and mitigation

49. The preceding analysis demonstrates that climate change drives cross-border movement, that persons affected by climate change face unique human rights risks throughout their movement, and that international human rights law offers the most effective protection. Mobilizing the means of implementation for effective climate change adaptation and mitigation is also critical to prevent displacement and ensure human rights protection for persons on the move because of climate change.

50. The individual and collective mobilization of resources to address foreseeable human rights harms caused by climate change is, in and of itself, a human rights obligation.[53] International assistance for climate change mitigation and adaptation should be in addition to existing commitments and should be mobilized on the basis of equity and in accordance with the principle of common but differentiated responsibility. Pursuant to relevant human rights principles, climate assistance should be adequate, effective and transparent, should be administered through participatory, accountable and non-

[51] Human rights mechanisms have underlined that, under international human rights law, the prohibition of refoulement is absolute.

[52] See Brookings Institution, Georgetown University and UNHCR, "Guidance on Protecting People from Disasters and Environmental Change through Planned Relocation" (2015). Available at www.refworld.org/docid/596f15284.html.

[53] The International Covenant on Economic, Social and Cultural Rights calls for States to act individually and collectively to mobilize and allocate the maximum available resources for the progressive realization of economic, social and cultural rights.

discriminatory processes, and should benefit those most in need, including persons on the move.

51. Read collectively, the Charter of the United Nations, the International Covenant on Economic, Social and Cultural Rights, the United Nations Framework Convention on Climate Change, the Declaration on the Right to Development, and other instruments, including those related to international labour standards, reinforce that States have human rights obligations to cooperate and mobilize the necessary means of implementation to ensure the safety and dignity of all persons, including those crossing borders in response to the adverse effects of climate change. These efforts should respect basic principles of climate justice, including the commitments of parties to protect the rights of persons disproportionately affected by climate change and future generations.

52. Importantly, ensuring the means of implementation for climate change mitigation and adaptation to close protection gaps requires more than simply mobilizing financial resources. Technology, for example, is a critical means of implementation. Under the International Covenant on Economic, Social and Cultural Rights, everyone has the right to enjoy the benefits of science and its applications. Effective climate change mitigation and adaptation technologies should be developed and equitably distributed under the technology facilitation mechanism of the Paris Agreement, which specifically calls for support to be provided to developing countries.

53. In addition to calling upon developed countries to mobilize $100 billion per year in climate finance to address the needs of developing countries, the Addis Ababa Action Agenda of the Third International Conference on Financing for Development also speaks of transparent methodologies for reporting climate finance; technology transfer to address climate change; capacity-building, including to improve access to climate finance; policy coherence throughout the different aspects of sustainable development; and improved data collection to inform evidence-based policies. The Action Agenda specifically calls for funding to address climate change and disaster resilience, an even split between adaptation and mitigation funding, and directing climate finance towards vulnerable countries in accordance with the principle of common but differentiated responsibility. It further emphasizes the importance of providing safe and fair channels for remittances, and calls for international cooperation to ensure safe, orderly and regular migration with full respect for human rights.

54. The 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda, the Sendai Framework and the Paris Agreement are all interlinked and represent a considerable international commitment, with human rights at the core, to mobilize diverse means of implementation for climate change mitigation and adaptation; the promotion of safe, orderly and regular migration; disaster risk reduction; and sustainable development that leaves no one behind.

55. Because the International Covenant on Civil and Political Rights, the Declaration on the Right to Development and other human rights instruments guarantee all persons the right to free, active, meaningful and informed participation in public affairs, it is important that the means of implementation for climate change mitigation and adaptation measures are the result of informed and participatory decision-making processes. People are the agents of change who must be empowered to achieve effective climate action, including, when necessary, by taking decisions freely to move in conditions of safety and dignity. That empowerment requires transparent and inclusive institutions and processes, as well as accurate and accessible measurements of greenhouse gas emissions, climate change and its human rights impacts. Sufficient regular pathways for cross-border movement are a prerequisite. Participation in decision-making, as well as the monitoring, review and verification of climate change impacts and commitments, are critical in order to close protection gaps by ensuring the effective mobilization of means of implementation for climate change mitigation and adaptation. Integrating human rights, including the rights of migrants, in the guidelines for implementation of the Paris Agreement (currently under

negotiation) offers an opportunity to help ensure the effective mobilization of resources for climate change mitigation and adaption measures that protect persons on the move.[54]

56. Furthermore, businesses also have a role to play in mobilizing resources to achieve international objectives related to climate change mitigation and adaptation, and human mobility. For example, article 6 of the Paris Agreement calls upon parties to incentivize and facilitate the private sector's participation in climate change mitigation. In doing so, States should include adequate safeguards and take effective measures to protect human rights from business harms in line with their obligations under the Guiding Principles on Business and Human Rights. Businesses should participate responsibly in climate change mitigation and adaptation efforts with full respect for human rights.

IV. Illustrative good practices

57. The following analysis highlights some illustrative good practices in promoting a rights-based approach to human mobility challenges posed by climate change that were identified through stakeholder inputs and OHCHR research.

58. Collective efforts by United Nations agencies, States and other stakeholders are needed to address the complex intersection of human rights, human mobility and climate change. Part III of the present report contains a number of multi-stakeholder efforts to develop legal and policy frameworks that protect persons crossing borders in the context of climate change. The State-led Platform on Disaster Displacement[55] was established to follow up on the work of the Nansen Initiative and to implement its protection agenda. The Platform aims to strengthen the protection of people displaced across borders in the context of disasters, including those linked to the effects of climate change, and to prevent or reduce disaster displacement risks. Other multi-stakeholder efforts include, for example, the Framework for Resilient Development in the Pacific, which adopts a human rights-based approach and includes specific guidance related to disaster risk reduction and migration;[56] and the Global Knowledge Partnership on Migration and Development, which contributes to better understanding of the determinants of human movement.[57]

59. International reporting and communications processes under the Framework Convention, the Human Rights Council and the human rights treaty bodies can play an important role in the development, monitoring and review of national policies related to human rights, human mobility and climate change. For example, 33 out of 162 intended nationally determined contributions to the Framework Convention before the twenty-first Conference of the Parties referenced some form of mobility.[58] Unfortunately, research indicates that the number of States including references to human rights in their communications to the Framework Convention or to the adverse effects of climate change during their Human Rights Council universal periodic review are similarly limited.[59] Climate change and human mobility have also come up in the work of human rights treaty

[54] For more information on integrating human rights in the guidelines, see www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/UNFCCC.aspx.

[55] See https://disasterdisplacement.org/.

[56] See Pacific Community, Secretariat of the Pacific Regional Environment Programme, Pacific Islands Forum Secretariat, United Nations Development Programme, United Nations Office for Disaster Risk Reduction and the University of the South Pacific, *Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management, 2017–2030*, (Suva, 2016). Available at https://pacificclimatechange.net/sites/default/files/documents/FRDP_2016_Resilient_Dev_pacific.pdf.

[57] See www.knomad.org/.

[58] See IOM, "Migration in the Intended Nationally Determined Contributions and Nationally Determined Contributions" (2016), available at www.environmentalmigration.iom.int/sites/default/files/MECC%20Infosheet%20INDCs%20and%20NDCs_14Sep2016_for%20web.pdf.

[59] See Mary Robinson Foundation, "Climate Justice: Incorporating Human Rights into Climate Action" (May 2016), available at www.mrfcj.org/wp-content/uploads/2016/05/Incorporating-Human-Rights-into-Climate-Action-Version-2-May-2016.pdf.

bodies.[60] In its general recommendation No. 37, the Committee for the Elimination of Discrimination against Women offers clear guidance on measures needed to protect the rights of women migrants affected by climate change. A consistent approach to climate change-related human mobility in treaty-body review processes and communications on the Framework Convention could contribute to more effective monitoring of impacts, improved responses and further development of the relevant legal obligations of States.

60. At the national level, some States have put in place mechanisms to grant protection to people affected by environmentally induced disasters.[61] The Nansen Initiative identified more than 50 States that had used their discretion in migration matters and instruments provided for by their national legislation to admit persons affected by disasters.[62] Switzerland, for example, takes account of environmental and socioeconomic situations to extend protection to persons who would be endangered by a return to their country of origin;[63] and the Plurinational State of Bolivia, in its Law No. 370 of 2013, has explicitly referenced climate change migration and the need to protect those migrating in its national legislation. Ireland highlighted that its financial support for disaster risk reduction in climate vulnerable States as well as other forms of adaptation support to strengthen the resilience of poor and vulnerable households targeted the underlying causes of climate change-related movement.[64]

61. UNICEF emphasized its support for national child-focused climate change mitigation strategies, and national climate change and disaster risk reduction offices.[65] Several other inputs highlighted policies and actions related to climate change mitigation and adaptation, and disaster risk reduction. Cuba described its efforts at disaster risk reduction through planned relocation and ecosystem restoration.[66] While such efforts may not explicitly address human mobility, they can reduce the risk of displacement.

62. In several countries, migration has been promoted as a form of climate change adaption.[67] In Kenya, the National Climate Change Action Plan, for example, calls for research on migration as a potential coping mechanism for climate change. Countries of destination must also play a role. Reaching bilateral migration agreements with climate vulnerable countries can help facilitate safe, orderly and regular movement provided such agreements are non-discriminatory and comply with international human rights obligations. Italy, for example, has concluded several bilateral agreements that could potentially facilitate human mobility as a climate change adaptation strategy.[68] Similar agreements exist between a number of small island States in the Pacific and countries such as Australia, New Zealand and the United States of America.

63. The UNHCR Guidelines on Temporary Protection or Stay Arrangements[69] may apply in disaster and climate change contexts, and UNHCR offers general guidance to States on the use of humanitarian visas and temporary protection arrangements to protect those displaced across borders, including by climate change and disasters.[70] In support of

[60] See Center for International Environmental Law and Global Initiative for Economic, Social and Cultural Rights, "Synthesis Note on the Concluding Observations and Recommendations on Climate Change Adopted by UN Human Rights Treaty Bodies", available at http://www.ciel.org/wp-content/uploads/2018/01/HRTBs-synthesis-report.pdf.

[61] Input from the University of Bern and International-Lawyers.org.

[62] See Nansen Initiative, *Global Consultation Conference Report* (Geneva 2015), p. 16. Available at www.nanseninitiative.org/wp-content/uploads/2015/02/GLOBAL-CONSULTATION-REPORT.pdf.

[63] Switzerland input.

[64] Ireland input.

[65] UNICEF input.

[66] Cuba input; see also Christian Asse input, describing the importance of traditional knowledge, ecosystem restoration and preserving traditional livelihoods for effective climate action.

[67] Input from the University of Bern and International-Lawyers.org.

[68] Ibid.

[69] Available at www.refworld.org/docid/52fba2404.html.

[70] UNHCR input. See also UNHCR, "Legal considerations" (footnote 33 above).

the adoption of national and regional protection measures, UNHCR has compiled good practices from countries in Latin America that may apply in disaster contexts.[71]

64. IOM supports a human rights-based approach to human mobility in relation to climate change through its policy, research, training and operational activities. It has produced a number of tools related to human rights, climate change and migration, including the environmental migration portal which serves as a knowledge platform.[72] Those and other efforts raise awareness of the relationship between migration and climate change to inform policy choices.[73] IOM regional projects also offer direct support, for example, to improve the capacity of Pacific Island States to manage the impacts of climate change on migration[74] and to promote sustainable land management in migration-prone areas of West Africa through innovative financing mechanisms.[75]

65. OHCHR has compiled and regularly updates a list of promising practices related to migration in Global Migration Group's Principles and practical guidance on the human rights protection of migrants in vulnerable situations.[76] These include, for example, the work of the Food and Agriculture Organization of the United Nations to address the root causes of migration and build conflict-resilience by promoting recovery of local agricultural and food economies, including through climate change adaptation, which permits affected people to remain on their land when it is safe for them to do so.

V. Recommendations

66. **The research performed by OHCHR, summarized in the preceding analysis, provides a sound basis for a number of concrete recommendations.[77] Governments and other relevant stakeholders should:**

(a) **Take ambitious action to mitigate climate change in accordance with the Paris Agreement in order to prevent its impacts from worsening and reduce its role as a driver of human mobility;**

(b) **Ensure respect, fulfilment, promotion and protection of all human rights for persons crossing borders in the context of climate change;**

(c) **Promote and expand safe, regular, dignified and accessible pathways for human mobility that respect and protect the rights of persons affected by climate change, including through specific protection mechanisms;**

(d) **Refrain from returning migrants to territories affected by climate change that can no longer sustain them and steadfastly uphold the fundamental principle of non-refoulement and other international human rights law obligations, to provide protection for persons who are unable to return to their homes as a result of climate change;**

(e) **Affirm the relationship between climate change, human rights and human mobility, including through the recognition of climate change as a driver of human movement and a possible ground for admission in the global compacts;**

[71] See www.acnur.org/fileadmin/scripts/doc.php?file=fileadmin/Documentos/Proteccion/Buenas_Practicas/9234.

[72] See www.environmentalmigration.iom.int/.

[73] See www.environmentalmigration.iom.int/migration-environment-and-climate-change-evidence-policy-meclep.

[74] See www.environmentalmigration.iom.int/projects/enhancing-capacity-pacific-island-countries-manage-impacts-climate-change-migration-pccm.

[75] See www.environmentalmigration.iom.int/projects/west-africa-promoting-sustainable-land-management-migration-prone-areas-through-innovative.

[76] A/HRC/37/34/Add.1. See also www.ohchr.org/EN/Issues/Migration/Pages/VulnerableSituations.aspx.

[77] See also www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimateChangeAndMigration.aspx.

(f) **Address the impacts of climate change on the enjoyment of all human rights through effective, scaled-up adaptation measures that benefit the most vulnerable, facilitate safe and voluntary movement, and minimize forced movement, including through strengthened social protection systems;**

(g) **Mobilize all necessary means of implementation for effective climate change mitigation and adaptation measures to address human rights protection gaps for persons adversely affected by climate change;**

(h) **Facilitate the integration of climate change-related migrants in host communities, the regularization of their legal status and their access to labour markets;**

(i) **Ensure the meaningful, effective and informed participation of all persons, and especially women, in decision-making processes related to climate change and human mobility. For persons and communities displaced from their traditional livelihoods and territories due to climate change, empower them to make decisions about their futures and, to the greatest extent possible, ensure their continued access to traditional lands, resources and livelihoods;**

(j) **Adequately inform people about the existing and potential adverse effects of climate change to promote informed decision-making, support their right to plan and manage their own movement and facilitate their access to justice;**

(k) **Address data gaps through collection of disaggregated data related to the drivers of human movement; human rights impact assessments of climate change and climate actions; and community mobilization to measure the adverse effects of climate change and generate knowledge;**

(l) **Strengthen the role of regional bodies, conventions and economic communities in preventing, minimizing and addressing climate change-related human mobility. For example, in the absence of an international obligation to admit people affected by climate change, promote regional protection frameworks;**

(m) **Enhanced monitoring, review and technical support by human rights mechanisms on the issue of climate change-related cross-border movement, including by engaging the Human Rights Council, its special procedures mechanisms and the human rights treaty bodies;**

(n) **Commit to integrating human rights and human mobility, as well as climate change or the adverse effects of climate change, in relevant national reporting to the United Nations Framework Convention on Climate Change and to United Nations human rights mechanisms, in particular the universal periodic review; and ensure that the Task Force on Displacement of the Warsaw International Mechanism employs a rights-based approach to human mobility;**

(o) **Operationalize the Global Migration Group's Principles and practical guidance on the human rights protection of migrants in vulnerable situations.**

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Analytical study on gender-responsive climate action for the full and effective enjoyment of the rights of women

Report of the Office of the United Nations High Commissioner for Human Rights

Summary

The present analytical study on the integration of a gender-responsive approach into climate action at the local, national, regional and international levels for the full and effective enjoyment of the rights of women is submitted pursuant to Human Rights Council resolution 38/4. In the study, the Office of the United Nations High Commissioner for Human Rights examines the impacts of climate change on women, identifies human rights obligations and responsibilities of States and other actors to implement gender-responsive approaches, shares illustrative practices, and issues conclusions and recommendations.

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Contents

I. Introduction

1. The present study is submitted pursuant to Human Rights Council resolution 38/4, in which the Office of the United Nations High Commissioner for Human Rights (OHCHR) was requested to conduct an analytical study, in consultation with relevant stakeholders, on the integration of a gender-responsive approach into climate action for the full and effective enjoyment of the rights of women.

2. On 27 August 2018, OHCHR circulated a note verbale and a questionnaire to Member States, requesting their inputs. OHCHR also contacted other stakeholders, including international organizations, national human rights institutions and civil society. The inputs received[1] and consultations with stakeholders informed the present study.

3. The study outlines some key impacts of climate change on women[2] and describes gender-responsive, rights-based approaches to address these. It highlights several illustrative practices and concludes with recommendations for a gender-responsive approach to climate action.

II. Gendered impacts of climate change

4. Diverse factors, such as social status, gender, poverty level, access to resources and discrimination affect one's capacity to adapt to climate change. International human rights law prohibits gender-based discrimination. Yet, women often face systemic discrimination, harmful stereotypes and social, economic and political barriers that limit their adaptive capacity. These include limited or inequitable access to financial assets and services, education, land, resources, and decision-making processes, as well as fewer opportunities and less autonomy. Persons of lower socioeconomic status and those who face multiple and intersecting forms of discrimination may be more vulnerable to the impacts of climate change. In general, women are more likely to experience the adverse effects of climate change than men, because women constitute most of the world's poor and are often directly dependent on threatened natural resources as their primary source of food and income.[3]

5. Although some individual women may be less vulnerable to climate change than some men, the global perpetuation of discrimination, inequality, patriarchal structures and systemic barriers, as well as the different views, experiences and needs of men and women, contribute to an overall higher risk of women experiencing harmful effects of climate change. In this way, climate change perpetuates gender inequality. Gender inequality and the violation of women's rights, in turn, hinder women's participation in climate action. Addressing climate change, including its gendered impacts (of which several are described below), is therefore essential to protecting the human rights of women.

A. Food security and access to land

6. Climate change negatively affects the availability, accessibility, consumption and production of food. Women are more frequently exposed to food insecurity and gender equality is an important determinant of food security. According to the Food and Agriculture Organization of the United Nations (FAO), as much as 55 per cent of the

[1] Inputs available at www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/GenderResponsiveClimateAction.aspx.

[2] In the present report, references to women are to be understood as referring to women and girls.

[3] United Nations Environment Programme, "Gender equality and the environment: a guide to UNEP's work", available at www.unenvironment.org/resources/policy-brief/gender-policy-brief-and-success-stories-2016-guide-un-environments-work.

improvement in food security in developing countries between 1970 and 1995 came from women's empowerment.[4]

7. Many smallholder farmers are women whose livelihoods and food sources – as well as the food security of their families and communities – are at risk from climate change. Climate change-related food insecurity also affects women differently because of their nutritional needs during pregnancy, lactation and childbirth.[5] Poor nutrition is a factor in the prevalence of anaemia among women, which has risen in women of reproductive age from 30.3 per cent in 2012 to 32.8 per cent in 2016, worldwide.[6] Discriminatory food allocation within families can also affect nutrition, as women are often the first to skip meals or reduce consumption during times of scarcity.[7] Rural women are among the most likely to suffer when food prices escalate.[8]

8. Male-dominated structures often govern land ownership,[9] making it difficult for women to access fertile land and agricultural extension services, which limits their ability to practise climate-smart agriculture and increases their vulnerability to climate change.[10] The unequitable distribution of domestic and care work can also impede women's adaptation to the adverse effects of climate change, by limiting the time available for other activities. When discriminatory laws and practices restrict women's ownership of, access to and use of land, women's vulnerability to climate change-related food price volatility may increase.[11] Even when women own land, inhibited access to financing, extension services, resources, tools, seeds, technology, information, fertilizer and water can limit the land's productivity.[12] According to FAO, if women had the same access to productive resources as men, they could increase yields on their farms by 20 to 30 per cent, potentially reducing global hunger by 12 to 17 per cent.[13]

B. Health

9. Climate change can disproportionately affect the physical and mental health of women.[14] During extreme weather events, women are more likely to die than men, and women who survive have a decreased life expectancy.[15] Climate change reduces the quantity and quality of available water, which can contribute to numerous health risks for women. Water scarcity increases the burden on women, who often have primary

[4] *Gender Equality and Food Security: Women's Empowerment as a Tool against Hunger* (2013), available at www.fao.org/gender/background/en/.

[5] Charlotta Rylander, Jon Øyvind Odland and Torkjel Manning Sandanger, "Climate change and the potential effects on maternal and pregnancy outcomes: an assessment of the most vulnerable – the mother, fetus, and newborn child", *Global Health Action*, vol. 6 (2013).

[6] See www.fao.org/3/I9553EN/i9553en.pdf.

[7] Global Gender and Climate Alliance, *Gender and Climate Change: A Closer Look at Existing Evidence* (2016), available at http://wedo.org/wp-content/uploads/2016/11/GGCA-RP-FINAL.pdf.

[8] See Committee on the Elimination of Discrimination against Women, general recommendation No. 34 (2016) on the rights of rural women.

[9] Tzili Mor, "Towards a gender-responsive implementation of the United Nations Convention to Combat Desertification" (UN-Women, 2018), available at www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2018/towards-a-gender-responsive-implementation-of-un-convention-to-combat-desertification-en.pdf?la=en&vs=3803.

[10] *Gender and Climate Change: A Closer Look at Existing Evidence*.

[11] Ibid., and United Nations Development Programme (UNDP), "Gender, climate change and food security" (2012), available at: www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB4_Africa_Gender-ClimateChange-Food-Security.pdf.

[12] *Gender and Climate Change: A Closer Look at Existing Evidence*.

[13] FAO, *The State of Food and Agriculture: Women in Agriculture: Closing the Gender Gap for Development* (2011).

[14] See A/HRC/32/23.

[15] UNDP, "Gender and disaster risk reduction" (2013), available at www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB3-AP-Gender-and-disaster-risk-reduction.pdf.

responsibility for collection.[16] Longer walks to get water require greater physical effort and increase the potential for exposure to sexual and gender-based violence. The greater burden of water collection may contribute to psychological distress, and the time spent reduces time for activities such as education and income generation.[17]

10. Poor air quality caused by emissions from fossil fuel combustion contributes to millions of deaths and health complications each year. Indoor and outdoor air pollution combined cause an estimated 7 million deaths per year.[18] Women are at an especially high risk of disease and death, owing to their higher exposure to indoor air pollution from inefficient and dirty fuels such as wood or dung being used for cooking and heating in homes.[19] The lack of viable fuel alternatives contributes to a public health crisis and to climate change.

11. Climate change can also increase the spread of vector-borne diseases that women are particularly vulnerable to.[20] Mosquitoes are sensitive to climatic variations, and temperature rises can increase the prevalence of malaria. Combined with harmful gender stereotypes that impose unequal responsibilities on women for care of family and community members, an increased incidence of disease can deprive women of other opportunities.[21]

12. The effects of climate change can also affect women's mental health. When extreme weather events occur, there is generally an increased and disproportionate pressure on women to support their families.[22] This can increase risks of poor mental health outcomes[23] including stress-related disorders and depression.[24] Exclusion of women from climate action and decision-making can further exacerbate the stress of dealing with climate change.

C. Sexual and reproductive health and rights

13. Climate change can limit women's access to sexual and reproductive health services. For example, climate change-related human mobility can lead to reduced access to these services.[25] Extreme weather events, which are increasing in frequency and intensity because of climate change, can destroy essential infrastructure and otherwise contribute to a decrease in the quality, availability and accessibility of sexual and reproductive health services.[26] Such contexts may also exacerbate pre-existing forms of gender-based discrimination, creating additional barriers.[27] A lack of access to contraceptive services can lead to unplanned pregnancies; and when safe abortion services are denied, women may resort to unsafe and potentially life-threatening methods to terminate their pregnancies,

[16] *Gender and Climate Change: A Closer Look at Existing Evidence*.
[17] Ibid.
[18] World Health Organization (WHO), "7 million premature deaths annually linked to air pollution", available at www.who.int/mediacentre/news/releases/2014/air-pollution/en/.
[19] WHO, "Household air pollution and health" available at www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health.
[20] Public Health Institute, and Center for Climate Change and Health, "Special focus: climate change and pregnant women" (2016), available at http://climatehealthconnect.org/wp-content/uploads/2016/09/PregnantWomen.pdf.
[21] UN WomenWatch, "Women, gender equality and climate change" (fact sheet, 2009), available at www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf.
[22] WHO, "Gender and disaster", available at www.searo.who.int/entity/gender/topics/disaster_women/en/.
[23] F.H. Norris, M.J. Friedman and P.J. Watson, "60,000 disaster victims speak: part II: summary and implications of the disaster mental health research", *Psychiatry: Interpersonal and Biological Processes* (2002), p. 247.
[24] *Gender and Climate Change: A Closer Look at Existing Evidence*.
[25] Cecilia Sorensen et al., "Climate change and women's health: impacts and policy directions", available at https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002603#sec003.
[26] WHO, "Integrating sexual and reproductive health into health emergency and disaster risk management", available from www.who.int/reproductivehealth/publications/emergencies/rhr-12-32/en/.
[27] United Nations Population Fund, *State of World Population: Shelter from the Storm* (2015).

leading to maternal mortality and morbidity.[28] Use of unhygienic water and restricted mobility may also affect sexual and reproductive health rights.

14. Climate change can also directly affect pregnancy, heightening risks of maternal mortality and morbidity and threatening the enjoyment of women's rights to health and life.[29] Negative pregnancy and maternal health outcomes, such as reduced birth weight, may result from exposure to extreme temperatures.[30] Poor air quality from the combustion of fossil fuels can affect maternal and child health by causing intrauterine growth restriction and congenital defects.[31] Salinization of drinking water sources as a result of sea-level rise may cause increased rates of adverse health outcomes, including preterm births and maternal and perinatal deaths.[32]

15. Climate change may also increase risks of sexual and gender-based violence, which constitutes a grave violation of women's rights to health, and liberty and security of person, among others. Beyond immediate mental and physical trauma, sexual and gender-based violence can also contribute to the spread of sexually transmitted infections and impede economic productivity, which can lead to greater poverty, in turn exacerbating the effects of climate change-related disasters.[33]

D. Sexual and gender-based violence, and discrimination

16. The adverse effects of climate change increase the risks of sexual and gender-based violence. There are clear links between poverty, which climate change deepens, and sexual and gender-based violence.[34] Child, early and forced marriages can occur as a harmful coping strategy among those who suffer from economic stress due to disasters and the slow-onset adverse effects of climate change.[35]

17. Women are also at a higher risk of sexual and gender-based violence during and after extreme weather events.[36] Disaster displacement can push survivors into evacuation centres. Women in these centres, including relief workers, may feel unsafe, be subjected to sexual and gender-based violence, harassment and discrimination, and/or have limited access to reproductive and other health services.[37] After disasters, law enforcement may be less effective due to strained resources, and women subjected to sexual and gender-based violence may not report violence due to associated stigma.[38] Lesbian, gay, bisexual, transgender and intersex persons are uniquely vulnerable, due to stigmatization and discrimination. They may be excluded from recovery, relief and response efforts and may lack access to emergency shelters that satisfy their needs.[39]

[28] Ibid.
[29] WHO, *Trends in Maternal Mortality: 1990 to 2015* (2015).
[30] "Special focus: climate change and pregnant women".
[31] Cecilia Sorensen et al., "Climate change and women's health: impacts and policy directions".
[32] Aneire Ehmar Khan et al., "Drinking water salinity and maternal health in coastal Bangladesh: implications of climate change", *Environmental Health Perspectives*, vol. 119, No. 9 (2011), pp. 1328–1332.
[33] Annekathryn Goodman, "In the aftermath of disasters: the impact on women's health, *Critical Care Obstetrics and Gynaecology*, vol. 2 (2016).
[34] See A/HRC/11/6.
[35] Human Rights Watch, "Marry before your house is swept away: child marriage in Bangladesh" (2015), available at www.hrw.org/report/2015/06/09/marry-your-house-swept-away/child-marriage-bangladesh.
[36] Annekathryn Goodman, "In the aftermath of disasters".
[37] UN-Women, "Climate change, disasters and gender-based violence in the Pacific", available at www.uncclearn.org/sites/default/files/inventory/unwomen701.pdf.
[38] Ibid.
[39] J.C. Gaillard, Andrew Gorman-Murray and Maureen Fordham, "Sexual and gender minorities in disaster", *Gender, Place and Culture*, vol. 24 (2017).

E. Livelihoods and decent work

18. The adverse effects of climate change can deplete resources and devastate infrastructure, increasing unemployment and deepening gender inequalities in the world of work where women already face significant obstacles.[40] Climate action that excludes women can intensify these challenges. Intersecting dynamics, such as indigenous, tribal or ethnic identity, as well as migrant or disability status, may compound the socioeconomic vulnerability of some women, particularly when adequate social protection systems are lacking. Climate change can exacerbate these vulnerabilities, leaving some women with less time to engage in economic activities and/or less access to resources, including information and education, which are necessary for adaptation.[41]

19. Climate change directly and indirectly affects women's employment opportunities in a number of sectors. Over 60 per cent of all women at work in South Asia and sub-Saharan Africa are engaged in unpaid or poorly paid, time- and labour-intensive agricultural work.[42] Climate-induced loss of livelihoods, reduction in incomes, or deterioration of working conditions in agriculture and related sectors can have particularly negative implications for women.[43] For example, climate change-causing sea level, temperature and acidity rises have caused resource depletion in fisheries[44] and changes in fish population distributions, which has compromised valuable livelihood activities for women involved in fish catching, processing and trading.[45]

20. Infrastructural impacts of climate change can also decrease the number of jobs available in some sectors. After disasters, women generally have more difficulty finding work than men, as jobs may first return in male-dominated sectors such as construction. Women in areas affected by climate change often need to strengthen their skills, and in some cases learn new ones in order to access work in different sectors. However, the increased family demands caused by climate change impacts, ingrained gender stereotypes and structural discrimination may prevent many women from completing the necessary training and education. Female-headed households, for example, may have difficulty accessing humanitarian aid or post-disaster programmes, which are often targeted at a presumed male "head of the household".

F. Cultural impacts

21. The adverse effects of climate change can interact with and affect culture in complex ways. If a woman becomes widowed due to, for example, an extreme weather event, in some cultures it is taboo for the woman to remarry, and widows are not perceived as having dignity.[46] In other cultures, women may be forced to remarry. Climate change also affects livelihoods and access to traditional lands, resources and territories. This may prevent or inhibit related cultural, religious and customary practices.

22. For indigenous peoples, the adverse effects of climate change can cause spiritual and cultural loss. There are gendered impacts for women specifically. Women in many rural communities hold expert knowledge of their ecosystems and of sustainable land management practices. Indigenous women, for example, often play an essential role in protecting biodiversity, and are the keepers of seeds and of traditional knowledge about

[40] International Labour Organization (ILO), "Gender, labour and a just transition towards environmentally sustainable economies and societies for all" (2017).

[41] See Committee on the Elimination of Discrimination against Women, general recommendation No. 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change.

[42] ILO, *Women at Work: Trends 2016* (Geneva, 2016).

[43] ILO, "Gender, labour and a just transition towards environmentally sustainable economies and societies for all".

[44] FAO, "Influence of climate change on fisheries resources in the Arab region", available at www.fao.org/in-action/globefish/fishery-information/resource-detail/en/c/338390/.

[45] *Gender and Climate Change: A Closer Look at Existing Evidence*.

[46] See http://wappp.hks.harvard.edu/files/wappp/files/09574049708578320 1.pdf?m=1408553548.

their lands and territories, and about the nutritional and medicinal value of plants.[47] Rapid climate change-induced changes to ecosystems and their biodiversity can affect traditional knowledge and its application, negatively impacting on women's livelihoods and the cultural practices, health, prosperity and resilience of their communities.[48]

G. Human mobility

23. Although many women may migrate into situations of greater empowerment or assume leadership roles in the response to climate change, human mobility poses unique risks to women. Women on the move are more likely to suffer from sexual and gender-based violence.[49] Lesbian, gay, bisexual, transgender and intersex persons displaced by climate change may also face elevated risks of violent abuse in the context of human mobility.[50] Furthermore, the economic impacts of climate change can contribute to increased human trafficking and child, early and forced marriages, both of which often involve migration.[51]

24. Both the sudden-onset and slow-onset adverse effects of climate change can drive human mobility and affect the habitability of homes, lands and territories.[52] When climate change affects communities, gender influences who moves (and who stays), how decisions are made, an individual's circumstances in transit, and the outcomes of movement.[53] Movement can influence gender dynamics by entrenching traditional gender roles and existing inequalities, or by challenging and changing them.[54] For example, male out-migration, driven, at least in part, by climate change, can lead to increased roles and decision-making power for women in agriculture. However, if the income generated by agriculture lags behind the income generated in other sectors, women's growing role in the agricultural sector could exacerbate gender inequality.[55]

H. Women environmental human rights defenders

25. The adverse effects of climate change intensify threats to land, water, species and livelihoods, affecting women who live in and rely upon ecosystems for their subsistence as well as that of their families and communities. Women defending these ecosystems often pay a high price. In common with all human rights defenders, women face risks, including assassination, criminalization, intimidation and assault. However, they also face the added threat of gender-specific violence, including sexual violence, which can have additional adverse social consequences such as stigmatization and discrimination. Efforts by States to mitigate or adapt to the impacts of climate change, if not properly carried out, can exacerbate the situation – threatening women's rights not only to development, food, water, land and culture but also to freedoms of expression, assembly, association and political participation.

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[47] See www.wipo.int/export/sites/www/tk/en/documents/pdf/grand_council_of_the_crees_annex_comments_on_observer_participation.pdf and www.cbd.int/gender/doc/fs_uicn_biodiversity.pdf.

[48] FAO, "Women – users, preservers and managers of agrobiodiversity" (1999), available at http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=2BB791DFD15ED4EF10EAE1AC83D930E3?doi=10.1.1.395.2601&rep=rep1&type=pdf.

[49] *Gender and Climate Change: A Closer Look at Existing Evidence*.

[50] The New Humanitarian, "Lost in the chaos – LGBTI people in emergencies", available at www.thenewhumanitarian.org/report/100489/lost-chaos-lgbti-people-emergencies.

[51] Human Rights Watch, "Marry before your house is swept away: child marriage in Bangladesh".

[52] See A/HRC/38/21 and www.ohchr.org/Documents/Issues/Migration/OHCHR_slow_onset_of_Climate_Change_ENweb.pdf.

[53] See www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/Women%20On%20The%20Move%20In%20A%20Changing%20Climate%20report.pdf.

[54] Ibid.

[55] FAO, *The State of Food and Agriculture: Migration, Agriculture and Rural Development* (2018), available at www.fao.org/3/I9549EN/i9549en.pdf.

III. Linkages between women's agency and effective climate action

26. The full and equal participation and leadership of women in decision-making, planning and implementation as regards climate action is essential to protecting women's rights and ensuring effective climate action. Participation is a human right, it enables the advancement of other human rights, and it is a core element of rights-based approaches to addressing discrimination and marginalization.[56] Projects and programming aimed at supporting communities affected by climate change become more effective when women are fully included,[57] leading to more efficient use of climate finance.[58] If women are not included in climate action, their needs are less likely to be addressed and inequalities are more likely to be perpetuated.[59] For effective climate action, decision makers must prioritize the meaningful and effective participation of women, recognizing that women are agents of change with unique perspectives, expertise, and problem-solving capabilities.[60]

27. For example, women play a significant role in agricultural production,[61] but are often excluded from consultation processes concerning agriculture.[62] According to one estimate, if all women smallholders received equal access to productive resources, their farm yields would rise by 20 to 30 per cent, 100 to 150 million people would no longer go hungry, and carbon dioxide emissions could be reduced by 2.1 gigatons by 2050.[63] Climate action will also create new and non-traditional jobs. Failure to address gender gaps will prevent women from benefiting from these economic opportunities and inhibit the transition to a sustainable economy. Removing the barriers that prevent women from having equal access to energy and economic opportunities will unlock significant productivity gains and strengthen development outcomes.[64] Women's participation at all levels of decision-making is critical for more effective climate action.[65] Women's experiences in female-dominated workforces, or as the unpaid household workers that support industry, need to be included in discussions about a just transition and associated social protection systems.

28. Women's unique knowledge and experience, particularly at the local level,[66] in areas such as agriculture, conservation and the management of natural resources means that the inclusion of women in climate action and decision-making processes is not simply a legal and moral imperative, but is also critical to effective and informed action.[67] One study has

[56] See A/HRC/39/28.

[57] United Nations Framework Convention on Climate Change, "Introduction to gender and climate change", available at https://unfccc.int/gender.

[58] Liane Schalatek, "Gender and climate finance", available at https://climatefundsupdate.org/wp-content/uploads/2018/11/CFF10-2018-ENG-DIGITAL.pdf.

[59] UN-Women, "Pacific gender and climate change toolkit: tools for practitioners", available at www.unwomen.org/en/digital-library/publications/2015/9/pacific-gender-and-climate-change-toolkit.

[60] UNDP, "Overview of linkages between gender and climate change" (2013), available at www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB1-AP-Overview-Gender-and-climate-change.pdf.

[61] See www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/UNDP%20Gender,%20CC%20and%20Food%20Security%20Policy%20Brief%203-WEB.pdf.

[62] Liane Schalatek, "Gender and climate finance".

[63] See www.drawdown.org/solutions/women-and-girls/women-smallholders.

[64] United States Agency for International Development and International Union for Conservation of Nature, "Advancing gender in the environment: making the case for women in the energy sector" (2018), available at www.usaid.gov/sites/default/files/documents/1865/IUCN-USAID-Making_case_women_energy_sector.pdf.

[65] Susannah Fisher and Clare Shakya, "Gendered voices for climate action: a theory of change for the meaningful inclusion of local experiences in decision-making", available at http://pubs.iied.org/pdfs/10193IIED.pdf.

[66] Bina Agarwal, "Gender and forest conservation: the impact of women's participation in community forest governance", *Ecological Economics*, vol. 68, No. 11, pp. 2785–2799.

[67] Mary Robinson Foundation, "Women's participation: an enabler for climate justice", available at www.mrfcj.org/wp-content/uploads/2015/11/MRFCJ-_Womens-Participation-An-Enabler-of-Climate-Justice_2015.pdf.

found that women, in general, are both more concerned and more knowledgeable about climate change.[68] Women's perspectives often include not just their own experiences but also consideration and awareness of their immediate family and surrounding community. This means that women's views and approaches can inform more holistic and effective climate action. When women are included in decisions relating to resource use and societal investment, they more often make decisions based on the best interests of children, family and community.[69]

29. For example, studies have found correlations between women in positions of political authority and lower national carbon footprints, between parliaments with a greater proportion of female members and ratification of environmental treaties, and between higher percentages of women on corporate boards and disclosure of carbon emissions information.[70] This indicates both the importance of women's participation in decision-making, and the need to change stereotyped gender roles for men to facilitate their equal responsibilities in the family and childcare, domestic chores, and community activities. With respect to climate change mitigation efforts, women's education, and respect for sexual and reproductive health and rights, are among the most effective means of reducing future emissions of carbon dioxide.

30. By ensuring that equality of opportunity and equal treatment of women and men is established as a goal from the outset, climate action has the potential to spur low-carbon development and economies for both men and women, promote inclusive societies, transform gender norms, enhance women's participation in economic activities and contribute to achieving the Sustainable Development Goals, for which women are fundamental actors.[71]

IV. Defining a gender-responsive, rights-based approach to climate action

31. States have legal obligations to implement gender-responsive climate policies that empower women, protect their rights, and address the gendered impacts of climate change. The International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights and the Convention on the Elimination of All Forms of Discrimination Against Women each explicitly prohibit discrimination on the basis of sex. Other human rights instruments and environmental and climate-change laws and policies call for the protection of human rights and specifically women's rights. This section describes several key legal and policy instruments that should inform gender-responsive climate action.

A. Key legal and policy instruments

1. Convention on the Elimination of All Forms of Discrimination against Women

32. The Convention on the Elimination of All Forms of Discrimination against Women protects the rights of women and prohibits all forms of discrimination against them, and aims to ensure women's participation at an equal level to that of men in political, social, economic and cultural development. The Convention provides a comprehensive women-specific regime that covers the spectrum of human rights and lifespan of women; it defines the meaning of discrimination against women; and it establishes legal obligations for parties to end such discrimination. For example, article 2 of the Convention calls upon

[68] Aaron McCright, "The effects of gender on climate change knowledge and concern in the American public", *Population and Environment* (2010).

[69] UN-Women, *Leveraging Co-Benefits Between Gender Equality and Climate Action for Sustainable Development: Mainstreaming Gender Considerations in Climate Change Projects* (2016), available at https://unfccc.int/files/gender_and_climate_change/application/pdf/leveraging_cobenefits.pdf.

[70] *Gender and Climate Change: A Closer Look at Existing Evidence*.

[71] ILO, "Gender, labour and a just transition towards environmentally sustainable economies and societies for all".

States, public authorities and institutions to refrain from engaging in any act or practice of discrimination against women. Article 7 guarantees women the right to vote, to hold public office and to participate in the formulation and implementation of government policies on equal terms with men. Article 14 calls upon parties to "take all appropriate measures to eliminate discrimination against women in rural areas" to ensure that they participate in and benefit from rural development and development planning at all levels.

33. These provisions have clear implications for climate action. In its general recommendation No. 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change, the Committee on the Elimination of Discrimination against Women highlights the importance of gender-responsive climate action. In general recommendation No. 37, the Committee notes the urgency of mitigating climate change, provides guidance to States on their obligations under the Convention on the Elimination of All Forms of Discrimination against Women in relation to disaster risk reduction and climate change, and highlights steps needed to achieve gender equality and promote climate resilience. It emphasizes that climate change initiatives should provide for women's full and effective participation, advancing substantive gender equality and women's empowerment while ensuring progress towards sustainable development. According to the general recommendation, climate change and disaster risk reduction measures should be gender-responsive and "the right of women to participate at all levels of decision-making must be guaranteed in climate change policies and programmes".[72]

34. General recommendation No. 37 identifies general principles of the Convention related to disaster risk reduction and climate change: non-discrimination and substantive representation; participation and empowerment; and accountability and access to justice. For each general principle, specific recommendations are made to States. For example, to ensure participation and empowerment, States are recommended to allocate adequate resources to build women's leadership capacities.[73] To promote accountability and access to justice, States should conduct "a gender impact analysis of current laws" to assess their effect on women as regards disaster risk and climate change, and should adopt, repeal or amend laws, norms and practices accordingly.[74]

35. General recommendation No. 37 also describes specific areas of obligation related to disaster risk reduction and climate change: assessment and collection of disaggregated data; policy coherence; extraterritorial obligation; international cooperation and resource allocation; non-State actors' obligations; and capacity-building and access to technology. For example, in the area of capacity-building and access to technology, States parties are called upon to institutionalize women's leadership, at all levels, in disaster prevention, preparedness, response and recovery and in climate change mitigation and adaptation.[75]

2. United Nations Framework Convention on Climate Change

36. According to the preamble of the Paris Agreement, "parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights … as well as gender equality" and the "empowerment of women". Article 7 (5) of the Paris Agreement refers to the need for gender-responsive climate adaptation and article 11 (2) calls for gender-responsive capacity-building. In the guidelines for implementation of the Paris Agreement, adopted at the twenty-fourth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, States are invited to provide information about gender-responsive approaches and planning processes in the context of adaptation communications, nationally determined contributions and the transparency framework. Decisions of the twenty-fourth session of the Conference of the Parties also mandate that the new technology framework address gender equality. The decisions also incorporate the recommendations of the Warsaw International

[72] See para. 8.
[73] See para. 36 (e).
[74] See para. 38 (a).
[75] See para. 54 (b).

Mechanism's Task Force on Displacement calling for an approach to climate displacement that takes into account international human rights standards and gender.

37. In total, there have been more than 60 United Nations Framework Convention on Climate Change decisions addressing gender. At the eighteenth session of the Conference of the Parties, in 2012, the parties adopted a decision on gender balance and the representation of women. Since 2012, gender and climate change has been a stand-alone agenda item of the Conference of the Parties, and the Subsidiary Body for Implementation.[76] At its twentieth session, the Conference of the Parties established the Lima Work Programme, which is aimed at advancing gender-responsive climate action throughout the work of the United Nations Framework Convention on Climate Change. The work programme, initially lasting two years, has been extended on an ongoing basis. It includes a review of the implementation of gender-related mandates by the United Nations Framework Convention on Climate Change secretariat, and training, awareness-raising and capacity-building for delegates on gender-responsive climate action. At the twenty-second session of the Conference of the Parties, in 2016, the parties adopted a decision recognizing the value of the participation of grass-roots women in gender-responsive climate action at all levels. In 2017, the twenty-third session of the Conference of the Parties adopted the United Nations Framework Convention on Climate Change Gender Action Plan, under the Lima Work Programme, to guide ongoing work on gender-responsive approaches to climate change.

38. The Gender Action Plan is aimed at ensuring that women can participate in and influence climate change decisions, and ensuring their equal representation in all of the work of the United Nations Framework Convention on Climate Change. The Gender Action Plan sets out five priority areas, as follows: capacity-building; knowledge-sharing and communication; gender balance, participation and women's leadership; coherence (creating consistent implementation of gender-related mandates and activities within the work of the United Nations Framework Convention on Climate Change bodies, the secretariat and other United Nations entities and stakeholders); gender-responsive implementation; and improved monitoring and reporting on gender-related mandates under the United Nations Framework Convention on Climate Change.

39. The Gender Action Plan identifies key steps to help achieve these priorities. For example, to support the full, equal and meaningful participation of women in the United Nations Framework Convention on Climate Change process, it calls for travel funds to support the participation of women in national delegations, and the development and implementation of climate education and training programmes targeted at women and youth at the regional, national and local levels.

3. 2030 Agenda for Sustainable Development

40. The 2030 Agenda for Sustainable Development has human rights and the commitment to leave no one behind at its core. Because the Sustainable Development Goals are interdependent, achieving any of the Goals will require effective climate action under Goal 13. Goal 5 (gender equality) is cross-cutting, and specifically calls upon Member States to "ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life" and to end all forms of discrimination against women. Goal 13 explicitly calls upon Member States to "promote mechanisms for raising capacity for effective climate change-related planning and management… including focusing on women". Goal 16 (peace, justice and strong institutions) and Goal 17 (means of implementation) are critical enablers for progress towards all of the goals, including Goal 13. Goals 16 and 17 highlight respectively the need for inclusive, participatory and representative decision-making at all levels, and for adequate finance.

[76] See https://unfccc.int/topics/gender/workstreams/gender-and-climate-change-unfccc-related-activities-2017.

4. Addis Ababa Action Agenda

41. The Addis Ababa Action Agenda of the Third International Conference on Financing for Development calls for transparent methodologies, policy coherence, and climate finance, as well as gender equality and women's empowerment at all levels. Specifically, it calls for reporting of resource allocations for gender equality and women's empowerment, highlights the role of the private sector and development banks in safeguarding or expanding upon systems to uphold human rights and gender equality, and calls for integrated policies and plans for resource efficiency and adaptation to and mitigation of climate change. The Addis Ababa Action Agenda calls for gender mainstreaming in "the formulation and implementation of all financial, economic, environmental and social policies".

5. Beijing Declaration and Platform for Action

42. The Beijing Declaration and Platform for Action aims to "ensure the full implementation of the human rights of women and of the girl child as an inalienable, integral and indivisible part of all human rights and fundamental freedoms".[77] It states that the "eradication of poverty based on sustained economic growth, social development, environmental protection and social justice requires the involvement of women in economic and social development, equal opportunities and the full and equal participation of women and men as agents and beneficiaries of people-centred sustainable development".[78] The Platform for Action provides a blueprint for women's empowerment, identifying the environment as a critical area. It calls for involving women actively in environmental decision-making at all levels, integrating gender concerns and perspectives in policies and programmes for sustainable development, and strengthening or establishing mechanisms at the national, regional and international levels to assess the impact of development and environmental policies on women.

6. Commission on the Status of Women

43. The Commission on the Status of Women has issued a number of conclusions on environmental management, the mitigation of natural disasters and climate change. At its fifty-second session, citing the often disproportionate impacts of climate change on women, combined with women's unequal access to resources and decision-making processes, the Commission stressed that a gender perspective was critical in all aspects of climate change. At its fifty-fifth session, the Commission adopted a resolution entitled "Mainstreaming gender equality and promoting empowerment of women in climate change policies and strategies".[79] The Commission has also consistently called for action with respect to the disproportionate impact of climate change on women, in its agreed conclusions.[80]

7. Sendai Framework for Disaster Risk Reduction 2015–2030

44. According to the Sendai Framework for Disaster Risk Reduction, a gender perspective should be integrated in all policies and practices and women's leadership should be promoted. The Sendai Framework recognizes the importance of women's participation, and encourages States to promote this participation and provide adequate capacity-building measures for women's empowerment. Regional commitments for disaster risk reduction build upon this global commitment. For instance, the Asia Regional Plan for Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 encourages States to ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making for disaster risk reduction, and to establish gender-responsive and participatory stakeholder and sectoral platforms.

[77] Beijing Declaration, para. 9.
[78] Ibid., para. 16.
[79] Resolution 55/1.
[80] Agreed conclusions from the Commission's sixty-second, sixty-first, sixtieth, fifty-eighth, fifty-seventh, fifty-fifth, fifty-third and fifty-second sessions.

B. Shaping a gender-responsive, rights-based approach to climate action

45. Sustainable climate action that benefits all people within a society requires knowledge and consideration of the different roles, responsibilities, priorities, capabilities and needs of all of its members.[81] This must involve a rights-based, gender-responsive approach at the local, national and international levels that ensures that all people, including and especially women, are included, consulted, and empowered to participate in decision-making, planning, implementation and assessment, as regards climate action.[82] Taking this approach means fully integrating human rights and gender in climate action, through:

(a) The integration of principles and standards derived from international human rights law, especially the Universal Declaration of Human Rights, the Convention on the Elimination of All Forms of Discrimination against Women and other core human rights treaties, in all policies and programming;

(b) Improved understanding of the gendered impacts of climate change and climate action (e.g. mitigation, adaptation, technology transfer, finance and capacity-building) informed by the lived experiences of women;

(c) Women's meaningful, informed and effective participation in climate change-related decision-making, and climate change mitigation and adaptation, at all levels;

(d) Gender mainstreaming[83] as well as targeted gender strategies in legislation, policymaking, programming and other activities related to climate action;

(e) Clarification and implementation of the obligations and responsibilities of duty bearers such as States and private actors.

46. A gender-responsive approach should integrate gender perspectives at all levels of decision-making to ensure the full and meaningful participation of women and to achieve gender-equitable outcomes. This must involve consulting with women on climate action[84] regardless of their level of education or access to power, and ensuring a just transition to a low-carbon economy that does not perpetuate gender inequality. When developing rights-based, gender-responsive approaches to climate change, it is important to note that diverse factors such as human mobility can cause gender roles to shift within a society. This means that gender-responsive approaches will need frequent assessment, reframing and normative adjustments in order to fit shifting societal and climatic conditions.[85]

47. Climate finance is an area where the application of a gender-responsive approach is critical. If project proponents fail to consider the gendered impacts of climate change and patterns of discrimination that women face more generally, expenditures for climate action may exacerbate gender inequality. Conversely, gender-responsive climate finance has the potential to enhance climate resilience, reduce emissions, and advance women's enjoyment of human rights and gender equality. It is also a key requirement for the long-term sustainability of climate change mitigation and adaptation. Climate finance should be channelled toward projects that directly benefit women and are designed, decided and implemented with their full and effective participation. This requires addressing underlying gender inequalities in legal and normative frameworks that act as barriers to women participating in climate action, which will in turn improve livelihoods and increase the resilience of communities affected by climate change.[86]

[81] UN-Women, "Pacific gender and climate change toolkit: tools for practitioners".

[82] UN-Women, *Leveraging Co-Benefits*.

[83] Gender mainstreaming is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. The goal is to achieve gender equality. See Economic and Social Council agreed conclusions 1997/2.

[84] UNDP, "Overview of linkages between gender and climate change".

[85] Tanu Priya Uteng, "Gender and mobility in the developing world" (2011), available at http://siteresources.worldbank.org/INTWDR2012/Resources/7778105-1299699968583/7786210-1322671773271/uteng.pdf.

[86] See www.ohchr.org/Documents/Issues/Development/Session19/A_HRC_WG.2_19_CRP.4.pdf.

48. For example, in mitigation, sustainable mass transit systems designed with the specific needs of women in mind can increase the use of mass transit and women's access to employment, education and other services that facilitate the realization of their rights.[87] Likewise, renewable energy projects that improve women's access to energy also reduce emissions, have important health benefits, alleviate women's traditional care burdens, and open up economic, educational and social opportunities, including for women's civic engagement.[88] In adaptation, actively seeking to promote women's enjoyment of their rights is critical for increasing the food security and resilience of communities that depend on small-scale agricultural production for food and livelihoods.[89]

V. Illustrative practices

49. The following analysis highlights some illustrative practices, identified through stakeholder inputs and through independent research by OHCHR, for the promotion of gender-responsive, rights-based climate action.

50. At the intergovernmental level, in 2018 the Government of Costa Rica launched the For All Coalition. The Coalition is a partnership between States which receives support from the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) and OHCHR. The Coalition seeks to integrate human rights and gender equality in multilateral environmental agreements. It has organized events at the twenty-fourth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change and at the fourth session of the United Nations Environment Assembly, supported a resolution on gender equality and women's rights at the fourth session of the United Nations Environment Assembly, and prepared a strategy for engagement at the United Nations Framework Convention on Climate Change. The twenty-fourth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change also saw the launch of a Ministerial Declaration on Gender Equality and Climate Change by Peru with support from Belgium, Chile, Costa Rica, Finland, France, Luxembourg, the Netherlands and Sweden.[90] Efforts such as these can play a critical role in shaping international processes, and related laws and policies at the domestic level.

51. Climate finance also plays an important role in shaping gender-responsive climate action. Most international financial institutions that provide climate finance have gender policies in place. Dedicated climate funds such as the Green Climate Fund or the Adaptation Fund require project-specific gender action plans as a prerequisite for project approval.[91] The Global Environment Facility has outlined gender mainstreaming steps that its projects should take, which include: conducting a gender analysis and a social assessment during project design; consulting with women as project stakeholders; including gender in the statement on the project's intended objective; developing project components with gender targets; collecting sex-disaggregated data; and creating a budget item for gender-related activities.[92] A joint publication by the Green Climate Fund and UN-Women entitled *Mainstreaming Gender in Green Climate Fund Projects* provides specific recommendations for gender mainstreaming in project development, monitoring and evaluation.

52. Individual governments have also committed to financing climate adaptation and mitigation efforts through foreign assistance. Ireland identified gender equality and climate action as interlinked priorities for international development cooperation. Irish programming in this area addresses gendered access to pro-poor renewable energy sources, gender and climate-resilient agriculture, adaptive social protection and greening the health

[87] See https://us.boell.org/sites/default/files/cff10_2018_eng-digital.pdf.
[88] See www.ohchr.org/Documents/Issues/Development/Session19/A_HRC_WG.2_19_CRP.4.pdf.
[89] Liane Schalatek, "Gender and climate finance".
[90] "Accelerating climate action with gender equality", available at https://www.klimaat.be/files/7715/4461/3639/Gender_Equality_Declaration.pdf.
[91] Liane Schalatek, "Gender and climate finance".
[92] *Gender and Climate Change: A Closer Look at Existing Evidence*.

sector.[93] In Mexico, the German Agency for International Cooperation funds several projects to foster women's participation in the fields of renewable energies and energy efficiency, including the Women's Network for Renewable Energy and Energy Efficiency.[94] The Women Delegates Fund at the United Nations Framework Convention on Climate Change enhances women's participation in climate negotiations through travel support, capacity-building, networking, outreach and advocacy. Effective implementation and financing of these gender-responsive policies and programmes can help ensure women's rights.

53. A number of stakeholder inputs highlighted specific examples of domestic laws and policies related to climate change and gender equality. Morocco had specific legislation on gender and environment, and tracked relevant indicators.[95] Guatemala had a fund for recognizing women's land rights, and a specific gender provision in its climate law.[96] In Mexico, the General Law on Climate Change guaranteed the right to a healthy environment and included a specific focus on gender equality and the empowerment of women.[97] In the Philippines, Republic Act No. 9729 required "the State to incorporate a gender-sensitive, pro-children and pro-poor perspective in all climate change and renewable energy efforts, plans and programmes".[98]

54. Other inputs received focused on policies, programmes and activities carried out with respect to gender-responsive climate action. France had conducted an exchange of good practices related to gender and climate change with several Balkan States and with Lebanon.[99] In Afghanistan, the Ministry of Rural Development had carried out consultations with women on the adverse effects of climate change in the context of community-based priority projects.[100] In Argentina, a review of gender-related aspects of the National Energy and Transport Action Plans had highlighted key gaps to address, and an international workshop on gender, information and communications technology and climate change had fed into development of the National Adaptation Plan.[101] Mali highlighted its Renewable Energy Project for the Advancement of Women, baseline studies and indicators on gender, and a number of climate adaptation activities related to energy, water and sanitation, and other necessities.[102] In Mexico, specific indicators for climate change and gender, along with a strong legal and policy framework, had informed a number of activities to integrate gender equality into climate action.[103]

55. United Nations agencies, international organizations and civil society organizations also play a critical role in promoting gender-responsive climate action. A 2016 review by the United Nations Development Programme (UNDP) of 161 intended nationally determined contributions found that 65 referenced either gender equality or women.[104] It was noted in the review that the quality, quantity and nature of these references was generally inadequate. The majority of references were to adaptation, many of them described women as vulnerable but only two described women as agents of change, and very few of them comprehensively integrated gender equality. Several good practices are highlighted in the UNDP review, which concludes with recommendations for improved integration of gender equality in nationally determined contributions.

[93] Input from Ireland.
[94] Input from Mexico.
[95] Input from Morocco.
[96] Input from Guatemala.
[97] Input from Mexico.
[98] Input from the national human rights institution of the Philippines.
[99] Input from France.
[100] Input from the national human rights institution of Afghanistan.
[101] Input from the national human rights institution of Argentina.
[102] Input from Mali.
[103] Input from Mexico and from the national human rights institution of Mexico.
[104] UNDP, *Gender Equality in National Climate Action: Planning for Gender-Responsive Nationally Determined Contributions* (2016), available at www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/Gender_Equality_in_National_Climate_Action.pdf.

56. UN-Women provides substantive support to the gender equality group of friends, an informal group of parties to the United Nations Framework Convention on Climate Change, and to the For All Coalition (mentioned in para. 50 above). UN-Women works to raise visibility of gender issues at the highest levels of political discussion and provides financial support to State party delegates, non-governmental organizations, indigenous and women's groups and youth organizations for their participation in intergovernmental meetings. The UN-Women programmatic work on climate change includes three flagship programme initiatives, namely Women's Entrepreneurship for Sustainable Energy, [105] Women's Empowerment through Climate-Smart Agriculture[106] and Addressing the Gender Inequality of Risk in a Changing Climate. [107] Through these and other programmes, UN-Women promotes gender-responsive climate action at the international, regional, national and local levels.[108]

57. The Gender Action Plan under the United Nations Framework Convention on Climate Change constitutes a good practice. A recent call for submissions on the Gender Action Plan yielded numerous inputs that highlight additional good practices.[109] In 2014, the World Meteorological Organization convened a Conference on the Gender Dimensions of Weather and Climate Services that raised awareness of gendered impacts of weather and climate, and highlighted good practices for the empowerment of women and men through the provision and use of gender-sensitive weather and climate information. The conference report laid out actions and mechanisms for making weather and climate services more gender-sensitive so that women and men could make equally informed decisions in the areas of agriculture and food security, disaster risk reduction, water resources management and public health.[110]

58. The International Union for Conservation of Nature publication *Roots for the Future* highlights the policy landscape with respect to gender and climate change at the Conference of the Parties to the United Nations Framework Convention on Climate Change and identifies good practices in gender-responsive programming.[111] The Global Initiative for Economic, Social and Cultural Rights and partners engaged with the Committee on the Elimination of Discrimination against Women on the Committee's reviews of Maldives and Tuvalu to highlight exclusion of women from formal decision-making on climate change and discrimination with respect to land rights. [112] In both cases, the Committee on the Elimination of Discrimination against Women emphasized the importance of ensuring women's rights to participation in climate change policy, in disaster management and in natural resource governance.[113] This type of engagement with human rights mechanisms can trigger recommendations and government action, and also supported the elaboration of the Committee's general recommendation No. 37.

59. Partnerships can play a critical role in shaping gender-responsive climate policies. The Asian-Pacific Resource and Research Centre for Women highlighted its work with the University of Health Sciences to support the integration of gender in the National Climate Change Health Adaptation Strategy of the Lao People's Democratic Republic.[114] Ultimately, the strategy called for improved health-care services for women during and after climate change-related disasters, for awareness-raising regarding the health impacts of climate

[105] See www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2015/fpi%20briefenergy%20globalusv3.pdf?la=en&vs=5222.

[106] See www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2015/fpi%20briefagriculture%20localusweb.pdf?la=en&vs=3547.

[107] See www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2016/fpi%20brief-gir_v2.pdf?la=en&vs=2816.

[108] Input from UN-Women.

[109] See, for example, inputs from the European Union and UN-Women with respect to decision 3/CP.23 (establishment of a gender action plan, activity E.1) on the United Nations Framework Convention on Climate Change submissions portal.

[110] Input from the World Meteorological Organization.

[111] See http://genderandenvironment.org/roots-for-the-future/.

[112] Input from the Global Initiative for Economic, Social and Cultural Rights.

[113] See CEDAW/C/MDV/CO/4-5 and CEDAW/C/TUV/CO/3-4.

[114] Input from the Asian-Pacific Resource and Research Centre for Women.

change on women, and for multi-stakeholder collaboration following extreme weather events.

VI. Conclusions and recommendations

60. **Climate change affects women, men, boys and girls in different ways. Entrenched and systemic discrimination can lead to gender-differentiated impacts of climate change with respect to health, food security, livelihoods and human mobility, among other things. Intersectional forms of discrimination can further increase the vulnerability of some women and girls to climate change, while the exclusion of women from climate action inhibits its effectiveness and further exacerbates climate harms. The meaningful, informed and effective participation of women with diverse backgrounds in relevant decision-making processes lies at the heart of a rights-based, gender-responsive approach to climate action. This inclusive approach is not only a legal, ethical and moral obligation; it will also make climate action more effective.**

61. **The adverse effects of climate change on the effective enjoyment of the rights of women require urgent, rights-based, gender-responsive climate action that will respect, protect and fulfil the rights of women and ensure their empowerment as agents of change. States should:**

- **Take more ambitious climate change mitigation and adaptation action to limit the impacts of climate change on all persons, particularly women.**
- **Be guided by the multi-dimensional and intersectional experience of women to incorporate a broad range of human rights and gender considerations in mitigating climate change and building climate resilience, such as:**
    - **Women's rights to land, natural and financial resources, services, and income;**
    - **Climate-induced displacement and migration;**
    - **Sexual and gender-based violence;**
    - **A gendered focus on health and well-being, including sexual and reproductive health and rights;**
    - **Social protection systems.**
- **Ensure the full, equal and meaningful participation of women with diverse backgrounds in climate change mitigation and adaptation at all levels. Potential mechanisms for promoting women's participation can include:**
    - **Protection of all women environmental human rights defenders who exercise their rights, including the rights to participation and access to information and justice;**
    - **Quotas for including women on local climate change-related committees;**
    - **Women-only consultation meetings;**
    - **The provision of safe transportation and childcare for women attending meetings.**
- **Take measures within relevant bodies and processes under the United Nations Framework Convention on Climate Change to:**
    - **Ensure gender-responsive mitigation and adaptation;**
    - **Integrate human rights and gender equality into nationally determined contributions;**
    - **Implement, strengthen and renew the Gender Action Plan under the Lima Work Programme;**
    - **Ensure gender balance in the composition of bodies under the United Nations Framework Convention on Climate Change and its constituent agreements;**

  - **Enforce gender balance and diversity in the composition of national delegations to processes under the United Nations Framework Convention on Climate Change;**
  - **Support capacity-building for women from diverse backgrounds to maximize their voice, confidence and negotiation skills.**
- **Empower women, as economic and climate actors, and workers and employers, to help shape the just transition to a low-carbon economy that benefits all, including through:**
  - **Promotion of equal rights and opportunities for women in agriculture;**
  - **Strengthening women's land rights;**
  - **Ensuring women's access to finance, technology and other inputs;**
  - **Improving working conditions.**
- **Ensure that climate funds benefit countries and people most affected by climate change and systematically integrate women's human rights and gender equality into governance structures, project approval, implementation processes, and public participation mechanisms, including through:**
  - **Ex ante and ex post gender and human rights impact assessments;**
  - **Regular reporting on implementation of gender policies, based on quantitative and qualitative indicators; gender-disaggregated data collected throughout the project cycle; and active engagement of local women in participatory project monitoring;**
  - **Developing guidance for gender-responsive stakeholder consultation and facilitating the participation of national and local women's organizations, including through increased funding to support grass-roots women's organizations working on local climate responses;**
  - **Mandatory gender-budgeting and gender financial audits.**
- **Increase the effectiveness of climate action by funding and developing an improved understanding of the differentiated human rights impacts of climate change on women, including through:**
  - **Disaggregated data collection that pays particular attention to gender and its intersections with characteristics such as age, disability and ethnicity;**
  - **Development of gender-specific indicators;**
  - **Mapping the effects of climate change upon the poor, women, and girls;**
  - **Identifying priority areas of action to support women, and enhance access to benefits.**
- **Take effective measures to address and prevent sexual and gender-based violence in the context of climate change, including through women's meaningful and effective participation in the design and implementation of humanitarian, migration and disaster risk reduction plans and policies.**
- **Engage with ministries of women's affairs, or their equivalent, when designing climate change policies and actions.**
- **Continue to emphasize the need to respect and fulfil women's rights as a precondition for effective climate action at the Human Rights Council, the United Nations Framework Convention on Climate Change, and other relevant forums, such as the upcoming Climate Action Summit being hosted in 2019 by the Secretary-General of the United Nations and the high-level political forum on sustainable development.**

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Annual report of the United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and the Secretary-General

Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Realizing the rights of the child through a healthy environment

Report of the United Nations High Commissioner for Human Rights

Summary

The present report is submitted pursuant to Human Rights Council resolution 40/14, in which the Council requested the United Nations High Commissioner for Human Rights to prepare a report on realizing the rights of the child through a healthy environment. It provides an overview of the effects that environmental factors have on children, international legal obligations, business responsibilities and recommendations for strengthening the protection, promotion and fulfilment of children's rights through a healthy environment.

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I. Introduction

1. In its resolution 40/14, the Human Rights Council decided to focus the next annual meeting on the rights of the child on the theme "Realizing the rights of the child through a healthy environment" and requested the United Nations High Commissioner for Human Rights to prepare a report on that matter in cooperation with all stakeholders. A broad consultation process was performed, through which submissions were received from States, United Nations entities, national human rights institutions and civil society organizations.[1] The present report builds upon the Committee on the Rights of the Child's recommendations, the reports of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes,[2] the Special Rapporteur on human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment[3] and the analytical study of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and the full and effective enjoyment of the rights of the child.[4]

2. Environmental damage, climate change and childhood exposure to pollution and toxic wastes present an urgent challenge affecting all children's rights. Environmental degradation continues to occur globally due to worsening climate change, deforestation, biodiversity loss and the pollution and deterioration of the Earth's air, land and water resources. [5] A lack of clean air and water, exposure to hazardous chemicals and waste, the effects of climate change and biodiversity loss prevent children from enjoying their rights today and in the future, as their lifelong health outcomes, well-being and development are compromised.[6]

3. Children are uniquely susceptible to health-related harm from an unhealthy environment due to the physical and mental developmental differences from adults. Every year an estimated 1.7 million children under the age of 5, a quarter of all infant deaths worldwide, die prematurely from modifiable environmental factors, especially air and water pollution and poor sanitation.[7] Twelve million children in developing countries experience permanent brain damage due to lead poisoning and approximately 85 million children worldwide work in hazardous conditions and are regularly exposed to toxic substances causing brain damage and disease.[8]

4. Children bear a disproportionate share of the burden and are subject to immediate and long-term impacts of the effects of climate change and toxic and pollutant exposure, resulting in disease, impairments and mortality.[9] Children's exposure levels to toxicants and pollutants are much higher than adults as they have faster metabolic rates, proportionally consume more water and food and breathe more air.[10] As their bodies, particularly their nervous and reproductive systems, are still developing, such exposure can have lifelong impacts. Because these effects are often irreversible, they violate children's rights to life, development, health, food, water, housing, culture, play and education, among others.

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[1] All submissions are available from www.ohchr.org/EN/Issues/Children/ThematicReports/Pages/RightsHealthyEnvironment.aspx.

[2] A/HRC/33/41.

[3] A/HRC/37/58.

[4] A/HRC/35/13.

[5] www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24738&LangID=E; World Health Organization (WHO), *Inheriting a Sustainable World?: Atlas on Children's Health and the Environment* (Geneva, 2017).

[6] Ibid.

[7] WHO, *Don't Pollute My Future! The Impact of the Environment on Children's Health*, (Geneva, 2017), p. 1.

[8] Ibid.

[9] A/HRC/33/41.

[10] Catherine Karr, "Children's environmental health in agricultural settings", *Journal of Agromedicine*, vol. 17, No. 2 (2012), p. 128.

5. Marginalized children, especially from low-income, indigenous or otherwise excluded communities, are at greatest risk, highlighting the importance of non-discrimination, equality and accountability. Ensuring a clean, healthy and sustainable environment is fundamental to realizing children's rights now and for future generations, and requires prioritizing children's best interests in all environmental management and climate action decisions and eliminating childhood exposure to pollution and toxic substances.

6. Much of the environmental burden of disease on children is completely preventable through decisive and urgent climate action, pollution mitigation, safe disposal of toxic substances and chemical waste, disclosure of information and improved water, sanitation and hygiene. Despite increasing knowledge of the health and development risks of climate change, environmental degradation and exposure to toxins and pollution, children continue not to be protected through effective laws, policies and actions. Environmental protection policies and business actions frequently fail to prioritize children's best interests and persistent gaps in legislation, or weak enforcement where relevant laws exist, render pathways for accountability and redress limited or non-existent.

7. Children's specific vulnerability and social status impose a heightened duty on Governments and policymakers to make sustained efforts to effectively protect children from environmental harm, strengthen their capacities, consider their views and competences and provide access to effective and timely remedies.[11]

8. Businesses and certain industries cause environmental harm to children's rights by producing hazardous products and toxic waste, air, land and water pollution, contributing to climate change and destroying natural ecosystems.[12] The fundamental role of a healthy environment in realizing children's rights must be fully recognized and integrated in legal frameworks and policy actions, and States obligations and businesses' responsibilities relating to environmental impacts on children clarified and implemented effectively, by prioritizing children's best interests in all actions affecting them.

9. Children worldwide, particularly girls, have become key advocates for environmental rights and are exercising their right to participate in defending their right to a healthy and sustainable environment by demanding immediate climate action. Governments should urgently respond to this global child- and youth-led movement, which has resulted in, among other initiatives, the submission of a communication by 16 children to the Committee on the Rights of the Child against five major emitters (Argentina, Brazil, France, Germany and Turkey) for their failure to protect children's health and well-being in their responses to climate change.[13] In another case, Juliana et al. v. United States et al., 21 young people have filed a constitutional lawsuit asserting that actions causing climate change have violated their rights to life, liberty and property.

10. It is only in healthy environments that children can develop, grow and enjoy their rights. As set out in the 2030 Agenda for Sustainable Development, the realization of children's rights through an approach that addresses all dimensions of a healthy environment is crucial to achieving human rights, well-being and a sustainable planet.

II. Effects of environmental degradation on children

A. Climate change

11. The Committee on the Rights of the Child has identified climate change as one of the biggest threats to children's health and is urging States to place it at the centre of

[11] www.ohchr.org/Documents/HRBodies/CRC/Discussions/2016/DGDoutcomereport-May2017.pdf.

[12] Committee on the Rights of the Child, general comment No. 16 (2013) on State obligations regarding the impact of the business sector on children's rights, para. 19.

[13] https://childrenvsclimatecrisis.org/wp-content/uploads/2019/09/2019.09.23-CRC-communication-Sacchi-et-al-v.-Argentina-et-al-Redacted.pdf.

climate change adaptation and mitigation strategies.[14] The increasing global incidence of climate change threatens children's lives, destroys critical infrastructure and affects children's cultural survival. Globally, approximately 160 million children inhabit areas at risk of drought, 500 million live in flood zones and 115 million are highly exposed to cyclones.[15]

12. The central climate change impacts upon children are extreme weather and natural disasters, water scarcity, food insecurity, air pollution, vector-borne and infectious diseases and mental health issues. Water and food scarcity can lead to irreversible developmental conditions. The World Health Organization (WHO) projects that in 2030 there will be approximately 100,000 additional deaths due to climate change-attributable undernutrition.[16]

13. Use of unsafe water due to water scarcity and floods contributes to communicable diseases such as cholera,[17] to which children are particularly susceptible. Children are the most vulnerable to the climate change-related increase in vector-borne diseases, which constitute a major cause of under-5 child mortality.[18]

14. Climate change heightens social and economic inequalities. Children from indigenous communities, who rely strongly on land, and the poorest families are particularly vulnerable to climatic changes because they lack the resources and the support to adapt.[19]

15. According to the Committee on the Rights of the Child, climate change is the most significant intergenerational injustice of our time. States have clear human rights obligations under the Convention on the Rights of the Child, other human rights treaties and the Paris Agreement under the United Nations Framework Convention on Climate Change to act to protect children's rights from climate change.[20]

B. Childhood exposure to pollution and toxic substances

16. Children's direct and indirect exposure to pollution and toxic substances through the air, ground or water significantly affects their health, development and well-being, violating multiple rights. Children are exposed daily while playing, swimming in local water sources, going to or at school, eating, drinking or working.[21]

17. Hundreds of hazardous chemicals have been found in children due to in utero exposure, compromising their fetal development.[22] Toxic substances are particularly harmful for children because children absorb them at a higher rate and quantity due to their smaller size and rapidly developing physiology.[23]

18. Children who survive harmful exposures to toxic substances risk delayed development and a lifelong disease burden that jeopardizes their rights and long-term prospects.[24] They are at an especially high risk of premature birth, developmental and

[14] Committee on the Rights of the Child, general comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health, para. 50.
[15] United Nations Children's Fund (UNICEF), *Unless We Act Now: The Impact of Climate Change on Children* (November 2015).
[16] WHO, *Quantitative Risk Assessment of the Effects of Climate Change on Selected Causes of Death, 2030s and 2050s* (Geneva, 2014), p. 89.
[17] WHO, *Inheriting a Sustainable World?*, p. 24.
[18] Ibid., p. xi.
[19] UNICEF, *Unless We Act Now*, p. 62.
[20] www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E.
[21] A/HRC/33/41, para. 7.
[22] Ibid., paras. 5 and 28.
[23] Ibid., para. 4.
[24] Principles for evaluating health risks in children associated with exposure to chemicals.

endocrine dysfunction, lifelong respiratory or cardiovascular disease, and cancer in the prenatal and early childhood periods.[25]

19. The rapid rise in pollutants in children's environments has been accompanied by increasing global incidences of cancer, diabetes and asthma, among other health problems. Approximately 800 chemicals are known or suspected disruptors of the normal functioning of human endocrine systems.[26] Humans are most sensitive to endocrine disruption during early childhood and puberty.[27] The connection between childhood exposure to particular toxicants and the associated health and human rights harm is not always traceable, as health effects may not become manifest until much later. Information about the exposure to and effects of these substances is typically not required by law or regulations or provided by the relevant actors, highlighting the importance of accountability and prevention.

20. States must prevent childhood toxic exposure to protect children's rights to life, survival, development, health and bodily integrity.[28] The intrusion of toxic substances into children's bodies cannot be reversed, so prevention must be the primary approach.[29] National policies continue to focus on the risks accompanying exposure rather than on preventing exposure.[30]

Air pollution

21. Air pollution occurs when toxic substances in the air are at levels that pose a health risk. As many as 93 per cent of children live in environments where air pollution exceeds WHO ambient air quality guidelines for particulate matter; 630 million of those are children under 5 years of age. Children in low- and middle-income countries, where household air pollution from cooking and ambient air pollution combined cause more than 50 per cent of acute lower respiratory infections in children under 5, are seriously affected.[31]

22. High air pollution levels are associated with chronic respiratory infections, lung disease, cancer, adverse birth and pregnancy outcomes, asthma and other health issues, as well as lung damage, permanent damage to developing brains and problems in respect of physical, cognitive and neurological development.[32]

23. Air quality continues to deteriorate worldwide while industrialization and urbanization trends continue.[33] Indoor and outdoor pollution levels tend to be highest in developing countries[34] but can be dangerously high also in developed countries.[35]

Contaminated water

24. Water pollution contributes to intestinal and parasitic infections, including schistosomiasis, which gravely affect physical and cognitive development. These infections and diarrhoea impair the digestive system's functioning and prevent the absorption of nutrients essential for growth and development.[36] Unsafe water contributes to food

[25] WHO, *Inheriting a Sustainable World*.
[26] WHO and United Nations Environment Programme, *State of the Science of Endocrine Disrupting Chemicals: 2012* (2013), p. viii.
[27] WHO, *Don't Pollute My Future!*, p. 6.
[28] Committee on the Rights of the Child, general comment No. 13 (2011) on the right of the child to freedom from all forms of violence.
[29] A/HRC/33/41, paras. 29 and 34.
[30] Submission from Child Rights International Network.
[31] WHO, *Air Pollution and Child Health: Prescribing Clean Air* (2018), p. 2.
[32] UNICEF, *Danger in the Air: How Air Pollution May Be Affecting the Brain Development of Young Children Around the World* (2017).
[33] UNICEF, *Clear the Air for Children* (2016), p. 24.
[34] Ibid.
[35] https://unearthed.greenpeace.org/2017/04/04/air-pollution-nurseries/; https://newmobility.news/2018/03/15/greenpeace-air-polluted-in-6-out-of-10-belgian-schools/.
[36] WHO, *Don't Pollute My Future!*, p. 5.

insecurity, malnutrition and negative development[37] and increases other diseases, including trachoma.[38]

25. Water pollution disproportionately affects children's developing bodies because they drink more water in relation to their body weight, absorb a greater proportion of waterborne chemicals and spend more time in and around unsafe water.[39]

26. Developed and developing countries alike have failed to protect children from contaminated water.[40]

Electrical and electronic waste

27. Electrical and electronic waste, or "e-waste", results from the rapid increase in consumer electronics and their end-of-life disposal. Electronic components contain toxicants, including those associated with mental and developmental disorders, lung damage and cancer, at all phases: extraction, production of components and processing of e-waste. Children can be exposed in their homes and communities, while working in the processing and recycling of e-waste or while accompanying their parents to recycling places.[41] The majority of e-waste is recycled in the unregulated informal sector and in poorer countries and results in significant risk of toxic exposure for recyclers.[42]

Pesticides

28. Children are particularly vulnerable to pesticide exposure because of developmental, dietary and physiological factors.[43] Children encounter pesticides when they breathe, by ingesting incorrectly packaged pesticide products, products for domestic use and residues in food or water, while in utero and through breastfeeding. Exposure to even low levels of pesticides disrupts mental and physiological growth and can result in lifelong diseases and disorders.[44] Chronic exposure and exposure to high levels of pesticides are associated with adverse impacts on fetal development, fertility and cancer, among other serious health effects.[45]

Toxic metals

29. Lead's ongoing prevalence in the environment has devastating consequences for children's health. Children are exposed through former industrial sites, water that passes through lead pipes or solder, mining, lead-based paints and pigments, including house paint, solder in food cans and ceramic glazes.[46] Lead enters the food chain through contaminated water and soil.

30. No level of lead concentration in the blood is safe, and even relatively low lead levels may result in serious health problems,[47] impairing neurological, biological and cognitive functions. The neurological and behavioural effects of lead poisoning are irreversible. High levels of exposure in children attack the brain and the central nervous system, causing fatalities, coma, convulsions, permanent developmental impairments and behavioural problems.[48] Pregnant women risk miscarriages, stillbirths and premature births,

[37] Ibid., *Inheriting a Sustainable World?*, pp. 10–11.
[38] Ibid., p. 26.
[39] Ibid., p. 25.
[40] Submission from Human Rights Watch.
[41] WHO, *Inheriting a Sustainable World?*, pp. 88–91.
[42] Devin N. Perkins and others, "E-waste: a global hazard", *Annals of Global Health*, vol. 80, No. 4 (2014), pp. 286–295.
[43] James Roberts and Catherine Karr, "Technical report: pesticide exposure in children", *Pediatrics*, vol. 130, No. 6 (2012), pp. e1765–e1788.
[44] A/HRC/34/48, para. 24.
[45] Ibid., para. 12; UNICEF, "Understanding the impacts of pesticides on children: a discussion paper" (January 2018); submission from PAN Asia Pacific.
[46] WHO, *Childhood Lead Poisoning* (Geneva, 2010).
[47] www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health.
[48] Ibid.

as they transmit lead to the fetus. Acute lead poisoning continues to occur due to poor or no regulation.

31. Mercury is a highly hazardous chemical strictly regulated and managed in many countries. It is released through coal-fired power stations, residential coal-burning, industrial processes, waste incinerators and mining, thereby affecting children in surrounding communities through air, water and soil pollution. The continued release of mercury into the environment and its presence in the food chain severely affects children's health. It causes serious or fatal damage to the nervous, digestive and immune systems, as well as to the lungs, kidneys and other organs.[49] Its organic form bioaccumulates through the food chain, particularly in seafood, causing neurological damage and impaired development in fetuses, infants and young children.[50]

Infant toys and foods

32. Children's toys often contain high levels of toxic substances such as lead, mercury, arsenic, antimony, cadmium and chromium.[51] A study of children's products in six countries in Eastern Europe, the Caucasus and Central Asia measured toxic metals in 569 children's products, approximately 27 per cent of which contained at least one of the six metals and 13 per cent of which contained more than two.[52] Children are vulnerable because they frequently put toys in their mouths.

33. Children have died and experienced serious health effects from toxic chemicals in infant cereals. High arsenic levels have been found in infant rice cereals and children have been poisoned by ingesting toxic chemicals incorrectly packaged as food.[53]

C. Toxic exposure resulting from business activities

34. Industrial activities may cause significant environmental damage affecting children through exposure to air, soil and water pollution, among others. Chemicals from pesticides, plastics and other manufactured goods enter water supplies and the food chain. Endocrine-disrupting chemicals, which may contaminate food through packaging, have been linked to liver, thyroid and neurodevelopmental effects.

35. The toxicity of many chemicals in common use by industries is still not fully understood and the requirements regulating chemicals are often limited, even for potentially hazardous chemicals. Governments often fail to sufficiently monitor the situation and regulate companies.

36. Children worldwide are exposed to agricultural toxicants and pesticides in nearby communities or through working. Weak or no health, safety and environmental regulations and information of the risks and impacts are factors in such exposure.

37. Children are exposed to toxic substances and pollutants from nearby small- and large-scale mining activities or by working in mines (see child labour below). Pollution from small- and large-scale mining has exposed children in nearby communities to mercury, cyanide, cadmium, chromium, arsenic, lead and dust, all of which have contributed to air pollution and severely affect their health.[54]

[49] www.who.int/news-room/fact-sheets/detail/mercury-and-health.

[50] www.epa.gov/mercury/health-effects-exposures-mercury.

[51] WHO, *Inheriting a Sustainable World?*, p. 66.

[52] International Pollutants Elimination Network and GRID-Arendal, "Toxic metals in children's products: an insight into the market in Eastern Europe, Caucasus and Central Asia" (2013).

[53] A/HRC/33/41, para. 88.

[54] WHO, "Artisanal and small-scale gold mining and health", technical paper (2016); submission from Human Rights Watch.

Child labour

38. Approximately 85 million children are engaged in hazardous labour affecting their health through exposure to toxic substances, agents and processes.[55] Children work with such substances in major global industries, particularly mining, tanning and agriculture. Governments do not in general monitor the impacts of such operations on the rights of these children.

39. Children working in agriculture are exposed to extremely high concentrations of pesticides, which cause severe immediate and long-term health harms, including death. Children working on a variety of agricultural crops worldwide have reported sickness after handling or working in close proximity to pesticides, fertilizers and other chemical agents.[56]

40. Children working in tobacco farming are exposed to nicotine from handling tobacco plants and leaves, leading to acute nicotine poisoning and potential long-term health effects.[57]

41. Children regularly work in dangerous conditions in small- and large-scale mines, often without protective equipment. They work with mercury in artisanal and small-scale gold mines in up to 70 countries. Children report several significant health impacts, including serious, persistent respiratory diseases.[58] Child labourers often have little or no information about the health risks of toxic substances or safety measures to mitigate such risks.[59] Components for smartphones, electric car batteries and other electronic products expose child miners to toxicants.[60]

D. Intersecting discrimination and inequalities

42. Exposure to environmental health risks is unequal across countries and regions, with a higher burden in developing countries, and within society, often due to discrimination and inequalities based on social or economic characteristics such as income, social status, employment, education, gender, age, disability and ethnicity.[61] Close interlinkages exist between the intersecting inequalities and discrimination that certain groups face and the effects of climate change, environmental degradation and exposure to pollution and toxic substances.

43. Children disproportionately affected include those from indigenous, low-income, rural and marginalized communities, children from developing countries, girls, and children on the move, separated from their families and with disabilities.[62] Children in geographically vulnerable areas, such as riparian and low-lying coastal areas, arid regions, high mountain regions, polar zones and other delicate ecosystems will also be disproportionately affected.[63]

44. The poorest communities are often the site of waste dumps, refineries, power plants, polluting facilities and roads with high traffic volumes, exposing those who live in such communities to higher levels of environmental harm. Indigenous peoples and traditional

[55] www.ilo.org/global/topics/child-labor/lang--en/index.htm; www.ohchr.org/Documents/HRBodies/CRC/HLPoliticalForumSustainableDevelopment.pdf.

[56] Submission from Human Rights Watch.

[57] See, e.g., Thomas Arcury and Sara Quandt, "Health and social impacts of tobacco production", *Journal of Agromedicine*, vol. 11, Nos. 3–4 (2006).

[58] Mabel A. Hoedoafia and others, "The effects of small-scale gold mining on living conditions: a case study of the West Gonja District of Ghana", *International Journal of Social Science Research*, vol. 2, No. 1 (2014); submission from Human Rights Watch.

[59] Submission from Human Rights Watch.

[60] www.amnesty.org/en/latest/news/2016/01/child-labor-behind-smart-phone-and-electric-car-batteries/.

[61] www.ohchr.org/Documents/HRBodies/CRC/HLPoliticalForumSustainableDevelopment.pdf.

[62] Human Rights Council resolution 35/20.

[63] A/HRC/35/13, para. 20.

communities that rely on forests, fisheries and other natural ecosystems for their survival and cultural life are deeply affected by damaged ecosystems.[64]

45. The effects of environmental degradation on traditional livelihoods, including food and water scarcity and property destruction, expose girls to greater risks, to exploitation and to harmful practices such as child marriage. Girls are also more likely to miss school because of having to care for elderly relatives and fetch water due to climate change stresses.[65] During natural disasters, children with disabilities may be left behind, as humanitarian responses are often not adapted to their specific needs.

III. International legal obligations

46. Under the human rights framework, States have clear human rights obligations to prevent the adverse impacts of environmental degradation on the effective enjoyment of all human rights, including children's rights. More than 155 States have recognized a legal obligation to respect, protect and fulfil the right to a healthy environment. In more than 100 countries, the right to a healthy environment enjoys constitutional status and at least 130 States have ratified regional human rights treaties that explicitly include the right to a healthy environment in Africa, Latin America and the Caribbean, the Middle East, parts of Asia and Europe.[66] The Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean aims to contribute to the protection of the right of every person of present and future generations to live in a healthy environment and to sustainable development and requires each party to the Agreement to guarantee the right of every person to live in a healthy environment (arts. 1 and 4). The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters protects the right of every person of present and future generations to live in an environment adequate to his or her health and well-being (art. 1).

47. A safe, clean, healthy and sustainable environment is a fundamental prerequisite for the full enjoyment of all human rights, and the exercise of human rights is crucial for the protection of a healthy environment. The interdependence between human rights and the environment, and States' obligations in this regard, are clearly established in international law and standards. The United Nations High Commissioner for Human Rights, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment and the Executive Director of the United Nations Environment Programme have all called for global recognition of the human right to a healthy environment. States should cooperate for the protection and fulfilment of the human right to a healthy environment and to take the steps necessary to ensure its effective enjoyment by all persons, including children.

48. The right to a healthy environment underpins the rights of all children not only to survive but to thrive and live in dignity. All children should enjoy the rights to breathe clean air, to drink potable water, to inhabit a non-toxic environment and consume uncontaminated food, to live without fear of steadily rising tides and a climate crisis, to enjoy the certainty that the biodiversity of the natural world will remain for future generations and to safely participate in decision-making and access information and justice with respect to environmental matters. The quality of the environment is a fundamental determinant of children's right to health, which depends upon a healthy and diverse

[64] A/73/188, para. 23.

[65] A/HRC/35/13, para. 21; A/73/188; Committee on the Elimination of Discrimination against Women, general recommendation No. 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change.

[66] David R. Boyd, "Catalyst for change: evaluating forty years of experience in implementing the right to a healthy environment", in *The Human Right to a Healthy Environment*, John H. Knox and Ramin Pejan, eds. (Cambridge, Cambridge University Press, 2018); David R. Boyd, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment* (Vancouver, University of British Columbia Press, 2012); www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=23782&LangID=E.

ecosystem with clean air, soil and water, which in turn requires stable climatic conditions. The framework principles on human rights and the environment further set out the basic human rights obligations regarding the environment.[67]

49. Significant work on children's rights and the environment has been done by human rights mechanisms in recent years, establishing an understanding of the international legal obligations to protect children's rights through a healthy environment and of the interlinkages between a healthy environment and the effective enjoyment of all human rights.[68]

50. The Committee on the Rights of the Child, which has focused on children's rights and the environment when reviewing State compliance with the Convention on the Rights of the Child, has issued several statements and dedicated its 2016 day of general discussion to that theme.[69] In September 2019, five United Nations human rights treaty bodies issued a joint statement calling upon States to act on climate, as failure to do so may constitute a breach of their obligations under international human rights law. They emphasized children's heightened risk of experiencing health-related harm due to climate change because of their developing bodies.[70]

51. Children's rights are enshrined in the Convention on the Rights of the Child and other international human rights treaties, including the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights. When children cannot enjoy their right to a healthy and safe environment, their other rights are seriously affected, including their rights to life, survival and development, to health, to water and sanitation, to an adequate standard of living, including food and housing, to culture, to play, to education, to bodily integrity, to freedom from economic exploitation, to information and to participation.[71] A healthy environment is a key determinant of human health and is necessary for children's enjoyment of all their rights.[72]

Right to life, the best interests of the child and non-discrimination

52. According to the Human Rights Committee, States have explicit obligations to prevent the threats that environmental degradation and climate change pose to the effective enjoyment of the right to life.[73] States have heightened obligations under the Convention on the Rights of the Child and other treaties to protect children from environmental harm, ensure that their best interests are taken as a primary consideration (a guiding principle in all actions concerning children) and implement special measures to protect, assist and care for children.[74]

53. States must protect children from harm and ensure their well-being and development, including by considering possible future risk and harm [75] and take precautionary measures against such harm. [76] States must adopt and implement environmental standards consistent with the best available science and relevant

[67] A/HRC/37/59, annex.

[68] A/HRC/33/41; A/HRC/35/13; A/HRC/37/58; A/HRC/41/26; A/74/480.

[69] www.ohchr.org/EN/HRBodies/CRC/Pages/Discussion2016.aspx; www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25068&LangID=E; www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24393&LangID=E.

[70] www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E.

[71] Convention on the Rights of the Child, arts. 28–29; International Covenant on Economic, Social and Cultural Rights, arts. 13–14; Sustainable Development Goal No. 4.

[72] Committee on Economic, Social and Cultural Rights, general comment No. 14 (2000) on the right to the highest attainable standard of health, para. 4; Committee on the Rights of the Child, general comments No. 7 (2005) on implementing child rights in early childhood, para. 10, and No. 15, para. 2.

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

[74] Convention on the Rights of the Child, art. 3; International Covenant on Economic, Social and Cultural Rights, art. 10 (3).

[75] Committee on the Rights of the Child, general comment No. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration, paras. 24 and 71.

[76] Rio Declaration on Environment and Development, principle 15.

international health and safety standards, which are not retrogressive,[77] ensuring that such standards are effectively implemented and enforced.[78]

54. Every child has the inherent right to life[79] and States must ensure the survival and development of the child.[80] Children's right to bodily integrity is enshrined in the Convention on the Rights of the Child and other provisions of international human rights law.[81] Children's exposure to toxic substances violates their bodily integrity, as it occurs without the child's or the parents' free, prior and informed consent.[82]

55. Every child has the right to enjoy human rights and fundamental freedoms on an equal basis, without discrimination, and States must ensure that children disproportionately affected by environmental harm and harmful substances can do so, including by removing indirect and indirect forms of discrimination.[83]

Health and adequate standard of living

56. The Convention on the Rights of the Child explicitly calls upon States to take measures to protect children's health from environmental pollution and to ensure environmental sanitation. Every child is entitled to the highest attainable standard of health, including measures to prevent disease and other health impacts and to ensure access to health care.[84] The right to health includes socioeconomic factors and determinants such as food, nutrition, housing, access to safe and potable water, adequate sanitation, safe and healthy working conditions, and a healthy environment.[85] States must realize children's right to health, including the healthy development of the child and the improvement of all aspects of environmental and industrial hygiene.[86] This includes preventing and reducing exposure to harmful substances or environmental conditions that directly or indirectly affect health.[87]

57. All children have the right to a standard of living adequate for their health and well-being, including food, clothing, housing, clean and safe water, and sanitation.[88] States must ensure that environmental determinants affecting food, water and housing are free from toxic substances and do not interfere with health or with other rights.[89]

[77] Committee on the Rights of the Child, general comment No. 15, para. 7; A/HRC/37/58.

[78] Committee on the Rights of the Child, general comment No. 16, para. 61; A/HRC/37/58.

[79] Convention on the Rights of the Child, art. 6; International Covenant on Civil and Political Rights, art. 6.

[80] Convention on the Rights of the Child, art. 6.

[81] Ibid., art. 19; Committee on the Rights of the Child, general comment No. 4 (2003) on adolescent health and development in the context of the Convention, para. 8; International Covenant on Civil and Political Rights; International Covenant on Economic, Social and Cultural Rights.

[82] A/HRC/33/41; A/74/480.

[83] Committee on the Rights of the Child, general comments No. 12 (2009) on the right of the child to be heard, paras. 77–78, No. 9 (2006) on the rights of children with disabilities, para. 32, No. 11 (2009) on indigenous children and their rights under the Convention, paras. 35, 39 and 53, and No. 17 (2013) on the right of the child to rest, leisure, play, recreational activities, cultural life and the arts, para. 50. See also the Convention on the Rights of Persons with Disabilities, art. 30; Committee on Economic, Social and Cultural Rights, general comment No. 20 (2009) on non-discrimination in economic, social and cultural rights, para. 7.

[84] Convention on the Rights of the Child, art. 24; International Covenant on Economic, Social and Cultural Rights, art. 12.

[85] Committee on Economic, Social and Cultural Rights, general comment No. 14, paras. 4 and 11; Committee on the Rights of the Child, general comments No. 7, para. 10, and No. 15, para. 2.

[86] International Covenant on Economic, Social and Cultural Rights, art. 12.

[87] Committee on Economic, Social and Cultural Rights, general comment No. 14, para. 15.

[88] International Covenant on Economic, Social and Cultural Rights, art. 11; Committee on Economic, Social and Cultural Rights, general comment No. 15 (2002) on the right to water, para. 3.

[89] Committee on Economic, Social and Cultural Rights, general comments No. 4 (1991) on the right to adequate housing, para. 8 (d) and (f), No. 12 and No. 14, para. 12; Committee on the Rights of the Child, general comment No. 15, paras. 48–49.

Participation, freedom of expression and access to information

58. All children have the right to be heard and to participate in actions and decision-making that affect their lives, and their views are to be considered in accordance with their age and maturity.[90]

59. Children's right to participate in environmental matters is underpinned by their rights to information,[91] freedom of expression,[92] freedom of association and peaceful assembly,[93] and access to justice.[94] These rights are set out in the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean and the United Nations Framework Convention on Climate Change.

60. Children must have access to information in formats appropriate to their age, educational level and capacities on all issues concerning them, including their environment, toxic substances and potential or actual health effects.[95] An effective education, including the development of respect for the natural environment (as set out in article 29 of the Convention on the Rights of the Child) is critical to the effective exercise of children's environmental rights.

61. Children environmental human rights defenders should be protected to act and participate in matters affecting them, and States must protect them from violence and other reprisals.[96] Moreover, States must provide a safe and empowering context for initiatives organized by young people and children to defend human rights relating to the environment.[97]

Prevention and remedies

62. Prevention is the only way to fully protect children's rights from environmental harms. Under human rights law, States must prevent the initial occurrence of harm, including through effective regulation and enforcement mechanisms such as injunctive relief by judicial tribunals or administrative bodies.[98] When environmental harms do occur, States should ensure timely, effective access to remedies, including through penalties, compensation, judicial action and measures to promote recovery after harm has been caused or contributed to by third parties.[99] Immediate steps must be taken by all to prevent further damage to children's health and development and repair any damage.[100]

63. An effective remedy includes the remediation of contaminated sites, the cessation of actions or inactions causing impacts, the provision of health care, regulations to stop the production and sale of harmful products and the dissemination of information. Remedies should be timely, in order to limit ongoing and future damage, and adapted to the evolving nature of children's development and capacities.[101]

Freedom from child labour

64. States must protect children from performing any work likely to be hazardous or harmful to their health or development, including by taking legislative, enforcement and

[90] Convention on the Rights of the Child, art. 12.
[91] Ibid., arts. 13 and 17.
[92] Ibid., art. 13; International Covenant on Civil and Political Rights, art. 19.
[93] Convention on the Rights of the Child, art. 15.
[94] Ibid.; International Covenant on Civil and Political Rights, arts. 21–22.
[95] Committee on the Rights of the Child, general comments No. 12 and No. 15, para. 58.
[96] Committee on the Rights of the Child, general comment No. 20 (2016) on the implementation of the rights of the child during adolescence, para. 2; A/71/281, para. 7.
[97] Human Rights Council resolution 40/11, para. 14 (e).
[98] A/HRC/33/41, para. 41; A/HRC/37/58, para. 54; A/74/480.
[99] Convention on the Rights of the Child, arts. 32 (2), 19 and 39; General Assembly resolution 60/147; A/HRC/37/59, annex, framework principle 10.
[100] Committee on the Rights of the Child, general comment No. 16, para. 31.
[101] Ibid.

other measures to prevent children from handling toxic substances or working in hazardous conditions.[102] The Worst Forms of Child Labour Convention, 1999 (No. 182), of the International Labour Organization (ILO) recognizes work that harms children's health as one of the worst forms of child labour and requires States to take immediate and effective measures to prohibit and eliminate labour practices harmful to child workers' health or development (arts. 1 and 3). ILO Worst Forms of Child Labour Recommendation, 1999 (No. 190), states that work in an unhealthy environment that may, for example, expose children to toxic substances, agents or processes is damaging to their health and that criminal penalties should apply.[103]

IV. States' duties and businesses' responsibilities

65. States have an obligation and businesses a responsibility to identify, prevent and mitigate children's exposure to environmental health risks.

66. States must ensure that legislation, policies and programmes concerning business matters do not directly or indirectly discriminate against children, neither in content nor implementation, including by conducting impact assessments, collecting disaggregated data and establishing monitoring and investigative mechanisms.[104]

67. States must take all necessary, appropriate and reasonable measures to prevent businesses from causing or contributing to children's rights abuses.[105] This includes ensuring they comply with all applicable environmental standards and regularly monitoring business activities' environmental impacts that may affect children's health, food security and access to safe water and sanitation.[106]

68. Children may face additional barriers to justice for environmental harm. Children and their representatives may lack information about the effects of particular harms or the effects may become manifest years after exposure, which may make it difficult or impossible to bring a case, comply with applicable statutes of limitation or fulfil requirements on burdens of proof and persuasion.[107] States should remove such obstacles and ensure that effective collective complaints mechanisms are available, including by allowing collective suits and public interest litigation on behalf of children.[108]

69. States should conduct impartial and independent child rights impact assessments, and require businesses to perform child rights due diligence and identify, prevent and mitigate negative effects of their operations on children's rights, including throughout their business relationships, supply chains and global operations.[109] States must also ensure that information held by businesses relevant to children's health and well-being is publicly available.

Business responsibilities

70. As established in the Guiding Principles on Business and Human Rights, businesses have a responsibility to respect children's rights, including the right to a healthy environment, in the context of their operations. This responsibility exists independently of and should not diminish States' obligations.[110] In its general comment No. 16, the Committee on the Rights of the Child elaborated on States' obligations under the

[102] Convention on the Rights of the Child, art. 32; International Covenant on Economic, Social and Cultural Rights, art. 10; ILO Convention No. 182, arts. 1 and 3.
[103] Paras. 3 (d) and 13.
[104] Committee on the Rights of the Child, general comment No. 16, paras. 13–14.
[105] Ibid., para. 28.
[106] Ibid., general comment No. 15, para. 49.
[107] www.ohchr.org/Documents/HRBodies/CRC/Discussions/2016/DGDoutcomereport-May2017.pdf, pp. 21–22.
[108] A/HRC/37/58, para. 53.
[109] Committee on the Rights of the Child, general comment No. 16, paras. 62–65 and 78–81.
[110] A/HRC/17/31.

Convention regarding the business sector's impact on children's rights.[111] Multi-stakeholder initiatives such as the Children's Rights and Business Principles have focused on the specific implications of the business responsibility to respect human rights concerning children.[112]

71. According to the Guiding Principles on Business and Human Rights, businesses should apply human rights due diligence to identify potential and actual human rights risks linked to their activities, take effective steps to prevent or mitigate such risks, ensure victims have effective access to complaints mechanisms and remedies, and monitor and report on efforts to prevent and mitigate rights' violations. The Committee on the Rights of the Child stipulates that businesses should respect children's rights throughout their operations, avoid impeding efforts to realize and advance children's rights – directly or indirectly – and engage positively in realizing those rights.[113]

V. Good practices towards realizing children's rights through a healthy environment

72. Some States, civil society organizations and other actors have already taken measures to realize children's rights through a healthy environment. Several of the good practices highlighted in the submissions received have been included below (paras. 73–103). Existing good practices should be used to inform and enhance national and intergovernmental action.

International level

73. States parties to the Minamata Convention on Mercury must address mercury emissions, phase out certain mercury-containing products, promote mercury-free gold processing methods and take special measures to protect vulnerable populations from exposure, including children and women of child-bearing age.

74. In 2019, a global initiative for advancing children's right to a healthy environment was established to empower children and youth, increase national, regional and global decision-making on children's rights and the environment, increase stakeholders' capacity to implement children's rights regarding the environment and contribute to standard-setting and policy development.[114]

75. The Declaration on Children, Youth and Climate Action, which was signed by the Governments of Chile, Costa Rica, Fiji, Monaco, Luxembourg, Nigeria, Peru, Slovenia, Spain and Sweden at the twenty-fifth session of the Conference of Parties to the United Nations Framework Convention on Climate Change in December 2019, commits States to accelerate inclusive, child and youth-friendly climate policies and action at the national and global levels, including by enhancing child and youth participation; to advocate for global recognition and fulfilment of children's right to a healthy environment; and enshrine it in regional treaties and frameworks, national constitutions and/or legislation.[115]

76. The Global Compact for Safe, Orderly and Regular Migration includes specific commitments in relation to environmental degradation.[116]

Regional level

77. The Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean guarantees the right to

[111] Committee on the Rights of the Child, general comment No. 16.

[112] www.unglobalcompact.org/docs/issues_doc/human_rights/CRBP/Childrens_Rights_and_Business_Principles.pdf.

[113] General comment No. 16.

[114] www.ohchr.org/Documents/Issues/Environment/SREnvironment/ConceptNoteChildRights_EN.PDF.

[115] www.voicesofyouth.org/campaign/cop25-join-declaration-children-youth-and-climate-action.

[116] General Assembly resolution 73/195, annex.

information on environmental issues, informed participation in the process for approving investment projects and removes obstacles to environmental justice, including by requiring support for people or groups in vulnerable situations. It is the first treaty with specific provisions on environmental human rights defenders.

78. In 2017, the Inter-American Court of Human Rights ruled that the right to a healthy environment under the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights protects individuals and collectives, including future generations, and can be used to hold States responsible for cross-border violations within their effective control.[117]

79. The European Court of Human Rights has established that various types of environmental degradation can result in human rights violations.[118] Its jurisprudence requires that States investigate violations and compensate individual victims and that they fulfil their obligation to prevent such violations from occurring through general and precautionary measures to address environmental risks in a systemic manner. Doing so includes carrying out environmental risk assessments and air and water quality controls, passing environmental regulations and planning for emergencies.[119]

80. The European Union has policies ensuring that companies undertake environmental and human rights due diligence and do not contribute to children's rights violations. It has established standards to regulate toxic chemicals and lead, including the Registration, Evaluation, Authorization and Restriction of Chemicals Regulation. Such standards apply, among others, to toxicants used in toys, furniture, clothing and cleaning products. Risk assessments must consider children.[120] Italy and Slovenia report implementing these regulations.[121]

National level

81. Bolivia (Plurinational State of), El Salvador, Mexico and Paraguay have introduced legislation recognizing children's right to a healthy, ecological and sustainable environment.[122]

82. In the Philippines, the Children's Emergency Relief and Protection Act of 2016 provides for specific measures to protect and educate children in the context of emergencies, ensure their participation in relevant decision-making processes and collect better data.[123]

83. In Viet Nam, a law on environmental protection incorporates the best interests of the child and gender equality in relation to green growth and climate change.[124]

84. In Canada, the Maternal-Infant Research on Environmental Chemicals research platform has contributed important data for improved understanding of chemicals' impact on children's health.[125]

85. Denmark, Saudi Arabia and Slovenia have adopted measures to protect children's health from environmental degradation and chemicals.[126]

[117] Inter-American Court of Human Rights, Advisory Opinion OC-23/17 of 15 November 2017.
[118] https://www.echr.coe.int/Documents/FS_Environment_ENG.pdf.
[119] See, e.g., *Tătar v. Romania* (application No. 67021/01), judgment of 27 January 2009.
[120] Submission from the European Union.
[121] Submissions from Italy and Slovenia.
[122] A/HRC/37/58, para. 9.
[123] A/HRC/35/13, para. 44.
[124] Ibid.
[125] www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24678&LangID=E; www.canada.ca/en/health-canada/services/environmental-workplace-health/environmental-contaminants/human-biomonitoring-environmental-chemicals/maternal-infant-research-environmental-chemicals-mirec-study/research.html.
[126] www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24678&LangID=E.

86. Georgia has introduced time-bound measures to monitor, control and reduce children's exposure to hazardous chemical substances, including in schools and kindergartens.[127]

87. Italy has introduced initiatives to improve air quality, particularly in schools and other environments frequented by children, and guidelines and training addressing health risks and prevention.[128]

88. Qatar monitors air pollutant levels in governmental schools and has produced guidance on prevention.[129]

89. Slovenia has implemented biomonitoring and preventive programmes in areas of significant environmental degradation to protect children's health, particularly from exposure to lead and other chemicals in kindergartens, schools and private homes.[130]

90. Spain has introduced measures to regulate air pollution and will establish and apply standards to the business sector.[131]

91. Brazil has prohibited all work by children in tobacco and established penalties for farmers and companies purchasing tobacco processed through the labour of children.[132]

92. The Philippines has launched an initiative to stop children aged 15–17 years from working in small-scale gold mining and offered them vocational training in the tourism sector.[133]

93. France requires large companies to conduct due diligence on human rights implications of operations, including children's environmental health rights.[134]

94. The Netherlands has adopted child labour due diligence legislation that requires companies to assess whether their goods have been produced using child labour, create a prevention plan and submit a statement detailing due diligence efforts to the Government.[135]

95. Georgia reports regulating business activities on environmental issues, including through indemnities.[136]

96. In 2017, Malawi adopted a law enabling people to request and obtain vital information such as water-quality testing results.[137]

97. Laws in the United States of America require high-risk industries to provide financial assurances that they have the resources to clean up potential pollution.[138]

98. Many States, including Australia, Azerbaijan, China, El Salvador, France, Georgia, Guatemala, the Philippines, Qatar and Switzerland, as well as the State of Palestine, report having taken measures to improve children's environmental education.[139] In Mexico, the United Nations Children's Fund (UNICEF) and the National Institute of Ecology and Climate Change have developed teaching manuals on climate change that take a children's rights approach.[140]

[127] Submission from Georgia.
[128] Submission from Italy.
[129] Submission from Qatar.
[130] Submission from Slovenia.
[131] Submission from Spain.
[132] Submission from Human Rights Watch.
[133] Ibid.
[134] www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000034290626&categorieLien=id.
[135] www.eerstekamer.nl/behandeling/20170207/gewijzigd_voorstel_van_wet.
[136] Submission from Georgia.
[137] Submission from Human Rights Watch.
[138] Ibid.
[139] https://sustainabledevelopment.un.org/content/documents/24291OHCHR_ChildRightsReport_HLPF_July19.pdf; submissions from Azerbaijan, El Salvador, Georgia, Guatemala and Qatar.
[140] Submission from UNICEF.

99. Germany promotes child participation in environmental initiatives and has adopted mitigation measures in response to the youth climate activism movement.[141]

100. Egypt, El Salvador and Spain promote children's participation in environmental matters.[142]

101. Oman and Qatar have designated a national day of the environment to raise awareness of and promote children's participation in addressing environmental issues.[143]

102. Egypt and Guatemala report having established gardens in schools and nurseries to improve children's environments.[144]

VI. Conclusions and recommendations

103. **Environmental degradation, climate change and childhood exposure to toxic and hazardous substances present an urgent challenge and negatively affect children's rights, including the rights to life, survival and development, bodily integrity, physical and mental health, an adequate standard of living, including food, water, sanitation and housing, culture, freedom from child labour, education, play and livelihood. Furthermore, children are often unable to fully realize their rights to freedom of information, participation and access to remedy regarding environmental issues.**

104. **The effects of environmental damage, pollution and toxic substances also intensify social and economic inequalities and poverty and reverse improvements in children's well-being.**

105. **States must urgently act to respect, protect and fulfil children's rights related to environmental damage, pollution and toxic substances, including by meeting their human rights obligations and responsibilities contained in the Convention on the Rights of the Child, the Paris Agreement and other international human rights and environmental instruments.**

106. **All stakeholders must act to ensure coherence in law and policy concerning the effects of environmental damage, pollution and toxic substances on children. This includes better sharing of information and collaboration at all levels and the mobilization of adequate domestic and international resources for effective action.**

107. **States should:**

(a) **Adopt a child-rights approach in designing, implementing and monitoring public health, environmental, consumer and labour laws, standards, policies and programmes, prioritizing the best interests of the child;**

(b) **States should amend laws, standards and policies as necessary, considering that specific groups are at greater risk and must be able to exercise their human rights on an equal basis with others;**

(c) **Integrate the human right to a healthy environment into national constitutions and legislation, and recognize this right at the global level so that it can be enjoyed by everyone everywhere;**

(d) **Take ambitious mitigation measures to minimize the negative impacts of climate change on children to the greatest extent possible and at the very least to limit warming to no more than 1.5°C above pre-industrial levels, in line with the Paris Agreement;**

(e) **Include environmental degradation and toxic substances and pollution related to children's rights in national action plans on business and human rights and**

[141] Ibid; submission from Human Rights Watch.

[142] Submissions from Egypt, El Salvador and Spain.

[143] https://sustainabledevelopment.un.org/content/documents/24291OHCHR_ChildRights Report_HLPF_July19.pdf.

[144] Submissions from Egypt and Guatemala.

the national policy framework for implementation of the Convention on the Rights of the Child;

(f) **Adopt evidence-based measures and good practices, mobilize domestic and international resources and increase technical assistance in line with international human rights laws, norms and standards and the 2030 Agenda for Sustainable Development to ensure that all children, including those most at risk, can exercise their human rights on an equal basis with others;**

(g) **Strengthen monitoring of the impacts of environmental harm and exposure to toxics and pollution on children, conduct impact assessments, collect disaggregated data, particularly concerning children most at risk, and establish monitoring and investigative mechanisms;**

(h) **Collect information on the sources and effects of environmental damage and exposure to toxic substances on children and make it publicly available and accessible, including in age-appropriate language and formats;**

(i) **Provide accessible, age-appropriate environmental education in school curricula aimed at increasing children's knowledge and capacity to respond to environmental challenges;**

(j) **Facilitate children's meaningful participation in environmental and human rights decision-making processes and protect them from reprisals for their participation or otherwise expressing their views on environmental matters;**

(k) **Ratify the Optional Protocol to the Convention on the Rights of the Child on a communications procedure;**

(l) **Ensure that children have access to justice and to effective and timely remedies for toxics exposure and environmental degradation and that the mechanisms for ensuring such access are age-appropriate and take into consideration children's needs;**

(m) **Prioritize preventive and precautionary measures, including remediation of contaminated sites, regulation of production and sale of products, access to necessary medical and psychological care, and adequate compensation;**

(n) **Strengthen regulation and ensure enforcement of human rights and environmental harm in the context of business activities, including through the introduction of specific legislation;**

(o) **Require businesses to undertake child rights due diligence, ensure that children are not exposed to toxics and environmental degradation in the context of business activities, both domestically and extraterritorially, in line with the Guiding Principles on Business and Human Rights and the Committee on the Rights of the Child's general comment No. 16, and take appropriate steps to ensure, through judicial, administrative, legislative or other appropriate means, that when abuses occur within their territory and/or jurisdiction those affected have access to effective remedy;**

(p) **Eliminate work exposing children to toxic substances and ensure that women and girls of reproductive age are guaranteed protection from occupational exposure to toxics and access to alternative preventive measures;**

(q) **Increase and strengthen intersectoral cooperation and strengthen regulatory agencies and ministries responsible for the oversight of standards relevant to children's rights affected by exposure to toxics and environmental degradation, including health, consumer protection, education, environment, food and labour, to ensure they adopt a child-rights approach.**

108. **Businesses should:**

(a) **Identify, prevent and mitigate exposure by children to toxicants and environmental degradation through their activities, products or business relationships, including global supply chains and other international relationships;**

carry out environmental and human rights impact assessments that examine the effects of proposed actions on children and fully respect children's rights standards, in accordance with the Guiding Principles on Business and Human Rights; and incorporate into their operations the guidance contained in the Committee on the Rights of the Child's general comment No. 16 and the Children's Rights and Business Principles;

(b) **Ensure that effective grievance mechanisms are available;**

(c) **Provide information on the risk of exposure to and hazards of industrial chemicals, pesticides and other hazardous substances that they manufacture and sell, and ensure that such information is easily accessible and available to everyone;**

(d) **Communicate publicly and objectively on measures taken to mitigate potential childhood exposure and environmental damage in the context of business activities;**

(e) **Use safer alternatives, where they exist, to mitigate human rights impacts and, where there are no alternatives, actively invest in developing and adopting safer alternatives and mitigation measures.**

109. **The United Nations High Commissioner for Human Rights should invite the Committee on the Rights of the Child to provide further normative and practical guidance on children's rights and the environment, including through a new general comment.**

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Promotion and protection of all human rights, civil, political, economic, social, and cultural rights, including the right to development

Analytical study on the promotion and protection of the rights of persons with disabilities in the context of climate change

Report of the Office of the United Nations High Commissioner for Human Rights

Summary

The present analytical study is submitted pursuant to Human Rights Council resolution 41/21. In the report, the impacts of climate change on persons with disabilities are examined; human rights obligations and the responsibilities of States and other actors in relation to disability-inclusive approaches identified; and good practices shared. The report ends with conclusions and recommendations.

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Contents

I. Introduction

1. The present study is submitted pursuant to Human Rights Council resolution 41/21, in which the Council requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to conduct a detailed analytical study, in consultation with relevant stakeholders, on the relationship between climate change and the full and effective enjoyment of the rights of persons with disabilities.

2. On 30 August 2019, OHCHR circulated a note verbale and a questionnaire to Member States, requesting their inputs. OHCHR also contacted other stakeholders, including international organizations, national human rights institutions and civil society. The contributions received and consultations with stakeholders informed the present study.[1]

3. In the study, OHCHR examines the impacts of climate change on persons with disabilities[2] and the related human rights obligations and responsibilities of States and other actors, including the elements of a disability-inclusive, human rights-based approach to climate change policies. It provides examples of good practices and concludes with concrete recommendations for fulfilling human rights obligations, particularly those related to the human rights of persons with disabilities, in the context of climate change.

II. The impacts of climate change on persons with disabilities

4. Disability covers a diverse array of impairments.[3] It results from the interaction between persons with impairments and attitudinal barriers, such as stereotypes, stigma and prejudices, and environmental barriers.[4] That hinders their full and effective participation in society on an equal basis with others.[5] People who are culturally, economically, institutionally, politically, socially or otherwise marginalized, such as persons with disabilities, are particularly at risk of harm from the adverse effects of climate change.[6]

5. Climate change has both a direct and indirect impact on the effective enjoyment of a wide range of human rights for everyone. Persons with disabilities – an estimated 1 billion individuals worldwide[7] – may experience those impacts differently and more severely than others (see A/71/314). For example, persons with disabilities are often among those most adversely affected in an emergency, sustaining disproportionately higher rates of morbidity and mortality, and are among those least able to access emergency support. Sudden-onset natural disasters and slow-onset events can seriously affect the access of persons with disabilities to food and nutrition, safe drinking water and sanitation, health-care services and medicines, education and training, adequate housing and access to decent work.

6. The majority of persons with disabilities live in poverty, as highlighted in the Convention on the Rights of Persons with Disabilities. The Intergovernmental Panel on Climate Change foresees that the poorest people will continue to experience the worst effects of climate change through lost income and livelihood opportunities, displacement,

[1] All contributions are available at www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/PersonsWithDisabilities.aspx.

[2] In the present report, references to disability are to be understood according to the definition in the Convention on the Rights of Persons with Disabilities: "Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others".

[3] New Earth Disability, "Why climate change and disability?" available at https://wid.org/2018/09/25/ned-intro/.

[4] Convention on the Rights of Persons with Disabilities, preamble and see Committee on the Rights of Persons with Disabilities, general comment No. 6 (2018) on equality and non-discrimination.

[5] Convention on the Rights of Persons with Disabilities, preamble.

[6] Intergovernmental Panel on Climate Change, *Climate Change 2014: Impacts, Adaptation and Vulnerability*, synthesis report, summary for policymakers.

[7] World Health Organization (WHO) and the World Bank, *World Report on Disability* (2011), p. 29.

hunger and adverse impacts on their health.[8] Multiple and intersecting factors of discrimination related to gender, age, displacement, indigenous origin or minority status can further heighten the risks of persons with disabilities experiencing negative impacts of climate change.

7. Because they are disproportionately affected by climate change, persons with disabilities must be included in climate action. Their participation would allow for tailored climate action that addresses the specific concerns of persons with disabilities related to the adverse impacts of climate change. A human rights-based approach, as defined in the next section of the present report, empowers persons with disabilities as agents of change to address the harmful impacts of climate change in their day-to-day lives. If persons with disabilities are left out of decision-making, that leaves them unable to contribute by identifying risk reduction and adaptation measures that could be effective for, and carried out by, persons with disabilities.[9] Persons with disabilities are a heterogeneous group with different requirements (see A/71/314) and best practices in terms of disability inclusion may also be relevant for the population at large, helping to avert some of the worst impacts of climate change.[10]

A. Health

8. Climate change can exacerbate existing health and health care inequalities faced by persons with disabilities and the health impacts of climate change may be experienced more severely by persons with disabilities owing to the harmful impact of climate change on health systems.[11] Persons with disabilities may have reduced access to health care and poorer health outcomes than others owing to a combination of structural factors, including stigma, social exclusion, poverty, discriminatory legislation and policies and the limited availability of tailored services and programmes (see A/73/161).

9. The adverse impacts of climate change exacerbate environmental, attitudinal and institutional barriers to the right to health of persons with disabilities. Climate change events can have a direct effect on injuries and increase public health concerns, such as malnutrition, non-communicable diseases, respiratory conditions and infectious diseases (see A/HRC/32/23).[12] In addition, climate change disrupts social protection systems and essential health-care services, which can have grave consequences for persons with disabilities. Lack of measures to ensure accessibility to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or

[8] See Intergovernmental Panel on Climate Change, *Global Warming of 1.5ºC. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, ch. 5, p. 479 (2018).

[9] See Marilise Turnbull, Charlotte L. Sterrett and Amy Hilleboe, *Toward Resilience: a Guide to Disaster Risk Reduction and Climate Change Adaptation* (Rugby, Warwickshire, Practical Action Publishing Ltd., 2013).

[10] See John Twigg and others, "Disability and climate resilience: a literature review" (April 2017).

[11] Inter-Agency Standing Committee. *Guidelines: Inclusion of Persons with Disabilities in Humanitarian Action* (2019).

[12] See also Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts, "A disability rights approach to climate governance", *Ecology Law Quarterly*, vol. 47, No. 1; John Twigg and others, "Disability and climate resilience: a literature review"; and Alyssa Gutnik and Marcie Roth, "Disability and climate change: how climate-related hazards increase vulnerabilities among the most at risk populations and the necessary convergence of inclusive disaster risk reduction and climate change adaptation" (2018).

provided to the public,[13] is another issue that places persons with disabilities at a disadvantage vis-à-vis climate change impacts.[14]

10. Extreme weather events can result in disruptions to the availability of and access to health-care services, especially in rural areas.[15] Persons with disabilities are disproportionately affected by the adverse impacts of disasters[16] and are at greater risk of death, injury and additional impairments owing to their general exclusion from disaster risk reduction policies, plans and programmes.[17] Emergency-related information and warnings are often not accessible to persons with disabilities.

11. Many persons with disabilities rely on assistive devices that enhance physical functions, including by enabling them to hear or see better and achieve mobility. During a disaster, assistive devices are often lost or damaged, leaving persons with disabilities without adaptive assistance. Such devices are typically not a part of distributed relief materials and when they are, they may not provide for the same functionality that the lost devices provided.[18]

12. Persons with disabilities, in particular women and girls, are at heightened risk of violence, including sexual violence, exploitation or abuse, during emergencies, especially in emergency shelters.[19] In some countries, conservative belief systems constrain the movement of women with disabilities, including deciding who may assist in their evacuation and where they can stay during emergencies,[20] placing them at increased risk of harm from the adverse effects of climate change.

B. Food security

13. Climate change is already impairing the ability of some communities to feed themselves and as temperatures rise the number of people affected will grow (see A/HRC/31/52). A decline in food production will adversely affect people who are already living in poverty, including persons with disabilities, who are more likely to live in poverty than others.[21] Climate change is projected to exacerbate food shortages and malnutrition in the poorest regions of the world, while also negatively affecting agricultural and community enterprise livelihoods. That is likely to adversely impact the quality of life for people in the poorest communities, where persons with disabilities are disproportionately represented.

14. With rising temperatures and increasingly frequent extreme weather events, climate change will have a negative impact on crops, livestock, fisheries and aquaculture productivity and therefore on the availability of food (see A/70/287). Climate change is projected to reduce food quality, decrease water availability and make food storage increasingly problematic owing to warmer weather (ibid.). Access to food can be affected by damage to crop yields and infrastructure, as well as by the destruction of livelihoods

[13] See Committee on the Rights of Persons with Disabilities, general comment No. 2 (2014) on accessibility.

[14] See Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts, "A disability rights approach to climate governance".

[15] Ibid.

[16] Department of Economic and Social Affairs, *Disability and Development Report*, p. 15.

[17] See Economic and Social Commission for Asia and the Pacific, *Building Disability-inclusive Societies in Asia and the Pacific: Assessing Progress of the Incheon Strategy* (United Nations publication, Sales No. E.18.II.F.4).

[18] Ibid.

[19] See Committee on the Rights of Persons with Disabilities, general comment No. 3 (2016) on women and girls with disabilities; and Sightsavers and Disabled Rehabilitation and Research Association, "Disability, disasters and empowerment: evidence from qualitative research in a disability inclusive disaster preparedness programme" (November 2015).

[20] See Sightsavers and Disabled Rehabilitation and Research Association, "Disability, disasters and empowerment".

[21] See John Twigg and others, "Disability and climate resilience: a literature review"; and Department of Economic and Social Affairs, *Disability and Development Report*, p. 2.

caused by extreme weather.[22] Climate change is projected to further erode food security and to prolong and create poverty traps, in particular in urban areas and in emerging hotspots of hunger.[23] Food shortages and malnutrition tend to affect persons with disabilities and their families to a larger extent than the general population.[24]

C. Adequate housing

15. Climate change affects the rights of persons with disabilities to adequate housing (see A/HRC/10/61). Sea-level rise and coastal flooding impact people and infrastructure in low-lying coastal zones, small island developing States and other small islands. The consequences include the relocation of peoples and communities, which has already taken place in both the Arctic region and in low-lying island States (see A/HRC/10/61). Settlements in low-lying megadeltas are also at particular risk, as demonstrated by the millions of people and homes that have been affected by flooding during recent years (ibid.). Indigenous persons with disabilities may live in areas that are at particular risk from climate change impacts, such as coastal zones, the Pacific and the Arctic, and are at elevated risk of exposure to emergencies (see E/C.19/2013/6). During emergencies, environmental barriers may prevent persons with disabilities from accessing shelters and safe spaces.[25]

16. Persons with disabilities often encounter barriers in finding accessible homes and climate change may further undermine the availability of adequate housing. People living in poverty often have less adaptive capacity such as the ability to move to less exposed areas or access quality housing.[26] Many people, including persons with disabilities, have no choice but to move to urban slums and informal settlements and build shelters in hazardous areas (see A/HRC/10/61). An estimated 1 billion people already live in urban slums, on fragile hillsides or flood-prone riverbanks where they are highly vulnerable to extreme climate events (ibid.). In slums, infrastructure and services are lacking, the rates of disease are high and there are challenges related to accessing safe water and sanitation. Such environments pose heightened barriers for persons with disabilities.[27]

D. Water and sanitation

17. Climate change exacerbates existing pressure on water resources and increases water stress for hundreds of millions of people (see A/HRC/10/61).[28] Flooding, landslides, extreme precipitation, tropical storms, rising sea levels and heat stress are climate change effects that will seriously impact infrastructure and sanitation services, exacerbating existing risk factors. These impacts are heightened for persons with disabilities, who already face social and economic barriers in accessing water for consumption and sanitation.[29] The primary drivers of water shortages and droughts – reduced rainfall and snowpack, higher temperatures and rising sea levels – will be increased by climate change.

[22] See Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts “A disability rights approach to climate governance”.

[23] Intergovernmental Panel on Climate Change, *Climate Change 2014: Impacts, Adaptation and Vulnerability*.

[24] See Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts “A disability rights approach to climate governance”.

[25] See CBM, “Saving lives and leaving no one behind. The Gaibandha model for disability-inclusive disaster risk reduction” (2018).

[26] See David Dodman and David Satterthwaite, “Institutional capacity, climate change adaptation and the urban poor”, *IDS Bulletin*, vol. 39, No. 4 (September 2008).

[27] See John Twigg and others, “Disability and climate resilience: a literature review”.

[28] Ibid.

[29] See Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts “A disability rights approach to climate governance”.

Those drivers can harm freshwater ecosystems and lead to the degradation of water supplies including for human consumption and agriculture.[30]

18. People living in poverty are at the greatest risk of lack of access to water, in particular persons with disabilities, who already face barriers in accessing safe water for drinking, hygiene and sanitation, including related facilities That is because of both a lack of household access, which often results from insufficient financial resources, and a general lack of access in public environments.[31]

E. Livelihoods and decent work

19. Inadequate or lack of access to education, discriminatory attitudes and practices and socioeconomic factors result in high levels of under- and unemployment among persons with disabilities.[32] Globally, the ratio of employment to population for persons with disabilities is 36 per cent on average. That ratio is 60 per cent for persons without disabilities.[33] Climate change impacts exacerbate the barriers faced by persons with disabilities in the world of work, for example when job opportunities are lost because of the economic impacts of climate disasters or when heat stress causes manual labour to be hazardous.[34] Environmental degradation often affects marginalized workers the most, among others persons with disabilities.[35]

20. Slow-onset events will impact agricultural livelihoods. Indigenous persons with disabilities who are small-scale agricultural producers risk losing the possibility of independent living owing to climate change impacts that undermine agricultural production and thereby their livelihoods. Fisheries and the livelihoods of fisherfolk may be impacted by changes in temperature and ocean acidity, leading to the migration or even collapse of fish stocks. Impacts are amplified for persons with disabilities, who are already marginalized in the field of work and who may experience adverse health impacts because of climate change that have implications for their ability to work.[36]

F. Human mobility

21. Climate change contributes to extreme weather events, which was one of the main causes of the movement of 28 million people in 2018.[37] However, the ability to migrate often depends on resources and mobility; the most marginalized may be unable to migrate and forced to remain in locations that are subject to climate change harms (see A/HRC/31/52). Those who move or migrate, be it internally or across borders, may be in need of international human rights or refugee protection. Persons with disabilities are at risk of being left behind in a degraded environment without social and support networks when members of their family or community move because of climate change impacts.[38]

22. Those persons with disabilities who do move can face challenges related to mobility, the need for assistive devices and accessible transportation, accommodation and services.[39]

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[30] See United Nations Environment Programme, “Climate change and human rights” (December 2015).

[31] See John Twigg and others, “Disability and climate resilience: a literature review”; and Department of Economic and Social Affairs, *Disability and Development Report*, p. 119.

[32] See International Labour Organization (ILO) policy brief, “Persons with disabilities in a just transition to a low-carbon economy” (October 2019).

[33] See Department of Economic and Social Affairs, *Disability and Development Report*, p. 152.

[34] See ILO, “Persons with disabilities in a just transition to a low-carbon economy”.

[35] See ILO, “The employment impact of climate change adaptation. Input document for the G20 Climate Sustainability Working Group” (August 2018).

[36] See ILO, “Persons with disabilities in a just transition to a low-carbon economy”.

[37] Internal Displacement Monitoring Centre, *Global Report on Internal Displacement* (2019).

[38] See Mary Keogh and Maria Gonzalez, “Climate change: this century’s defining issue. The 4 P’s for inclusion of persons with disabilities within climate change plans: personal, programmes, policy and political” (2020); and John Twigg and others, “Disability and climate resilience: a literature review”.

[39] See John Twigg and others, “Disability and climate resilience: a literature review”.

Migration, which has a significant impact on all people's psychosocial well-being, has a disproportionate impact on the psychosocial well-being of persons with disabilities.[40] For those forced to leave, moving may bring with it challenges related to mobility and accessibility, as well as a potential loss of crucial personal support networks, which also impacts psychosocial well-being.[41]

23. For persons with disabilities, possibilities of resettlement are often limited. Many require support systems, including personal assistants, medical equipment and service animals, that are challenging to transport. Discriminatory immigration policies constitute another challenge that persons with disabilities face with respect to migrating to other countries.[42]

III. A disability-inclusive, human rights-based approach to climate action

A. Normative and policy framework

24. Climate change has an impact on the effective enjoyment of the human rights of persons with disabilities, including the rights to life, health, food, water and sanitation, housing, decent work and development. Those rights are enshrined under the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of the Child, the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of Persons with Disabilities. States also have legal obligations, including under international human rights law, to implement disability-inclusive climate policies that empower persons with disabilities by ensuring their full and effective participation in climate action at all levels. Recently developed tools that complement this body of international human rights law include the Inter-Agency Standing Committee Guidelines on the inclusion of persons with disabilities in humanitarian action and the United Nations Disability Inclusion Strategy. In this section OHCHR describes several key legal and policy instruments that should inform disability-inclusive climate action.

1. Convention on the Rights of Persons with Disabilities

25. The Convention on the Rights of Persons with Disabilities reaffirms that all persons with disabilities are entitled to enjoy all human rights and fundamental freedoms on an equal basis with others. It offers a guiding framework for actions related to persons with disabilities, including the building of inclusive climate change responses and resilience. The general principles set out in the Convention spell out a human rights-based approach, which in relation to climate resilience is based on non-discrimination, full and effective participation and inclusion in society, equality of opportunity, accessibility and gender equality.[43]

26. Equality and non-discrimination are fundamental principles and rights under international human rights law and at the very heart of the Convention. Under the Convention, they are referred to as general principles in article 3 and as rights in article 5. In its general comment No. 6 (2018) on equality and non-discrimination, the Committee on the Rights of Persons with Disabilities emphasized that equality and non-discrimination were interconnected with human dignity. The obligation of States to provide reasonable accommodation is enshrined in articles 2 and 5 (3) of the Convention and is fundamental to ensuring that persons with disabilities can enjoy their rights on an equal basis with others.

[40] See Mary Keogh and Maria Gonzalez, "Climate change: this century's defining issue".

[41] Ibid. and John Twigg and others, "Disability and climate resilience: a literature review".

[42] See Sébastien Jodoin, Nilani Ananthamoorthy and Katherine Lofts "A disability rights approach to climate governance".

[43] See, for example, statement by the Special Rapporteur on the rights of persons with disabilities, available from www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=16163.

27. The Convention establishes an obligation on States parties to actively involve and consult with persons with disabilities in decision-making on matters that are affecting their lives, including climate change. Under the Convention, the right to effective participation is recognized as a general principle under article 3 and participation is also recognized as a cross-cutting issue. In its general comment No. 7 (2018) on the participation of persons with disabilities, including children with disabilities, through their representative organizations, in the implementation and monitoring of the Convention, the Committee on the Rights of Persons with Disabilities provided further guidance on the right to participation, including on articles 4.3 and 33.3. Article 21 of the Convention addresses the need to provide information in accessible formats, which is key for enabling participation in climate action and disseminating emergency warnings with information related to natural disasters and emergencies.

28. Accessibility is included as a general principle under article 3 of the Convention and article 9 specifically addresses the right to accessibility. In its general comment No. 2 (2014) on accessibility, the Committee on the Rights of Persons with Disabilities defined accessibility as a precondition for persons with disabilities to be able to live independently and participate fully and equally in society. The right of all persons with disabilities to live independently and be included in the community is enshrined in article 19 of the Convention. In its general comment No. 5 (2017) on living independently and being included in the community, the Committee stated that the general principles of the Convention under article 3 (a) "respect for the individual's inherent dignity, autonomy and independence" and article 3 (c) "the full and effective participation and inclusion in society" were at the very basis of the right to independent living and community inclusion. The right to personal mobility, which in the context of climate change is especially at risk for persons with disabilities, is enshrined in article 20 of the Convention.

29. Situations of risk and humanitarian emergencies are covered by article 11 of the Convention, which creates an obligation on States parties to protect persons with disabilities in situations of risk and provides a human rights-based entry point to humanitarian responses. That provision is key to ensuring that climate change programmes and policies, as well as prevention, planning and response, are fully inclusive of persons with disabilities.[44]

30. The Committee on the Rights of Persons with Disabilities recognizes that the effects of climate change contribute to exacerbating inequality and vulnerability among persons with disabilities (see CRPD/C/AUS/CO/2-3). The Committee recommends that States incorporate and mainstream disability inclusion in their policies and programmes on climate change (see CRPD/C/GTM/CO/1, CRPD/C/HND/CO/1 and CRPD/C/PAN/CO/1), and include persons with disabilities in their strategies (see CRPD/C/COL/CO/1) and in the implementation of climate change adaptation and disaster risk reduction (see CRPD/C/SYC/CO/1 and CRPD/C/BOL/CO/1). In a joint statement issued with four other human rights treaty bodies before the 2019 Climate Action Summit, the Committee warned that failure to take climate action might constitute a breach of the obligations of States under international human rights law. In the statement, the Committees highlighted the need for persons with disabilities to be recognized as agents of change and essential partners in climate action.[45]

2. United Nations Framework Convention on Climate Change

31. According to the preamble of the Paris Agreement, States parties should respect, promote and consider their respective human rights obligations, including the rights of persons with disabilities, when addressing climate change. A series of decisions adopted under the United Nations Framework Convention on Climate Change concern persons with

[44] See statement by the Special Rapporteur on the rights of persons with disabilities.

[45] Available from www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E.

disabilities, including decisions related to climate empowerment, adaptation, capacity-building, loss and damage, participation and a shared vision.[46]

32. In the Doha work programme on article 6 of the Framework Convention, the Conference of the Parties recognized that one goal of education was to promote the changes needed to foster sustainable development and prepare persons with disabilities to adapt to climate change impacts. It reaffirmed the need to engage persons with disabilities in activities related to article 6 and specifically mentioned persons with disabilities among its stakeholders.[47] The Subsidiary Body for Implementation and the terms of reference for the intermediate review of the Doha work programme have subsequently recalled the need to effectively engage persons with disabilities in activities under article 6.[48] In the Lima Ministerial Declaration on Education and Awareness-raising, the Conference of the Parties reaffirmed the importance of public participation, access to information and knowledge for effective climate change policies, and the need to engage stakeholders, including persons with disabilities, in their implementation.[49]

33. In the 2018 report of the Adaptation Committee, the Conference of the Parties encouraged a participatory approach and the use of stakeholder inputs, including from persons with disabilities, to adaptation planning and implementation.[50] In the organization of the intergovernmental process and in a shared vision for long-term cooperative action, the Subsidiary Body for Implementation and the Conference of the Parties also recognized the need to engage broadly with stakeholders, including persons with disabilities.[51] In its decision on the outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, the Conference of the Parties further reaffirmed the importance of "acknowledging the role and needs of … persons with disabilities in capacity-building activities".[52] That is reaffirmed in the 2011 decision on capacity-building under the Convention.[53]

34. In approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity, the Conference of the Parties acknowledged the need for further work to advance understanding and expertise on loss and damage. Specifically, reference was made to the adverse effects of climate change, its effects on vulnerable segments of the population, including those with disabilities, and the benefits to those segments of loss and damage approaches.[54]

35. In its 2010 decision entitled "The Cancun Agreements: outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention", the Conference of the Parties noted Human Rights Council resolution 10/4 and its recognition that the adverse effects of climate change are most acutely felt by the population segments that are already vulnerable owing to various factors, including disability.[55]

3. 2030 Agenda for Sustainable Development

36. Human rights principles and standards are strongly reflected in the 2030 Agenda for Sustainable Development. The Sustainable Development Goals are interdependent and the achievement of any of the Goals requires effective climate action under Goal 13 (see A/HRC/41/26). Persons with disabilities are given special attention under several of the

[46] Council of Canadians with Disabilities, Inclusiva and Centre for International Environmental Law, "The rights of persons with disabilities in the context of the UN Framework Convention on Climate Change: relevant international frameworks and compilation of decisions adopted by the parties to the UNFCCC" (2019).

[47] See FCCC/SBI/2012/L.47.

[48] See FCCC/SBI/2013/20 and FCCC/CP/2015/10/Add.3.

[49] See FCCC/CP/2014/L.1/Rev.1.

[50] See FCCC/CP/2018/10/Add.1.

[51] See FCCC/SBI/2011/7 and FCCC/CP/2010/7/Add.1.

[52] See FCCC/CP/2011/9/Add.1.

[53] See FCCC/CP/2011/9/Add.2.

[54] See FCCC/CP/2012/8/Add.1.

[55] See FCCC/CP/2010/7/Add.1.

Goals. For example, under Goal 4 (quality education) Member States are called up on to ensure equal access to all education and vocational training, including for persons with disabilities. Target 8.5 of Goal 8 (decent work and economic growth) determines the need to "achieve full and productive employment and decent work for all … including for … persons with disabilities". Under Goal 10 (reduced inequalities), social, economic and political inclusion, irrespective of numerous factors, including disability, are promoted. Goal 11 (sustainable cities and communities) includes ensuring access to decent housing, services and transport, and providing universal access to green and public spaces, in particular for persons with disabilities. Finally, in Goal 17 (global partnerships for sustainable development) Member States are called upon to provide increased support to developing countries for capacity-building in order to increase the availability of disaggregated data, including by disability.

4. Sendai Framework for Disaster Risk Reduction (2015–2030)

37. The promotion and protection of human rights are among the guiding principles of the Sendai Framework for Disaster Risk Reduction (2015–2030), which calls for the integration of a disability perspective into all policies and practices, for accessibility and for data disaggregation by disability. In the Framework the importance is recognized of empowering persons with disabilities to lead and promote universally accessible approaches to response, recovery, rehabilitation and reconstruction, highlighting the latter three phases as opportunities to "build back better". Persons with disabilities and their organizations are identified as critical stakeholders for disaster risk assessment and the design and implementation of tailored plans that take into account requirements such as the principle of universal design. In the Framework Governments are called upon to engage with persons with disabilities in designing and implementing policies, plans and standards.

5. SIDS Accelerated Modalities of Action (SAMOA) Pathway

38. The SIDS Accelerated Modalities of Action (SAMOA) Pathway highlights the importance of engaging a broad range of stakeholders for effective climate action, including persons with disabilities. It underscores the need to address the high rates of unemployment among persons with disabilities and calls for the development of entrepreneurial and vocational skills, as well as support for the transition from basic to secondary education and from school to work for persons with disabilities. In the SAMOA Pathway strengthened education infrastructures, better health and non-discrimination for persons with disabilities are called for, as are enhanced international cooperation and inclusive and sustainable industrial development, with the participation of persons with disabilities, and enhanced employment opportunities. The Pathway commits institutions to strengthening contingency planning, disaster preparedness and response, and emergency relief for persons with disabilities. The efforts of small island developing States to tackle structural and socioeconomic inequalities are supported, as are efforts against intersecting discrimination affecting women and girls, including those with disabilities. Finally, efforts to improve the collection of data disaggregated by disability at the national level are supported.

B. Operational framework for a disability-inclusive human rights-based approach to climate change

39. A disability-inclusive human rights-based approach to climate change entails climate action that is inclusive of and accountable to persons with disabilities at all stages. Effective climate change action relies on approaches by the whole of society in order to be successful. Taking that approach means fully integrating human rights and disability into climate action.

40. Key principles of a disability-inclusive human rights-based approach to climate change include:

(a) The integration of principles and standards derived from international human rights law, especially the Universal Declaration of Human Rights, the Convention on the

Rights of Persons with Disabilities and other core human rights treaties, and the Declaration on the Right to Development, in all policies and programmes;

(b) Active, free and meaningful participation and inclusion of persons with disabilities and their diverse representative organizations at all levels of decision-making and action;

(c) Increased capacity and empowerment of persons with disabilities and their representative organizations;

(d) Equality and non-discrimination of persons with disabilities in climate action;

(e) Accessible and inclusive environments in addition to accessibility of information and communication;

(f) Enhanced awareness of policymakers and the climate movement of the requirements and capacities of persons with disabilities;

(g) Evidence-based decision-making that takes into account the requirements of persons with disabilities;

(h) International cooperation, including through mobilization of resources to support the advancement of a human rights-based, disability-inclusive approach to climate action.

41. Such integration can be achieved by ensuring that persons with disabilities and their diverse representative organizations are consulted in the development of climate action plans and included in humanitarian responses to the adverse effects of climate change. Persons with disabilities and their representative organizations must be allowed to participate meaningfully in climate action and decision-making, including in leadership positions. An effective twin-track approach that ensures that all practices are inclusive, while providing targeted support to persons with disabilities where that is required is also crucial. Inclusive practices should build the resilience and adaptive capacity of persons with disabilities through effective empowerment.

42. Persons with disabilities must have access to the necessary information, skills and knowledge in order to relate to and deal with climate change impacts. Awareness-raising and capacity-building are critical to increasing understanding of climate change, climate action and disaster management planning among persons with disabilities and their representative organizations. Resilience can be built through rights and capacities, which provide vulnerable people with the agency to adapt. Persons with disabilities should play an active role in all stages of resilience-building programmes and policies while social protection may offer opportunities to enhance climate resilience.

43. Ensuring that emergency information, education, infrastructures and services are inclusive and accessible to all people, including persons with disabilities, is a legal imperative, in line with the principles of equality and non-discrimination. A just transition, with its focus on social inclusion and poverty eradication, offers an opportunity to maximize employment opportunities for persons with disabilities. That can be achieved by, inter alia, offering accessible development of green skills and green job employment services, as well as ensuring that green contracts and green jobs promote disability inclusion.[56]

44. Awareness-raising is also imperative to increase knowledge of disability-related issues among the general population and to fight stigma. Equally crucial is enhancing the knowledge of aid workers regarding the requirements and capacities of persons with disabilities, who are often overlooked in the early response phases of emergencies and face difficulties in accessing services and assistance, such as rehabilitation and assistive products.

45. Climate change financing, adaptation and mitigation must address those most at risk from the adverse effects of climate change, including persons with disabilities. National

[56] See ILO, “Persons with disabilities in a just transition to a low-carbon economy”.

policies and programmes for emergency preparedness, planning and response should include operational standards and indicators in order to ensure the inclusion of persons with disabilities. A human rights-based, disability-inclusive approach requires informed and evidence-based decision-making, which also relies on the availability of data. Disaggregated data on persons with disabilities is so far lacking in most countries. Goals, indicators, targets and reports relating to climate change must explicitly address persons with disabilities, and include disaggregated data by disability. National information systems and data collection need to be strengthened and participatory, and disability-inclusive risk and capacity assessments should be used in order to identify key areas of action.

46. In line with existing international obligations and the principle of common but differentiated responsibility, States should raise resources for and share expertise through international cooperation in order to build the capacities of and strengthen inclusive climate action in the countries and communities that are most affected by climate change. In so doing, States should ensure a systematic integration of the rights of persons with disabilities into climate change-related policies and projects. Realizing the right to development of persons with disabilities requires the adoption of a human rights-based approach to disability that respects and allows for their active, free and meaningful participation in development, the fair distribution of resulting benefits, including technological developments, and their inclusion in society on an equal basis with others.

47. In the case of extreme weather events and natural disasters, the principle of "building back better" should involve rebuilding housing and infrastructure in an inclusive manner, following the principles of universal design. That entails the design of products, environments, programmes and services that should enable them to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

IV. Good practices

48. The following analysis highlights some good practices, identified through stakeholder contributions and independent research by OHCHR, for the promotion of disability-inclusive, human rights-based climate action.

49. In their contributions, a number of stakeholders highlighted specific examples of domestic laws and policies related to climate change and disability inclusion.[57] In Jordan, the Law on the Rights of Persons with Disabilities guarantees persons with disabilities a barrier-free legislative environment based on equal opportunity, equality and non-discrimination, including in relation to climate change protection. In India, the National Disaster Management Authority has included in their draft guidelines on disability and disaster the requirement for a national disaster agency dedicated to managing and monitoring the integration into, and coordination with, the disaster risk management and climate change action plan of persons with disabilities.[58] In Spain, the Law on the National System for Civil Protection ensures an inclusive focus on persons with disabilities, including through specific references to universal access and accessible information.

50. In Cuba, the 2017 State plan for confronting climate change comprises five strategic actions that all include persons with disabilities. A directive of the President of the Council of National Defence for Disaster Reduction requires information to be provided on the measures taken to protect persons with disabilities. It further requires persons with disabilities to be prepared and instructed on disaster risk reduction and included in evacuation plans, and that shelter and assistance units be available and accessible to persons with disabilities during disasters and emergencies. The National Plan for Climate Change Adaptation of Colombia highlights the importance of analysing adaptation measures with differential approaches, taking into account the perspectives of persons with disabilities.

[57] See www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/PersonsWithDisabilities.aspx for all contributions.

[58] See contribution from the national human rights institution of India.

51. Among the provisions in the 2017–2019 action plan for implementing the National Strategy for Human Rights Protection in Armenia is a review of the law on the protection of the population in emergency situations, aimed at providing adequate humanitarian assistance to persons with disabilities in emergency situations. The research on risks and vulnerabilities which forms the basis of the Latvian National Plan for Adaptation to Climate Change until 2030 found that climate change was most likely to affect socially vulnerable groups, including persons with disabilities.

52. The Verona Charter on the rescue of persons with disabilities in the event of disasters is central to the Italian national strategy for the rescue of persons with disabilities in disasters and emergencies. It highlights the need for a multidimensional approach that takes due account of the various types of disability and degrees of vulnerability.

53. Other contributions received focused on policies, programmes and activities carried out with respect to disability-inclusive climate action. The Swedish public health authority has compiled a work programme for climate adaptation that identifies relevant action areas for working with health and climate change. Persons with disabilities are included as a group particularly at risk of health problems or death in relation to increasing temperatures. In El Salvador, the Intersectorial Technical Health Commission has made efforts to identify the specific requirements of persons with disabilities as part of its preparations for environmental threats and disasters. In order to establish institutional structures to advance the mainstreaming of climate change adaptation, gender, disability and climate change are identified as cross-cutting issues in the national medium-term Development Plan Framework of Ghana and are to be mainstreamed into medium-term development plans at the district level.[59]

54. Finland is taking measures to ensure the accessibility of web pages with information on climate change. The Finnish Ministry of Transport and Communication has prepared a video in sign language and text on the *Special Report on the Ocean and Cryosphere in a Changing Climate* by the Intergovernmental Panel on Climate Change. The website Verneri.net, run by the Finnish non-governmental organization Kehitysvammaliitto, includes a section on climate change in plain language.

55. United Nations agencies, international organizations and civil society organizations also play a critical role in promoting rights-based, disability-inclusive climate action. The United Nations Development Programme is scoping a project to build the resilience of persons with disabilities jointly with the United States Agency for International Development (USAID) in Kiribati, Tonga and Vanuatu in preparation for a larger project under the Adaptation Fund in Bangladesh, Cambodia, Indonesia, Nepal, Pakistan, Philippines and Thailand. In El Salvador, the Technical Sector Commission of Hostels, with support from the United Nations Children's Fund (UNICEF) and organizations of persons with disabilities, has proposed an action plan that aims to ensure the inclusion and protection of persons with disabilities during disasters.

56. The Gaibandha model in Bangladesh aims to build disability-inclusive resilience in response to flooding, with interventions at the household, community and municipal level by the international development organization CBM, in collaboration with the local non-governmental organization Gaya Unnayan Kendra.[60] The model encompasses both targeted employment support for persons with disabilities and inclusive governance mechanisms, to ensure that persons with disabilities are not bearing the brunt of climate change. CARE India installed raised hand pumps that are accessible to persons with disabilities to ensure that they would continue to be operational during flooding.[61] In Puerto Rico, the Eli

[59] See Salley Alhassan and Wade L. Hadwen, "Challenges and opportunities for mainstreaming climate change adaptation into WaSH development planning in Ghana", *International Journal of Environmental Research and Public Health*, vol. 14, No. 7 (July 2017).

[60] See contribution from ILO.

[61] See Marilise Turnbull, Charlotte L. Sterrett and Amy Hilleboe, *Toward Resilience: a Guide to Disaster Risk Reduction and Climate Change Adaptation* (Rugby, Warwickshire, Practical Action Publishing Ltd., 2013).

Foundation is building a self-sustainable accessible shelter for persons with disabilities in preparation for future hurricanes and disasters.[62]

57. Through the "survival yard" programme in the Niger, CBM and the non-governmental organization Karkara work together with persons with disabilities, their families and communities to create resilience. A microclimate against harsh winds is created by planting a border of productive bushy trees around gardens that provide vegetables and fruit to eat and sell, fodder for livestock and firewood.[63] In the Niger delta, the Global Greengrants Fund has supported persons with disabilities in their advocacy for being included in dialogues about the impacts of climate change and the toxic effects of oil spills and gas flaring. In Ethiopia, a project aimed at increasing drought resistance by the Gayo Pastoralist Development Initiative has also addressed stigma related to disabilities, leading to a change in attitude within the community.[64]

V. Conclusions and recommendations

Conclusions

58. **Persons with disabilities are at greater risk from the adverse impacts of climate change owing to a variety of social and economic factors. Poverty, discrimination and stigma are key components that affect the exposure of persons with disabilities to the impacts of climate change. Intersecting factors related to gender, age, ethnicity, geography, migration, religion and sex can subject some persons with disabilities to higher risks of experiencing the adverse effects of climate change, including impacts on their health, food security, housing, water and sanitation, livelihoods and mobility.**

59. **Taking into account the requirements of persons with disabilities is critical for effective climate action and to prevent climate change from exacerbating inequalities. A disability-inclusive approach will empower persons with disabilities as agents of change, prevent discrimination against them and make climate action more effective.**

60. **All States have an obligation to ensure that their climate actions respect, protect and fulfil the human rights of all, including through integration of the rights of persons with disabilities into climate laws, policies and programmes. The adverse effects of climate change on the effective enjoyment of the rights of persons with disabilities require urgent, rights-based, disability-inclusive climate action.**

Recommendations to States and other stakeholders

Key requirements for disability-inclusive climate action

61. **In all climate action and decision-making processes, States and other relevant stakeholders should:**

(a) **Take more ambitious climate change mitigation and adaptation action to limit the impacts of climate change on all persons, including on persons with disabilities;**

(b) **Secure the meaningful, informed and effective participation of persons with disabilities and their representative organizations in climate change mitigation and adaptation at all levels;**

(c) **Strengthen the capacities of persons with disabilities to respond to climate change by ensuring their access to information about climate change and its**

[62] See contribution from Telerehabilitation International.

[63] See CBM, "Technical brief for the post-2015 consultation process: disability, sustainable development and climate change".

[64] See CBM and Disability Inclusive DRR Network for Asia and Pacific, "Disability inclusive disaster risk management. Voices from the field and good practices".

impacts, their participation in related decision-making processes and their enhanced social protection and climate resilience.

Promoting disability-inclusive climate action under the United Nations Framework Convention on Climate Change

62. **Under the United Nations Framework Convention on Climate Change, States and other stakeholders should take measures within relevant bodies and processes to:**

(a) **Ensure disability-inclusive, rights-based mitigation and adaptation;**

(b) **Ensure the accessibility of the meeting venues of the United Nations Framework Convention on Climate Change and related negotiations;**

(c) **Include the rights of persons with disabilities in future decisions of the Conference of the Parties of the United Nations Framework Convention on Climate Change, in line with commitments under the Paris Agreement and international human rights law;**

(d) **Consider creating a constituency for persons with disabilities at the climate negotiations;**

(e) **Support diversity and the inclusion of persons with disabilities in the composition of national delegations to processes under the United Nations Framework Convention on Climate Change;**

(f) **Support capacity-building for persons with disabilities to maximize their voice, confidence and negotiation skills.**

Empowering persons with disabilities as economic, social, human rights and climate actors

63. **As a means of empowering persons with disabilities as economic, social, human rights and climate actors, workers and employers, and to enhance their capabilities to cope with climate change, States and other stakeholders should:**

(a) **Promote equal rights and opportunities for persons with disabilities in the labour market;**

(b) **Strengthen education and vocational training for persons with disabilities, including on issues related to sustainable development, environmental degradation and climate change;**

(c) **Ensure accessibility for persons with disabilities in schools and work places;**

(d) **Include persons with disabilities as an integral constituency in the development of the new green economy.**

Promoting disability-inclusive climate finance

64. **To ensure that climate funds benefit the countries and people that are most affected by climate change and systematically integrate human rights and disability-inclusion into governance structures, project approvals, implementation processes and public participation mechanisms, States and other stakeholders should:**

(a) **Conduct ex ante and ex post human rights impact assessments;**

(b) **Report on the implementation of disability-inclusive policies throughout the project cycle, based on quantitative and qualitative indicators;**

(c) **Develop guidance for disability-inclusive stakeholder consultations and facilitate the participation of organizations representing persons with disabilities.**

Increasing the availability of data disaggregated by disability

65. **To improve understanding of the differentiated human rights impacts of climate change on persons with disabilities, States and other stakeholders should:**

(a) **Collect disaggregated data, paying particular attention to disability and its intersections with characteristics such as age, gender and ethnicity;**

(b) **Develop disability-specific indicators;**

(c) **Map the effects of climate change on poverty and persons with disabilities;**

(d) **Identify priority areas to support persons with disabilities and enhance access to benefits.**

Preventing discrimination against and abuse of persons with disabilities in emergencies

66. **To address and prevent discrimination and abuse against persons with disabilities in the context of natural disasters, States and other stakeholders should promote the disability-inclusive design and implementation of humanitarian, migration and disaster risk reduction plans and policies.**

Promoting disability-inclusive climate action at other relevant forums

67. **When designing climate change policies and actions, States and other relevant stakeholders should engage with ministries for social and/or human rights affairs, or their equivalent, to advance disability-inclusive climate action.**

68. **States and other relevant stakeholders should continue to emphasize the need to respect and fulfil the rights of persons with disabilities as part and parcel of effective climate action at the Human Rights Council, under the United Nations Framework Convention on Climate Change and at other relevant forums, such as the high-level political forum on sustainable development.**

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Analytical study on the promotion and protection of the rights of older persons in the context of climate change

Report of the Office of the United Nations High Commissioner for Human Rights

Summary

The present study is submitted pursuant to Human Rights Council resolution 44/7. It examines the human rights impacts of climate change on older persons and the related commitments and obligations of States, highlights the benefits of climate action by older persons, provides examples of promising practice, and offers conclusions and recommendations.

Contents

I. Introduction

1. The present study is submitted pursuant to Human Rights Council resolution 44/7, in which the Council requested the Office of the United Nations High Commissioner for Human Rights (OHCHR) to conduct a study, in consultation with relevant stakeholders, on the promotion and protection of the rights of older persons in the context of climate change, including their particular vulnerabilities, such as physical and mental health risks, and their contributions to efforts to address the adverse impact of climate change.

2. On 18 September 2020, OHCHR circulated a questionnaire to Member States and other stakeholders, including international organizations, national human rights institutions and civil society, for their inputs. The contributions received informed the present study.[1]

3. In the study, OHCHR examines the human rights impacts of climate change on older persons and the related legal and policy commitments and obligations of States. It also highlights the potential of older persons' human rights-based climate action and provides examples of promising practice. The study concludes with concrete recommendations for fulfilling human rights obligations related to the human rights of older persons in the context of climate change.

II. Climate change impacts on older persons

4. Around the world, the climate change emergency is already causing rising temperatures, sea level rise and coastal erosion, forest fires, and extreme temperature and weather events including heatwaves, cold snaps, floods, droughts and hurricanes. Such events carry significant and often devastating human rights risks for all those affected,[2] but older persons face disproportionate impacts.

5. By the year 2050, it is estimated that there will be 1.5 billion people aged 65 and above, constituting one sixth of the world's population.[3] Age does not in itself make individuals more vulnerable to climate risks, but age is accompanied by a number of physical, political, economic and social factors that may do so. Older persons face a number of challenges in the enjoyment of their human rights, as has been evidenced during the coronavirus disease (COVID-19) pandemic.[4]

6. Older persons do not constitute a homogenous group, or one that has a clearly agreed definition. There is enormous variance among older persons in political and economic power, economic and social class, community integration, and other factors including gender, disability, race and ethnicity, indigeneity, and sexual orientation and gender identity, which has significant impacts on their enjoyment of human rights. Furthermore, "the needs, vulnerabilities and capacities of the old and the older old (those 80 years of age and over) are considerably different".[5] Older persons are often excluded, overlooked and neglected in research and data collection. Individuals often do not self-identify within the category of older persons, which is complex, socially constructed and context-specific, and data tend not to be disaggregated within higher age brackets.[6]

7. The human rights impacts of climate change on older persons are aggravated by ageism, which can lead to older persons being neglected, ignored and marginalized in laws

[1] All contributions received are available at www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/RightsOlderPersons.aspx.

[2] See A/74/161.

[3] Department of Economic and Social Affairs, *World Population Ageing 2019: Highlights* (United Nations publication, 2019), p. 5, available at www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf.

[4] See A/75/205; and the Secretary-General's policy brief on the impact of COVID-19 on older persons, available at www.un.org/sites/un2.un.org/files/un_policy_brief_on_covid-19_and_older_persons_1_may_2020.pdf.

[5] A/HRC/42/43, para. 45.

[6] See, generally, A/HRC/45/14.

and policy. "Prejudices about older persons being frail, sick and dependent drive their marginalization and legitimize exclusionary practices."[7] When it comes to climate action, stereotypes may paint older persons as "passive, incapable and withdrawn".[8] Compounding these problems, older persons do not have a specific instrument guaranteeing their human rights, and are not often mentioned in international environmental agreements.

8. Age discrimination can be a significant factor in older persons' exclusion from policies and programmes designed to address the negative effects of climate change, including during climate-related emergencies. At times in emergency settings ageism on the part of relief workers can lead to unequal or otherwise inadequate services and treatment.[9] Ageism and age discrimination, social isolation, neglect, poverty, migration status and disability are among the many factors that interact with climate change to adversely affect the human rights of older persons, as detailed in the paragraphs below.

A. Rights to life, health and safety

9. A number of climate change impacts disproportionately affect the lives and health of older persons, and policy responses have failed to account for these effects. Adults aged 65 and older are the most likely to die from heat exposure or during heatwaves, in extreme cold weather or winter storms, and in hurricanes and other natural hazards.[10] Older persons experience higher rates of cardiovascular illness and diabetes, which are linked to heat-related morbidity and mortality. A study in Finland found a 14 per cent increase in mortality for persons over the age of 65 as a result of heatwaves,[11] and in France during the 2003 European heatwave, 80 per cent of additional deaths occurred in persons aged over 75.[12] Seventy-five per cent of those who died during Hurricane Katrina in the United States of America were over the age of 60, as were about 40 per cent of those who died during Typhoon Haiyan in the Philippines in 2013[13] and 70 per cent of those who died as a result of floods in La Plata, Argentina, in the same year.[14]

10. *The Lancet* has found rising exposure and vulnerability to extremes of heat for people aged 65 and over in all parts of the world.[15] Air pollution, which is intimately linked to climate change, is a potential cause of dementia[16] and has disproportionate health effects for older persons, who as a result experience "higher primary care and emergency room use, more frequent hospital admissions, restricted activity and an increase in prescription medication use".[17] Climate change has also been linked to rising levels of a number of infectious diseases, which particularly impact older persons, as illustrated by the COVID-19

[7] A/HRC/39/50, para. 25.

[8] Gary Haq, Dave Brown and Sarah Hards, *Older People and Climate Change: The Case for Better Engagement* (Stockholm Environmental Institute, 2010), p. 2.

[9] A/HRC/42/43, para. 44.

[10] G. Adriana Perez, "The impacts of climate change take a heavier toll on older women", *Aging Today*, (March–April 2018).

[11] Submission by Finland, p. 3.

[12] K.R. Smith et al., "2014: Human health: impacts, adaptation, and co-benefits", *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, C.B. Field et al., eds. (Cambridge University Press, 2014), p. 721.

[13] HelpAge International, Climate change in an ageing world, 2015, p. 4, available from www.helpage.org/newsroom/latest-news/cop21-helpage-releases-position-paper-on-adapting-to-climate-change-in-an-ageing-world/?keywords=COP21.

[14] Silvia Gascon, HelpAge International, "Older people main victims of recent Argentina floods", 9 May 2013, available at www.helpage.org/blogs/silvia-gascon-19407/older-people-main-victims-of-recent-argentina-floods-557.

[15] Nick Watts and others, "The 2019 report of *The Lancet* Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate", *The Lancet*, vol. 394 (16 November 2019), pp. 1836–1878, see pp. 1837 and 1841.

[16] Ruth Peters and others, "Air pollution and dementia: a systematic review", *Journal of Alzheimer's Disease*, vol. 70 (2019), pp. 145–163, available at https://pubmed.ncbi.nlm.nih.gov/30775976.

[17] G. Adriana Perez, "The impacts of climate change take a heavier toll on older women".

pandemic.[18] In lower-income countries, "this susceptibility is exacerbated by poverty and malnutrition, poor infrastructure and the lack of resources to treat their specific needs".[19]

11. Climate-related emergencies such as heatwaves, floods and hurricanes can create disruptions to necessary health care and services for older persons. During heatwaves, older persons may be confined, without access to necessary medical care. Evacuations of older persons, particularly from care facilities, are complicated by the need to transfer medical equipment, supplies and records.[20] Older persons who do not have adequate existing structures of care and support may be cut off from relevant information and services during an emergency.[21] Emergencies have been found to worsen pre-existing health conditions in some older persons and to have negative cognitive and memory effects,[22] and older persons often take longer to recover from the physical effects of disasters.[23]

12. Climate change can also significantly impact older persons' mental health. Some older persons who survive disasters experience high rates of survivor's guilt, especially when they lose children or grandchildren, and older persons have been found to have high rates of post-traumatic stress and depression following floods.[24] While other studies have found these rates to be consistent with those of the general population, older persons may nevertheless be disproportionately impacted because some are more reluctant to seek mental health care.[25] Some older persons also experience increased loneliness and isolation as a result of climate effects,[26] or significant mental trauma or depression when confronting climate change impacts and feelings of guilt or powerlessness regarding the world that they will leave for future generations.

13. In emergencies, some older persons are also at higher risk of experiencing violence, exploitation, neglect and abuse. Emergency situations aggravate these risks, "as older persons are separated from community support and familiar service structures, while their role in the family and the community may be undermined".[27]

B. Human mobility

14. Migration and displacement are complex phenomena which are affected by multiple and interrelated dynamics. However, it is clear that both climate-related emergencies and the slow-onset effects of climate change are increasingly important factors in human mobility around the world, and that these phenomena can carry significant human rights risks for older persons.

15. In emergencies, older persons with limited mobility may have difficulty reaching safety. Infrastructure and policy may be lacking to ensure that they are aware of evacuation warnings, orders or services, especially if new technologies are relied on to disseminate such information, and to account for older persons' needs with regard to travel, adequate food, shelter, health care and services. Physical challenges that have only minor effects on day-to-day life may become serious impediments in an emergency, limiting older persons' mobility and adaptive capacity.[28]

[18] See, generally, A/75/205.
[19] HelpAge International, Climate change in an ageing world.
[20] Janet L. Gamble and others, "Climate change and older Americans: state of the science", *Environmental Health Perspectives*, vol. 121, No. 1 (1 January 2013), p. 17.
[21] Submission by AGE Platform Europe, p. 2.
[22] Janet L. Gamble and others, "Climate change and older Americans: state of the science", p. 17.
[23] Vukosava Pekovic, Laura Seff and Max B. Rothman, "Planning for and responding to special needs of elders in natural disasters", *Generations*, vol. 31, No. 4 (Winter 2007/2008), p. 38.
[24] Earwin William A. Leyva, A. Beaman and P.M. Davidson, "Health impact of climate change in older people: an integrative review and implications for nursing", *Journal of Nursing Scholarship*, vol. 49, No. 6 (2017), p. 673.
[25] Vukosava Pekovic, Laura Seff and Max B. Rothman, "Planning for and responding to special needs of elders in natural disasters", p. 38.
[26] Submission by AGE Platform Europe, p. 3.
[27] A/HRC/42/43, para. 70.
[28] Ibid., para. 26.

16. When older persons are displaced in emergencies, some face disproportionate difficulties in returning to their homes and in accessing restitution for damage, both because of physical factors and because of ageist exclusion from humanitarian aid for rebuilding purposes.[29] When older people do move, migration and displacement in later life can be particularly traumatic, due to severed social ties and lack of facilities, rights and protection in unfamiliar new environments.[30]

17. Older persons may also be stateless or become stateless during displacement, which can have enormous implications for well-being. Some older persons face specific barriers to obtaining nationality, as legislation in some countries imposes conditions for naturalization that they may not meet. Naturalization may be dependent on passing language and other tests that pose challenges for some persons with disabilities and/or older persons.

18. Access to technology is increasingly playing an important role in human mobility. Older persons disproportionately rely on family connections and non-Internet communication sources, and often have not received the support that would enable them to adopt new technologies. They therefore have reduced access to networks and information that contribute to resilience and facilitate mobility.[31]

19. Mobility is an increasingly common response to the slow-onset effects of climate change, but older persons often have less access to this strategy. This may be due to physical limitations, unwillingness to "burden" family members during the journey or in a new location, or particularly strong ties to the lands and places where they have been living. Many older persons in areas experiencing severe climate effects have emphasized cultural and spiritual attachments, including unwillingness to abandon traditional homes and lands and unwillingness to leave behind ancestral burial grounds.[32]

20. Older persons' mobility within the areas where they are already living can also be affected by climate policy. In some countries, a significant percentage of older persons are more reliant on automobiles, which is not taken into account by climate regulations intended to discourage driving.[33] Other older persons rely on public transportation, which can face disruptions due to climate events or because of reduced availability of services as climate change burdens budgets and people move out of climate-affected areas.[34]

C. Right to adequate housing

21. Climate change also significantly impacts the spaces in which older persons live. In some areas, older persons rely on traditional building materials that are becoming less available.[35] Older persons are more likely to live in homes with insufficient heating and cooling systems to adapt to new temperature extremes or that are less energy-efficient,[36] and they disproportionately lack access to safe, clean, healthy and sustainable energy sources.[37] Measures that States put into place to promote more energy-efficient or climate-adapted homes sometimes do not include provisions necessary to ensure uptake by older persons.[38]

22. Research conducted during a number of disasters in the United States has shown that assisted living facilities for older persons are often excluded from community emergency

[29] Ibid., para. 33.
[30] HelpAge International, Climate change in an ageing world, p. 3.
[31] Ingrid Boas, "Environmental change and human mobility in the digital age", *Geoforum*, vol. 84 (October 2017).
[32] Caroline Zickgraf, "Keeping people in place: political factors of (im)mobility and climate change", *Social Sciences*, vol. 8, No. 8 (2019), p. 9, available at www.mdpi.com/2076-0760/8/8/228.
[33] Gary Haq, John Whitelegg and Mervyn Kohler, *Growing Old in a Changing Climate* (Stockholm Environmental Institute, 2008), pp. 5–6.
[34] Ibid., p. 12.
[35] Mirjam Macchi and others, *Indigenous and Traditional Peoples and Climate Change* (International Union for Conservation of Nature, March 2008), p. 21, available at www2.ohchr.org/english/issues/climatechange/docs/IUCN.pdf.
[36] Gary Haq, John Whitelegg and Mervyn Kohler, *Growing Old in a Changing Climate*, p. 6.
[37] HelpAge International, Climate change in an ageing world, p. 10.
[38] Submission by AGE Platform Europe, pp. 2–3.

preparedness planning and receive less assistance in the wake of disasters.[39] Evacuations strain the resources of facilities that take in evacuees.[40] Shelters are often not designed to accommodate the particular needs of older persons, including proximity to accessible toilet facilities or a need to stay close to family.[41] "Older adults can also be more susceptible to property damage or loss due to lack of insurance, limited personal finances, and poor creditworthiness",[42] and in the aftermath of disasters, physical limitations and exclusion from humanitarian aid can make it particularly difficult for them to rebuild and repair damaged homes.

D. Right to food

23. Climate change is having a transformative effect on food and agricultural systems all over the world, often reducing agricultural productivity and food availability, with a particular impact on older persons. Because older persons often live in poverty and on fixed incomes, they face difficulty in coping with the rising costs of food.[43] When food is scarce, some households allocate it in a way that favours younger family members, and some older persons are physically less able to access food distribution points or are left out in relief efforts.[44]

24. Climate change is altering not only the amount of food available to many people, but also the quality and types of foodstuffs available, which has impacts for older persons, who disproportionately suffer from malnutrition and may be particularly reliant on specialized diets.[45] In small island developing States, loss of agricultural land is leading to increased reliance on industrial and processed foodstuffs, which increases rates of non-communicable diseases such as diabetes in older persons. Limited access to traditional foodstuffs can also create negative impacts on the rights to health and to cultural life.[46] Emergencies and inadequate emergency responses may also aggravate the difficulties faced by older persons in obtaining the quantity, quality and variety of food necessary for their health and survival.[47]

E. Rights to water and sanitation

25. Climate change is diminishing water quality and quantity and the predictability of availability in many parts of the world.[48] Older persons are disproportionately affected by water insecurity; physical, financial and design barriers all contribute to their being underserved by existing water and sanitation services, and this will only be aggravated by climate change.[49] This will have significant health effects for older persons, who are particularly susceptible to dehydration and infectious diseases associated with poor sanitation,[50] and is also a driver of displacement.

[39] Sarah B. Laditka and others, "Providing shelter to nursing home evacuees in disasters: lessons from Hurricane Katrina", *American Journal of Public Health*, vol. 98, No. 7 (July 2008), pp. 1288 and 1290.

[40] Ibid., p. 1290.

[41] A/HRC/42/43, para. 51.

[42] Janet L. Gamble and others, "Climate change and older Americans: state of the science", p. 18.

[43] Ibid.

[44] HelpAge International, Climate change in an ageing world, p. 7.

[45] Ibid., pp. 6–7.

[46] Human Rights Watch, "Canada: climate crisis toll on First Nations' food supply", 21 October 2020, available at www.hrw.org/news/2020/10/21/canada-climate-crisis-toll-first-nations-food-supply.

[47] HelpAge International, Climate change in an ageing world, p. 7.

[48] Intergovernmental Panel on Climate Change, Special report on the ocean and cryosphere in a changing climate, available at www.ipcc.ch/srocc.

[49] HelpAge International, Climate change in an ageing world, p. 5.

[50] Ibid.

F. Rights to social protection, care and support

26. Rising frequency of disasters and extreme weather events strain social service resources and capacity, potentially detracting from care and support available to older persons.[51] Outmigration of younger people in climate-affected areas may diminish care and support for older people who remain,[52] although such migration may also in part be motivated by a desire to send back remittances for the care of older relatives.[53]

27. The Independent Expert on the human rights of older persons has drawn attention to strains on social protection systems, including pension systems for older persons, in the context of emergencies, noting the disruption in access that comes with crossing borders, as well as the difficulties presented by lost or forgotten identity documents and restrictions on mobility or challenges related to different regimes of pension portability.[54] Older migrants, especially those in irregular situations, may face an increased risk of not having access to their right to a pension or social protection.

G. Rights to decent work and livelihoods

28. While stereotypes might imagine older persons as being largely out of the workforce, the reality is that many older people cannot afford to retire and continue to work well into old age.[55] The types of labour that older persons are likely to do, including subsistence agriculture and informal labour, are particularly susceptible to climate change impacts.

29. Older persons, and particularly older women, are disproportionately reliant on subsistence agriculture for their livelihoods in many parts of the world.[56] This creates a disproportionate effect on older persons from climate impacts on agricultural productivity, and from climate change adaptation and mitigation measures that can disrupt agricultural practices, such as planned relocation and the conversion of land for biofuels production.[57]

30. Changes in the possibilities for traditional livelihoods, including cultivation, herding and handicrafts, also disproportionately affect older persons, who are often more reliant on such livelihoods and have limited access to the support needed to adapt to new ones. Losing such livelihoods affects not only economic stability, but also health, well-being and sociocultural security.[58]

31. Programmes and funding intended to address the effects of climate change on livelihoods can leave out older persons through unintentional omissions or deliberate age cut-offs. Older persons sometimes face significant competition from younger persons in such programmes, or may find that their skills and abilities are undervalued.[59]

H. Cultural rights

32. Climate change has devastating impacts on cultural traditions, practices and heritage sites.[60] While older persons are not exclusive or inherent arbiters of culture or tradition, many feel a particular and long-standing commitment to cultural practices or sites, and many communities assign a role to elders in safeguarding cultural and traditional practices and knowledge.

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[51] Gary Haq, John Whitelegg and Mervyn Kohler, *Growing Old in a Changing Climate*, p. 11.

[52] Shahnaj Begum, "Effects of livelihood transformation on older persons in the Nordic Arctic: a gender-based analysis", *Polar Record*, vol. 52 (2016), pp. 164–165.

[53] Interview with Ingrid Boas, Wageningen University, 13 November 2020.

[54] A/HRC/42/43, paras. 56–57.

[55] HelpAge International, Climate change in an ageing world, p. 6.

[56] Ibid.

[57] Ibid.

[58] Shahnaj Begum, "Effects of livelihood transformation on older persons in the Nordic Arctic: a gender-based analysis", pp. 159 and 164.

[59] A/HRC/42/43, para. 60.

[60] See, generally, A/75/298.

33. Accordingly, some older persons feel a significant loss when cultural heritage sites are lost, when culturally important foodstuffs or materials become less available, or when traditional ecological knowledge becomes unreliable due to climate change.[61] Some older persons have thus been reluctant to accept climate change adaptation measures that involve distancing from, or loss of, cultural practices or heritage sites.[62]

I. Multiple and intersecting forms of discrimination

1. Differential effects of gender

34. Both ageing and climate change have differential effects when it comes to gender. Because women tend to live longer, there are more older women than older men, and women in heterosexual partnerships tend to outlive their partners, so more older women live alone.[63] Physiological and physical differences, social norms and roles, and gender discrimination and inequities in access to resources and power all play a role in making older women face particular risk of vulnerability to climate impacts.[64]

35. Older women experience higher rates of poverty than older men and face other economic hardships that are aggravated by climate change. They also face disproportionate health risks, including a greater likelihood of experiencing chronic diseases and air pollution harms,[65] and have higher rates of mortality and other health complications from extreme heat events than any other demographic group.[66] Conversely, during typhoons, older men have been found to be more at risk of death.[67]

36. Gendered social roles and expectations have complex effects on climate risks for older people. In some societies, older men are more socially isolated and thus have more difficulty in accessing assistance to cope with the negative effects of climate change.[68] However, in situations of emergency or strained family resources brought on by climate impacts, older women are sometimes more likely to be viewed as a burden and to suffer abuse or neglect.[69] In some countries, older women are blamed for extreme weather through accusations of witchcraft or sorcery, and face violence or exclusion as a result.[70] Transformation of traditional livelihoods and of cultural and social practices also has varying effects on men and women because of their different social roles.[71] Social norms around gender orientation

[61] Karletta Chief and others, "Indigenous experiences in the U.S. with climate change and environmental stewardship in the Anthropocene", *Forest Conservation and Management in the Anthropocene: Conference Proceedings* (United States Department of Agriculture, Forest Service, 2014), p. 165; and Samantha Chisholm Hatfield and others, "Indian time: time, seasonality and culture in Traditional Ecological Knowledge of climate change", *Ecological Processes*, vol. 7 (2018), p. 7.

[62] Caroline Zickgraf, "Keeping people in place: political factors of (im)mobility and climate change".

[63] Committee on the Elimination of Discrimination against Women, general recommendation No. 27 (2010), para. 5.

[64] Ibid., para. 25.

[65] G. Adriana Perez, "The impacts of climate change take a heavier toll on older women".

[66] *Senior Women for Climate Protection et al. v. Swiss Federal Council et al.*, complaint (2016), paras. 88–95, available at https://klimaseniorinnen.ch/wp-content/uploads/2017/05/request_Klima Seniorinnen.pdf.

[67] Earwin William A. Leyva, A. Beaman and P.M. Davidson, "Health impact of climate change in older people: an integrative review and implications for nursing", p. 674.

[68] Kirsten Vinyeta and others, *Climate Change Through an Intersectional Lens: Gendered Vulnerability and Resilience in Indigenous Communities in the United States* (United States Department of Agriculture, Forest Service, December 2015), p. 34.

[69] Office of the United Nations High Commissioner for Refugees (UNHCR), *Guidance on Working with Older Persons in Forced Displacement* (2013), p. 12, available at https://cms.emergency.unhcr.org/documents/11982/43853/Working+with+Older+Persons+in+Forced +Displacment+2013/679812f8-c119-444b-9081-40ca66c08782.

[70] Evan Fraser and others, "Toil and trouble: how conflict and climate change are triggering witch hunts", *Foreign Affairs* (16 August 2015).

[71] Shahnaj Begum, "Effects of livelihood transformation on older persons in the Nordic Arctic: a gender-based analysis", pp. 159–160.

and sexual identity may also compound the negative human rights effects of climate change for lesbian, gay, bisexual, transgender and intersex older persons.

2. Older persons with disabilities

37. Climate change has a disproportionate impact on the human rights of persons with disabilities, including negatively impacting their health, food security, livelihoods, housing, and access to water and sanitation.[72] The incidence of disability rises with age: almost half of older persons worldwide are living with some form of disability, a proportion that increases as people age within the "older" age group, and older persons represent a majority of persons with disabilities.[73] Accordingly, climate change impacts on persons with disabilities are more likely to be borne by older persons.

38. There are also areas where age and disability have compounding effects. For example, older persons with disabilities disproportionately experience poor housing conditions, which aggravates their vulnerability to climate-related emergencies and temperature effects.[74] Intersecting forms of bias and discrimination can lead to invisibility of older persons with disabilities, particularly those with cognitive disabilities, and to their exclusion from policy responses.[75]

3. Racial and ethnic minorities

39. In many countries and societies around the world, racial and ethnic minorities experience disproportionate rates of poverty and discrimination and reduced access to human rights. These inequities can compound with age to multiply vulnerabilities to climate effects. For example, non-white older persons in the United States have been found to be at higher risk of heat-related mortality.[76]

4. Indigenous peoples

40. Indigenous peoples also experience high rates of poverty and discrimination, and some may be particularly affected by climate change because of the deep interconnections between their ways of living and the natural environment. Older persons in indigenous communities are sometimes more tied to traditional livelihoods, foods or cultural practices that are threatened by climate change.[77] They may experience a unique sense of loss related to the disappearance of cultural practices and traditional ways of life.[78]

III. Promoting and protecting the rights of older persons in the context of climate change

A. Legal framework

1. Key international human rights instruments

41. As detailed above, climate change has an impact on the effective enjoyment of the human rights of older persons, including the rights to life, health, food, water and sanitation, housing, decent work, culture, and development. Those rights are enshrined in international instruments including the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the Convention on the

[72] See, generally, A/HRC/44/30.
[73] A/74/186, para. 4.
[74] A/HRC/42/43, para. 51.
[75] Interview with Caitlin Littleton, HelpAge Asia, 18 November 2020.
[76] Earwin William A. Leyva, A. Beaman and P.M. Davidson, "Health impact of climate change in older people: an integrative review and implications for nursing", p. 674.
[77] Shahnaj Begum, "Effects of livelihood transformation on older persons in the Nordic Arctic: a gender-based analysis", pp. 159–160.
[78] William Nikolakis, Quentin Grafton and Aimee Nygaardand, "Indigenous communities and climate change: a Recognition, Empowerment and Devolution (RED) framework in the Murray-Darling Basin, Australia", *Journal of Water and Climate Change*, vol. 7, No. 1 (March 2016), p. 174.

Elimination of All Forms of Discrimination against Women, the Convention on the Rights of Persons with Disabilities and the Declaration on the Right to Development. Although there is no specific treaty dedicated to the human rights of older persons, and although many of these instruments do not specifically list age as a forbidden ground of discrimination, all of these instruments protect older persons' human rights. States also have legal obligations, including under international human rights law, to implement climate policies that empower all people, including older persons, by ensuring their full and effective participation in climate action at all levels.

42. Several human rights instruments contain provisions relevant to the rights of older persons affected by climate change. Article 11 of the Convention on the Rights of Persons with Disabilities protects the equal right to humanitarian relief of persons with disabilities in the aftermath of natural disasters, while article 25 contains a specific call for health services that are designed to minimize and prevent further disabilities among older persons.[79] The International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families includes prohibitions against age discrimination in its articles 1 (1) and 7. Article 11 (1) (e) of the Convention on the Elimination of All Forms of Discrimination against Women provides for the equal right to social security for older women.

43. It is explained in general comment No. 6 (1995) of the Committee on Economic, Social and Cultural Rights that States parties to the International Covenant on Economic, Social and Cultural Rights "are obligated to pay particular attention to promoting and protecting the economic, social and cultural rights of older persons".[80] This includes special emphasis on older persons' rights in relation to work, social security, an adequate standard of living, health, education and culture.

44. The Committee on the Elimination of Discrimination against Women, in paragraph 25 of its general recommendation No. 27 (2010), draws attention to the disproportionate impacts of climate change on older women, and in paragraph 35 recommends that States "ensure that climate change and disaster risk-reduction measures are gender-responsive and sensitive to the needs and vulnerabilities of older women" and "facilitate the participation of older women in decision-making for climate change mitigation and adaptation". The same Committee's general recommendation No. 37 (2018) also contains a number of references to the need to take into account differential effects of climate change on older women.[81] The Committee has also referred to the rights of older women in its concluding observations, in regard to the human rights effects of climate change and disasters.[82]

45. Special procedure mandate holders, including the Independent Expert on the human rights of older persons[83] and the Special Rapporteur on extreme poverty and human rights[84] have begun to pay attention to the human rights impacts of climate change on older persons in their country visits, and States are also beginning to raise these issues in their recommendations under the universal periodic review. In 2019 and 2020, five recommendations suggested that States incorporate the rights of older persons in their climate policies.[85]

46. Two regional agreements specifically protect the human rights of older persons. Seven States have so far ratified the Inter-American Convention on Protecting the Human Rights of Older Persons, of 2015.[86] Article 25 of the Convention protects older persons' right to a

[79] See also A/HRC/42/43, para. 37.

[80] See para. 13.

[81] See paras. 2, 6, 26, 54 and 68.

[82] CEDAW/C/ATG/CO/4-7, paras. 10 and 51.

[83] A/HRC/42/43/Add.2, paras. 35 and 89; A/HRC/39/50/Add.2, para. 98; A/HRC/36/48/Add.2, para. 99; and A/HRC/33/44/Add.1, para. 97.

[84] A/HRC/44/40/Add.1, paras. 83, 85 and 86.

[85] A/HRC/44/13, para. 94.68; A/HRC/42/9, para. 104.63; A/HRC/42/12, para. 11.46; A/HRC/42/4, para. 95.29; and A/HRC/42/13, para. 122.52.

[86] Available at www.oas.org/en/sla/dil/inter_american_treaties_a-70_human_rights_older_persons.asp#:~:text=The%20purpose%20of%20this%20Convention,integration%2C%20and%20participation%20in%20society.

healthy environment, while article 29 provides for older persons' safety, needs and participation, in situations of risk and humanitarian emergencies. The Independent Expert on the human rights of older persons has hailed the Convention as an example of good practice.[87]

47. The Protocol to the African Charter on Human and Peoples' Rights on the Rights of Older Persons in Africa[88] was adopted in 2016. Article 14 provides for protection of older persons in conflict and disaster situations, obliging States to ensure that in emergencies older persons are among those to enjoy access, on a priority basis, to assistance, and that they receive humane treatment, needed medical care, protection and respect at all times.[89] Further, article 9 (2) of the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa requires States to provide special protection and assistance to internally displaced older persons.

2. Other relevant legal and policy frameworks

48. While many international instruments do not make specific reference to older persons and their human rights, there are several international legal and policy documents that do express a commitment to respond to the opportunities and challenges of population ageing. The Madrid International Plan of Action on Ageing is the primary global document addressing the concerns of older persons. The Independent Expert on the enjoyment of all human rights by older persons has explained that the Plan of Action is not sufficient to ensure the full enjoyment of human rights by older persons.[90] However, it does adopt "a conceptual approach that is in accordance with human rights principles", and reaffirms the protection of certain rights,[91] including the rights to participation, work, health, independence, and accessibility. The Plan of Action does not include explicit reference to climate change, but it does identify emergencies as an issue area, and calls upon States to recognize both the vulnerabilities and the capabilities of older persons in emergency situations.[92] It also addresses the needs of older persons with regard to rural development, migration and urbanization[93] and references the disproportionate health burden that environmental pollution presents for older people.[94]

49. In December 2020, the decade from 2021 to 2030 was proclaimed the United Nations Decade of Healthy Ageing, an initiative designed to foster concerted, catalytic and collaborative action to improve the lives of older people, their families, and the communities in which they live.[95] The United Nations Decade of Healthy Ageing presents opportunities to ensure global attention to older persons' human rights as well as to policy coherence on actions to realize those rights in the context of climate change, including through the Decade's priority areas on addressing ageism and fostering an age-friendly environment.

50. While specific reference to older persons is absent from the United Nations Framework Convention on Climate Change, the Paris Agreement and other global climate (including climate finance) frameworks, there do exist certain international legal and policy frameworks relevant to climate change that include specific provisions for older persons. The 2030 Agenda for Sustainable Development and the Sustainable Development Goals reference older persons, notably in Goal 3, although none of the targets or indicators for Goal 3 specifically refer to older persons. The Sendai Framework for Disaster Risk Reduction recognizes the importance of including older persons and utilizing their knowledge, wisdom

[87] A/HRC/33/44, para. 22.
[88] Available at https://au.int/en/treaties/protocol-african-charter-human-and-peoples-rights-rights-older-persons.
[89] A/HRC/42/43, para. 39.
[90] A/HRC/33/44, para. 123.
[91] Ibid., para. 96.
[92] Madrid International Plan of Action on Ageing, para. 54 ff., available at www.un.org/esa/socdev/documents/ageing/MIPAA/political-declaration-en.pdf.
[93] Ibid., para. 29 ff.
[94] Ibid., para. 65.
[95] World Health Organization, "Decade of Healthy Ageing", available at www.who.int/initiatives/decade-of-healthy-ageing#:~:text=The%20United%20Nations%20Decade%20of,of%20older%20people%2C%20their%20families%2C.

and skills.[96] The global compacts on refugees and for safe, orderly and regular migration both highlight older persons' particular needs and their participation,[97] and address the links between migration, disasters, climate change and environmental degradation.[98] The Guiding Principles on Internal Displacement emphasize that older persons are entitled to specific protection and assistance and to treatment that takes into account their special needs.[99] Finally, the Office of the United Nations High Commissioner for Refugees has also incorporated special attention to older persons into its policy frameworks.[100]

B. Older persons' power in addressing the adverse impacts of climate change

51. Meaningful and effective climate action requires the participation of all affected communities and groups, as guaranteed by international human rights law. It is essential to respect, protect and fulfil older persons' participation rights, and to create meaningful opportunities for their involvement in climate action, including by taking the necessary steps to provide them with relevant climate information and to overcome barriers to their inclusion.

52. Older persons bring unique and important contributions to climate action. They often support their families and communities financially and through informal care work, and contribute to decision-making and conflict resolution. Older persons possess important knowledge of science, history, tradition and culture that can inspire and support climate actions by current and future generations.[101] They also wield significant voting and economic power that can be mobilized for effective climate policy.

1. Older persons as advisers and custodians of knowledge

53. It is important to avoid falling into the traps of stereotypes, including those that characterize all older persons, and especially older indigenous persons, as holding innate wisdom or knowledge. However, it is also true that many older persons have accumulated years of knowledge, and that in certain communities older persons are sometimes assigned a specific role as keepers of traditional knowledge related to the environment. Some older persons also possess important knowledge about how to practise more sustainable lifestyles, including relying less on material goods and using and reusing materials sustainably, making them important participants and potential leaders in the transition to circular economies.[102]

54. Traditional environmental knowledge has the potential to play a crucial role in mitigating and adapting to climate change. "Traditional knowledge is useful in: defining earlier environmental baselines, identifying impacts that need to be mitigated, providing observational evidence for modelling, providing technologies for adapting, and for identifying culturally appropriate values for protection from direct impacts or from the impacts of adaptation measures themselves."[103] It may include understanding of weather patterns and of the signals that presage coming disasters, methods of reducing the risk of and surviving such disasters,[104] and agriculture and herding methods that create less environmental harm while maintaining production levels.[105] Traditional environmental knowledge can also include a holistic understanding of the natural ecosystem, giving greater

[96] Sendai Framework for Disaster Risk Reduction, para. 36, available at www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf.

[97] See www.unhcr.org/the-global-compact-on-refugees.html and General Assembly resolution 73/195.

[98] See General Assembly resolution 73/195.

[99] A/HRC/42/43, para. 43.

[100] UNHCR, Policy on older refugees, available from www.unhcr.org/older-persons.

[101] UNHCR, *Guidance on Working with Older Persons in Forced Displacement* (2013), p. 3; see also A/HRC/42/43, para. 35.

[102] Submission by AGE Platform Europe, p. 3.

[103] Terry Williams and Preston Hardison, "Culture, law, risk and governance: contexts of traditional knowledge in climate change adaptation", *Climatic Change*, vol. 120 (2013), p. 532.

[104] Joseph U. Almazan and others, "Coping strategies of older adult survivors following a disaster", *Ageing International*, vol. 44 (2019), p. 148.

[105] HelpAge International, Climate change in an ageing world, p. 6.

visibility to environmental changes and to human responsibility for them.[106] Traditional knowledge that incorporates a longer time scale may also help to generate adaptability to climate change, by recognizing that people are accustomed to living in a shifting environment.[107]

2. Expertise and leadership

55. In addition to knowledge, many older persons have acquired experience, skills and capabilities that allow them to make significant contributions to climate action. Many of the most powerful and wealthy persons in the world, including Heads of State and business and community leaders, fall within the older age group. This cohort wields enormous resources that can be invaluable when seeking climate solutions and addressing the negative human rights impacts of climate change. Being among those who have benefited significantly from the conditions that caused climate change, they bear a human rights responsibility to address its negative consequences.

56. While young activists have deservedly received a good deal of attention and accolades for their innovative and courageous climate action, growing movements of older persons are also involved in climate activism, often motivated by concerns regarding the legacy they might leave behind.[108] Older persons have initiated climate litigation, relying on the fact that heat-related effects of climate change are already disproportionately impacting them.[109] They also participate in protests and other forms of political action, and generate innovative forms of activism.[110] Older persons' activism can be effective because they can subvert social stereotypes around old age, including both those that lead to greater respect and those that cause older persons to be underestimated.[111] They may be able to build intergenerational solidarity in the climate movement, because young people appreciate their counsel and seek their validation.[112] Older persons who are in positions of power can use those positions to amplify the voices of younger people and other voices that are often neglected in climate action.[113]

57. A number of social and psychological factors also make older persons well placed to contribute to climate solutions. Older adults who are retired may have time to devote to fully educating themselves on climate issues and becoming involved in climate action.[114] Some have developed significant problem-solving and caregiving skills, including the ability to mitigate negative emotions,[115] to change their mind in the light of new information and adopt new perspectives, to fairly mediate disputes,[116] and to employ long-term thinking and planning.[117]

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[106] Samantha Chisholm Hatfield and others, "Indian time: time, seasonality and culture in Traditional Ecological Knowledge of climate change", p. 8.

[107] Frank Duerden, "Translating climate change impacts at the community level", *Arctic*, vol. 57, No. 2 (June 2004), p. 208.

[108] Howard Frumkin, Linda Fried and Rick Moody, "Aging, climate change, and legacy thinking", *American Journal of Public Health*, vol. 102, No. 8 (August 2012).

[109] Cordelia Christiane Bahr and others, "KlimaSeniorinnen: lessons from the Swiss senior women's case for future climate litigation", *Journal of Human Rights and the Environment* (September 2018), p. 203, available at www.elgaronline.com/view/journals/jhre/9-2/jhre.2018.02.04.xml.

[110] Larraine Larri and Hilary Whitehouse, "Nannagogy: social movement learning for older women's activism in the gas fields of Australia", *Australian Journal of Adult Learning*, vol. 59, No. 1 (April 2019), pp. 36–37.

[111] Interview with Judi Summers and Cherry Hardacker, Knitting Nannas against gas and greed, 11 November 2020; and see Larraine Larri and Hilary Whitehouse, "Nannagogy: social movement learning for older women's activism in the gas fields of Australia", p. 32.

[112] Interview with Judi Summers and Cherry Hardacker, Knitting Nannas against gas and greed.

[113] See www.theelders.org/news/it-will-take-all-us-never-too-young-lead-climate-crisis.

[114] Interview with Judi Summers and Cherry Hardacker, Knitting Nannas against gas and greed.

[115] Odeya Cohen and others, "Community resilience throughout the lifespan: the potential contribution of healthy elders", *PLoS ONE*, vol. 11, No. 2 (4 February 2016), p. 11.

[116] Howard Frumkin, Linda Fried and Rick Moody, "Aging, climate change, and legacy thinking", p. 1435.

[117] Ibid.

58. Older persons' contributions help communities recover and develop resilience when under threat of or in the aftermath of climate-related disasters.[118] They may be able to build on previous experiences of disasters or other threats.[119] One study found that older persons in flood-prone areas were "4.49 times more likely to have an emergency evacuation plan and have a three-day supply of medications compared to their younger counterparts".[120]

IV. Promising practices

59. Stakeholders who responded to the call by OHCHR for inputs identified a number of practices by States and other actors that take into account the differential effects of climate change on the human rights of older persons, while also largely recognizing that this is a policy area that is deserving of greater study and attention.

60. A number of stakeholders identified efforts to integrate consideration of older persons in environmental and sustainability planning. The national climate change adaptation plans of Finland and Slovakia require consideration of the perspective of groups at risk, including older persons,[121] and the plan of Switzerland includes measures for reducing the impacts of heatwaves for older persons.[122] Bangladesh has included attention to older persons in the provisions of a number of climate and disaster laws and policies.[123] Mexico has incorporated respect for the rights of older persons in the implementation of its nationally determined contribution under the Paris Agreement, in its strategies relating to forests and deforestation[124] and in a programme providing support specifically to older farmers engaged in sustainable agricultural practices.[125] The city of Cologne, in Germany, has developed a "heat plan of action for older persons", while Manchester, in the United Kingdom of Great Britain and Northern Ireland, has included climate action in its "Age-Friendly Strategy".[126]

61. Other stakeholders have integrated older persons in disaster risk reduction and disaster response. Cambodia prioritizes older persons in disaster evacuation,[127] and in the Philippines, the National Economic and Development Authority mandates the collection of age-disaggregated data in its Disaster Rehabilitation and Recovery Planning Guide.[128] Civil society initiatives in Cambodia, El Salvador, Nicaragua and the Philippines seek to take older persons into account in disaster response and risk reduction.[129] In Bangladesh, the non-governmental organization Young Power in Social Action, which provides housing assistance to climate-displaced persons, includes presence of older persons within a family in its criteria for prioritizing aid recipients.[130]

62. Stakeholders identified promising practices with regard to access to climate information. For example, Iraq has launched media campaigns to inform older persons of risks related to infectious and communicable diseases,[131] and in Mexico, the Social Security Institute has developed information materials on environmental matters for older persons.[132]

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[118] See, generally, Odeya Cohen and others, "Community resilience throughout the lifespan: the potential contribution of healthy elders".

[119] Ibid., p. 2; and Joseph U. Almazan and others, "Coping strategies of older adult survivors following a disaster".

[120] Earwin William A. Leyva, A. Beaman and P.M. Davidson, "Health impact of climate change in older people: an integrative review and implications for nursing", p. 673.

[121] Submission by Finland, p. 3; and submission by the Slovak National Centre for Human Rights, p. 3.

[122] Submission by Switzerland, p. 2.

[123] Submission by Young Power in Social Action, p. 3.

[124] Submission by Mexico, pp. 6 and 8.

[125] Ibid., pp. 22–28.

[126] Submission by AGE Platform Europe, pp. 4–5.

[127] Submission by the Ministry of Social Affairs, Veterans and Youth Rehabilitation of Cambodia, p. 3.

[128] Submission by the Commission on Human Rights of the Philippines, p. 3.

[129] Submission by the Office for the Defence of Human Rights of El Salvador, pp. 5–6; submission by the Ministry of the Environment of Cambodia, pp. 2–3; and submission by the Commission on Human Rights of the Philippines, p. 5.

[130] Submission by Young Power in Social Action, pp. 3–5.

[131] Submission by Iraq, p. 4.

[132] Submission by Mexico, p. 29.

63. Older persons have engaged in a wide variety of climate action, and have formed bonds of intergenerational solidarity with others. Some States have promoted or facilitated such participation and solidarity. For example, Cambodia has facilitated older persons' associations for community-level action, including around climate change,[133] while the "My Experience" counselling programme in Iraq aims to build on the experience of older persons and foster intergenerational connections.[134]

V. Conclusions and recommendations

A. Conclusions

64. **While older persons are heterogeneous and not inherently vulnerable, a number of factors can increase their risk related to the negative human rights impacts of climate change. Climate change effects can impair the realization of older persons' rights to life, health, food, water and sanitation, housing, freedom of movement, livelihoods, social protection, development and culture, among others. These impacts can be magnified by multiple and intersecting forms of discrimination, including on the basis of gender, race and ethnicity, disability, and migration status.**

65. **Climate change impacts can also be magnified by ageism, poverty and social exclusion. Too many older persons live in situations of vulnerability as a result of lack of access to resources, neglect, and abuse. Absence of a binding international instrument specifically protecting the human rights of older persons and minimal references to older persons in key international climate instruments attest to the lack of attention to and visibility of older persons in national and international law.**

66. **Older persons possess enormous knowledge, experience, skills and resilience that give them the capacity to be key contributors in global efforts to mitigate and adapt to the negative impacts of climate change. Cultivating and enabling older persons' participation in climate action is not only a human rights imperative, but also a means of ensuring effective solutions for all people and for the planet.**

B. Recommendations for States and other stakeholders

67. **Strengthen the international legal system and action for the protection of older persons, through the following actions:**

(a) **Engage in systematic, specific, empirical research on the effects of climate change on older persons and their human rights and use age-inclusive indicators to collect data disaggregated by gender, disability and age, including further disaggregation within the over-60 age category;**

(b) **Include the rights of older persons in future decisions of the Conference of the Parties to the United Nations Framework Convention on Climate Change and other climate policy agreements, including climate financing agreements, in line with commitments under the Paris Agreement and international human rights law;**

(c) **Consider the adoption of an international legal instrument protecting the human rights of older persons and, towards this end, accelerate progress under the Open-ended Working Group on Ageing as mandated by General Assembly resolution 67/139, paying specific attention to the impact of climate change on older persons and ensuring their right to a safe, clean, healthy and sustainable environment;**

(d) **Ensure policy coherence and integration between environmental and sustainability commitments and initiatives aimed at addressing the needs of older**

[133] Submission by the Ministry of the Environment of Cambodia, p. 2.
[134] Submission by Iraq, p. 3.

persons, such as the World Health Organization's age-friendly cities initiative and the United Nations Decade of Healthy Ageing (2021–2030).

68. **Take urgent, meaningful and ambitious action to mitigate and adapt to climate change that protects the human rights of all, including the human rights of older persons, through the following actions:**

(a) **Prepare, commit to and implement ambitious climate action plans to limit global warming to no more than 1.5°C, including by taking immediate action to reduce dependency on fossil fuels, and to address the negative human rights impacts that are already occurring;**

(b) **Ensure that climate change and disaster risk reduction measures are age- and gender-responsive and disability-inclusive and take into account the needs and rights of older women and men;**

(c) **Ensure that efforts to address the human health impacts of climate change include consultation with older persons and organizations working on their rights. Engage in public health messaging that is gender-responsive, relevant and accessible to older persons;**

(d) **Include older persons in policymaking and planning in order to create sustainable infrastructure, local spaces, and communities that take into account the needs and rights of older persons;**

(e) **Ensure high-quality universal health care and other social services for older persons and social protection systems that take into account climate effects and build resilience;**

(f) **Enable older persons' participation in a just transition to sustainable livelihoods, including by facilitating their participation in job training and skills-building programmes, and their access to relevant credit and resources;**

(g) **With the participation of community elders, take concrete action to preserve cultural heritage and traditional and indigenous knowledge that is threatened by climate change.**

69. **Enable and support older persons' participation in climate action, through the following actions:**

(a) **Invest in climate communication and education for older persons, including via targeted communications around extreme weather events and emergencies, and ensure that such efforts are accessible to older persons with disabilities;**

(b) **Support diversity and the inclusion of older persons in the composition of national delegations to processes under the United Nations Framework Convention on Climate Change;**

(c) **Find and institutionalize new and creative ways to include older persons in environmental volunteerism and efforts to combat climate change, including by addressing potential participation barriers such as mandatory retirement ages;**

(d) **Support capacity-building for older persons to maximize their voice, confidence and negotiation skills, and provide quality later-in-life learning opportunities that foster greater understanding among older persons who are concerned for the sustainability of their communities in the face of climate change;**

(e) **Facilitate intergenerational dialogue around climate change and the environment;**

(f) **Incorporate traditional knowledge into climate solutions, with indigenous peoples' free, prior and informed consent, and ensuring that benefits of the use of such knowledge, including financial benefits, are equitably allocated to communities and older persons.**

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Promotion and protection of all human rights, civil, political, economic, social, and cultural rights, including the right to development

The impacts of climate change on the human rights of people in vulnerable situations

Report of the Secretary-General*

Summary

The present report is submitted pursuant to Human Rights Council resolution 47/24. It examines the adverse impact of climate change on the full and effective enjoyment of human rights of people in vulnerable situations.

* The present report was submitted after the deadline in order to reflect the most recent developments.

I. Introduction

1. The present report is submitted pursuant to Human Rights Council resolution 47/24, in which the Council requested the Secretary-General to submit a report, in consultation with and taking into account the views of States and other stakeholders, on the adverse impact of climate change on the full and effective enjoyment of human rights of people in vulnerable situations.

2. On 23 August 2021, a note verbale and a questionnaire were circulated to Member States, requesting their inputs. Other stakeholders, including international organizations, national human rights institutions and civil society, were also contacted with a request for inputs. The 56 contributions received and consultations with stakeholders informed the present report.[1]

3. The report examines the adverse impact of climate change on the full and effective enjoyment of human rights of people in vulnerable situations. It provides examples of good practices and concludes with concrete recommendations to address the human rights impacts of climate change on people in vulnerable situations.

II. The impacts of climate change on people in vulnerable situations

4. People who are disproportionately at risk from the adverse impacts of climate change may include indigenous peoples, local communities, peasants, migrants, children, women, persons with disabilities, people living in small island developing States and least developed countries, persons living in conditions of water scarcity, desertification, land degradation and drought, and others in vulnerable situations who are at risk of being left behind. Climate change impacts can vary based on a number of factors, including geography, poverty, age, gender, sex, disability, migration status, religion, race and cultural or ethnic background. Multiple forms of discrimination, including racism, sexism and classism, may combine, overlap, or intersect, especially in the experiences of people in vulnerable situations.[2]

5. While the present report focuses on people in vulnerable situations, the nature and scale of the climate crisis is such that all people everywhere face significant risk. The Intergovernmental Panel on Climate Change has found that climate change is affecting every region in the world, and at least 3.3 billion people are highly vulnerable to its impacts.[3] The years that have passed since the Paris Agreement was adopted have been the hottest years on record, and during the past decade almost 4 billion people were impacted by climate-related disasters.[4] For example, the 2019/20 wildfires in Australia were the worst on record there, impacting rights to life, health and adequate housing, among others. At least 220 people were killed in the flash floods that followed heavy rainfall in Western Europe in July 2021.[5] In 2021, over 1.2 million people in West and Central Africa were affected by flooding.[6] In El Salvador, Guatemala and Honduras – in the Central American Dry Corridor, an area severely

[1] All contributions are available at https://www.ohchr.org/en/climate-change/impact-climate-change-rights-people-vulnerable-situations.

[2] See, for example, A/HRC/35/10.

[3] Intergovernmental Panel on Climate Change (IPCC), "Summary for Policymakers" in *Climate Change 2022: Impacts, Adaptation and Vulnerability – Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, H.-O. Pörtner and others, eds. (forthcoming), p. 11. All references to chapter and page numbers in the Sixth Assessment Report are from the final, online version available on the website for the Intergovernmental Panel on Climate Change.

[4] See United Nations, "Secretary-General's remarks to the World Leaders Summit – COP 26", 1 November 2021.

[5] Angela Dewan, "Germany's deadly floods were up to 9 times more likely because of climate change, study estimates", *CNN*, 24 August 2021.

[6] Office for the Coordination of Humanitarian Affairs, "West and Central Africa: Situation Report", 31 December 2021.

affected by climate change – the number of food insecure people reached an estimated 6.4 million people in October 2021.[7] In Asia and the Pacific, climate-related disasters severely affected more than 57 million people in 2021, with more than 18 million people in India alone being severely impacted by floods and cyclones.[8]

6. Climate change is both an environmental and a social justice crisis that raises interconnected demands for climate action and social equality.[9] At a global level, patterns of consumption and production perpetuate historical inequities dating back to colonialism. Industrialized countries have historically contributed disproportionately to environmental degradation and climate change. While together the members of the Group of 20 (G20) are responsible for 80 per cent of the world's greenhouse gas emissions,[10] all the small island developing States and least developed countries combined account for only about 2 per cent of global emissions.[11] The people at the margins, in both the global North and South, are left to bear the brunt of the impacts. The uneven distribution of wealth and power – both within and among countries – is a key driver of climate injustice.[12] Protecting the human rights of people in vulnerable situations from the worst impacts of climate change requires urgent action to limit global warming to the greatest extent possible. Achieving the Paris Agreement goal of limiting warming to no more than 1.5°C above pre-industrial levels would require a 45 per cent reduction in global emissions by 2030 as compared with 2010 levels and reaching carbon neutrality by mid-century. That goal is still far off as, between 2010 and 2019, global greenhouse gas and global carbon dioxide (CO_2) emissions have grown by 12 and 13 per cent respectively.[13] Dramatically scaled-up adaptation investments will be needed to keep pace with accelerating impacts. The Intergovernmental Panel on Climate Change has shown that adaptation works, but that the current adaptation efforts fall well short of what is needed.[14] The effects of the climate crisis are exacerbated by a lack of resources needed to build resilience against it, including for early warning systems, climate-resilient infrastructure, ecosystem restoration, community-based adaptation and much more.[15] The commitment made at the United Nations Climate Change Conference in Glasgow in 2021 to double adaptation funding by 2025 is clearly not enough; 50 per cent of all climate finance must go to adaptation. It is essential to remove obstacles that prevent small island States, least developed countries and communities that are disproportionately impacted by climate change from getting the finance they desperately need. In order to more effectively address the

[7] World Food Programme, "Central America: Meet people's needs and tackle root causes of migration, says report", 23 November 2021.

[8] International Federation of Red Cross and Red Crescent Societies, "Over 57 million affected by climate disasters across Asia Pacific in 2021", 15 December 2021.

[9] Submission by the United Nations Research Institute for Social Development, p. 1. See also Joanna Bourke Martignoni, "Intersectionalities, human rights and climate change: Emerging linkages in the practice of the UN human rights monitoring system", in the *Routledge Handbook of Human Rights and Climate Governance*, Sébastien Duyck, Sébastien Jodoin and Alyssa Johl, eds. (London, Routledge, 2018).

[10] See Organization for Economic Cooperation and Development (OECD), *Carbon Pricing in Times of COVID-19: What Has Changed in G20 Economies?* (Paris, 2021).

[11] Food and Agriculture Organization of the United Nations (FAO), *FAO'S Work with Small Island Developing States: Transforming Food Systems, Sustaining Small Islands* (Rome, 2019), p. 5, and United Nations Conference on Trade and Development (UNCTAD), "Smallest footprints, largest impacts: Least developed countries need a just sustainable transition".

[12] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, chap. 1, p. 50.

[13] Intergovernmental Panel on Climate Change, "Summary for Policymakers" in *Climate Change 2022: Mitigation of Climate Change – Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, P. R. Shukla and others, eds. (forthcoming), p. 21, footnote 41.

[14] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, chap. 11, p. 97.

[15] See, for example, A/HRC/48/78.

impacts of climate change on people in vulnerable situations, discriminatory practices and the unjust distribution of power have to be better understood and addressed.[16]

7. Climate change impacts the rights to life, health, food, water and sanitation, self-determination, cultural rights and many others, with differential effects on the basis of gender,[17] as certain categories may be excluded from research, leading to a lack of data – including on climate change impacts and coping capacity.[18] The General Assembly has recognized that stigma may negatively impact on data collection, which can make people in vulnerable situations invisible.[19]

8. Indigenous peoples often face socioeconomic disadvantages related to historic and ongoing marginalization and discrimination. Extreme weather events, drought, melting ice, sea level rise, ocean warming and acidification and degradation of land and ecosystems are seriously affecting indigenous territories, jeopardizing the food security, traditional livelihoods, cultural practices and self-determination of indigenous peoples.[20] These risks are magnified by the close relationship that many indigenous peoples have with the environment, and their traditional lands, resources and territories.

9. Critically, indigenous territories overlap with areas that hold an estimated 80 per cent of the planet's biodiversity,[21] as well as forests, peatlands and other ecosystems that store vast amounts of carbon. Indigenous peoples play an essential role in the conservation and sustainable management of biodiversity, ecosystems and natural resources that are key to keeping the 1.5°C goal within reach and enhancing resilience from climate impacts.[22] Indigenous communities with insecure land and resource rights are at greater risk from the impacts of climate change and efforts to mitigate it. Climate change-related human rights impacts may be exacerbated by extractive industries, logging, land grabbing and conservation initiatives on indigenous territories.[23] Climate change mitigation projects implemented without the free, prior and informed consent of indigenous peoples have also negatively affected their rights.[24]

10. Local communities and peasants are severely affected by climate change, which negatively impacts the access to food in many rural communities, a problem that is often exacerbated by insecure land tenure.[25] Like indigenous peoples, local communities play a vital role in the management and storage of tropical forest carbon.[26] Where community forest lands are legally recognized and protected, more carbon tends to be stored and deforestation rates are lower.[27] Their direct dependence on ecosystems to meet their basic needs[28] make

[16] Submission by the Global Initiative for Economic, Social and Cultural Rights and others, p. 1; submission by Notre Affaire à Tous, p. 3; and Office of the United Nations High Commissioner for Human Rights (OHCHR), "Understanding Human Rights and Climate Change".

[17] See OHCHR, the United Nations Environment Programme and the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), "Human Rights, the Environment and Gender Equality: Key Messages".

[18] Ibid.

[19] See resolution 75/284. See also Sara L. M. Davis, *The Uncounted: Politics of Data in Global Health* (Cambridge, United Kingdom, Cambridge University Press, 2020), p. 46.

[20] OHCHR, *Frequently Asked Questions on Human Rights and Climate Change*, Fact Sheet No. 38 (2021). See also A/HRC/38/21, para. 19; and A/75/298.

[21] Claudia Sobrevila, *The Role of Indigenous Peoples in Biodiversity Conservation: The Natural but Often Forgotten Partners* (Washington, D.C., World Bank, 2008), p. xii.

[22] A/HRC/36/46, para. 7.

[23] See Minority Rights Group, *Minority and Indigenous Trends 2019: Focus on Climate Justice* (London, 2019). See also communications THA 4/2021, THA 4/2020, AL THA 2/2019, OTH 23/2020, OTH 22/2020, OTH 8/2019 and OTH 7/2019, available from https://spcommreports.ohchr.org/Tmsearch/TMDocuments.

[24] A/HRC/36/46, para. 14.

[25] See FAO, *Indigenous Peoples, Afro-Descendants and Climate Change in Latin America: Ten Scalable Experiences of Intercultural Collaboration* (Santiago, 2021).

[26] Rights and Resources Institute Inc., "Securing Community Land Rights: Priorities and Opportunities to Advance Climate and Sustainable Development Goals", October 2017, p. 4.

[27] Ibid.

[28] Intergovernmental Panel on Climate Change, "Summary for Policymakers" in *Climate Change 2022: Impacts, Adaptation and Vulnerability*, p. 12.

local communities and peasants particularly vulnerable to climate change impacts. In the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, the General Assembly expresses concern at the burden caused by environmental degradation and climate change on peasants and other people working in rural areas. In developing countries, the majority of people living in poverty dwell in rural areas and rely on agricultural activities both to provide food for their families and to generate income.[29] Women in rural areas are particularly affected by climate change and its interlinked impacts with poverty and malnutrition.[30] The threats that climate change poses to the livelihoods and food security of peasants and other people working in rural areas constitutes a direct threat to their enjoyment of other human rights, including the rights to health and life.

11. In Latin America, for example, indigenous peoples and people of African descent represent 46 per cent of the rural population.[31] For people of African descent, the disproportionate impacts that climate change and climate policies have on their rights are exacerbated by political, economic and social marginalization.[32] Many people of African descent live in areas of concentrated poverty, where they are more vulnerable or exposed to environmental degradation and climate risk, and lack resources to adapt to the effects of climate change.[33] In South America, the rights to food, health and life of people of African descent are threatened by climate change impacts, including extreme weather.[34] Throughout the Americas and in Europe, substandard housing in disadvantaged areas make people of African descent more vulnerable to climate events such as hurricanes and floods and less equipped to deal with extreme heat.[35]

12. Climate change and its impacts, whether sudden-onset natural disasters or slow-onset events, are becoming an increasingly important driver of migration.[36] The Internal Displacement Monitoring Centre estimates that extreme weather events, including floods, storms and drought, accounted for more than 89 per cent of the disaster displacements between 2008 and 2020.[37] Disasters contributed to internally displacing 30.7 million people in 2020 alone.[38] The relationship between climate change and migration is complex.[39] However, climate change is projected to increase future movement of people. Those who lack resources for planned migration experience higher exposure to extreme weather events, particularly in low-income developing countries.[40] The risks faced by persons that move because of climate change include difficulties in exercising their human rights throughout the migration process.[41] Migrants in irregular situations are at particular risk of being subjected to exploitation, marginalization and human rights violations.[42]

13. Children are also among those most affected by climate change, which may impact the enjoyment of their human rights to health, education, food, housing, water and sanitation,

[29] A/70/287, para. 30.
[30] Ibid., para. 35.
[31] FAO, *Indigenous Peoples, Afro-Descendants and Climate Change in Latin America*, p. 1.
[32] See A/HRC/48/78.
[33] Ibid.
[34] See World Meteorological Organization, *State of the Climate in Latin America and the Caribbean 2020*, WMO-No. 1272 (Geneva, 2022); and FAO *Indigenous Peoples, Afro-Descendants and Climate Change in Latin America*.
[35] Economic Commission for Latin America and the Caribbean, *Situación de las personas afrodescendientes en América Latina y desafíos de políticas para la garantía de sus derechos* (Santiago, 2017), p. 78; and Aakash Naik and Aiyan Maharasingam, "Is Climate Change Racist?", Greenpeace, 1 October 2021.
[36] A/HRC/38/21, para. 6.
[37] *Global Report on Internal Displacement 2021: Internal Displacement in A Changing Climate*, p. 48.
[38] Ibid., p. 8, fig. 2.
[39] A/HRC/38/21, para. 8.
[40] Intergovernmental Panel on Climate Change, "Summary for Policymakers" in *Climate Change 2014: Synthesis Report –Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, R. K. Pachauri and L. A. Meyer (eds.) (Geneva, 2014), p. 16.
[41] A/HRC/38/21, para. 15.
[42] Ibid.

among others.[43] Alterations to the social and physical environment, including as a result of climate-related migration, can have far-reaching implications for children's health and quality of life.[44] Children, because their physiology and immune systems are less developed than adults, experience the effects of climate-related stresses more intensely. [45] Approximately 1 billion children live in the 33 countries that are classified as extremely high risk in the Children's Climate Risk Index – countries that collectively emit only 9 per cent of global CO_2 emissions.[46] Children in vulnerable situations, including poor children and those in low- and middle-income countries, will be disproportionately affected by worsening climate change impacts as temperatures rise during their lifetime.[47]

14. The Preamble to the Convention on the Rights of Persons with Disabilities highlights that the majority of persons with disabilities live in conditions of poverty. According to the Intergovernmental Panel on Climate Change, the poorest people are those who will continue to experience the worst effects of climate change.[48] This includes human rights impacts such as lost income and livelihood opportunities, displacement, hunger and adverse health impacts. [49] Multiple and intersecting factors of discrimination related to age, gender, displacement, indigenous origin or minority status can further expose persons with disabilities to the negative impacts of climate change.[50] Persons with disabilities suffer from disproportionately higher rates of morbidity and mortality in emergencies, and face challenges in accessing emergency support.[51] Both sudden-onset natural disasters and slow-onset events can affect the access of persons with disabilities to safe drinking water and sanitation, food and nutrition, and health-care services and medicines.[52] These events can also negatively impact the enjoyment of their rights to education, adequate housing and access to decent work.[53]

15. Some people are at greater risk from climate change simply because of where they are born and reside. People in small island developing States are among those most exposed and vulnerable to climate change impacts, despite having contributed the least to its occurrence. Small island developing States are home to 65 million people who face unique social, economic and environmental vulnerabilities.[54] According to the Intergovernmental Panel on Climate Change, people living in small island developing States and low-lying least developed countries are among those most impacted by increasing extreme weather and climate events, including sea level rise, floods, typhoons, cyclones, hurricanes and saline intrusion.[55] Climate change threatens their very existence.[56] It particularly impacts their rights to life, health, food, water, self-determination and cultural rights – as people face increasing challenges to their ability to continue to live on their traditional territory,[57] which contributes

[43] See, e.g., Human Rights Council resolution 32/33.
[44] A/HRC/35/13, para. 4.
[45] Ibid..
[46] UNICEF, *The Climate Crisis Is A Child Rights Crisis: Introducing the Children's Climate Risk Index* (New York, 2021), p. 5.
[47] Siri Luthen, Erin Ryan and Jack Wakefield, *Born into the Climate Crisis: Why We Must Act Now to Secure Children's Rights* (Save the Children International, 2021), p. 6.
[48] *Global Warming of 1.5ºC: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty* (2018) chap. 5, p. 479.
[49] Ibid.
[50] A/HRC/46/27, para. 58.
[51] A/HRC/44/30, para. 5.
[52] Ibid.
[53] Ibid.
[54] Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, "About Small Island Developing States", available at *https://www.un.org/ohrlls/content/about-small-island-developing-states#:~:text=Small%20Island%20Developing%20States%20(SIDS,social%2C%20economic%20and%20environmental%20vulnerabilities*.
[55] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, "Summary for Policy Makers", pp. 10–13; and main report, chap. 8, p. 86.
[56] See A/HRC/31/52.
[57] Ibid.; and OHCHR *Frequently Asked Questions on Human Rights and Climate Change*.

to small island developing States being disproportionately impacted by climate-driven displacement.[58] Sea level rise also threatens the right to adequate housing as well as peoples' livelihoods – many of which are climate sensitive – by inundating fisheries and other infrastructure.[59]

16. The 1.1 billion people living in the 46 least developed countries constitute around 40 per cent of the world's poor.[60] People in least developed countries are disproportionately affected by and acutely vulnerable to the adverse effects of climate change but have contributed very little to bringing it about.[61] They often lack the capacity to adapt to climate change impacts and climate financing for least developed countries is crucial to adequately protect them from climate change harms.[62]

17. More than 2 billion people live in areas that are subject to water stress and 3.4 billion lack access to safely managed sanitation facilities – a situation that will be worsened by climate change.[63] Climate change already affects the availability, quality and quantity of water for basic human needs, including for people living in conditions of water scarcity.[64] Climate change is expected to further increase the frequency, intensity and severity of droughts.[65] Over the period 2009–2019, droughts affected over 100 million people, severely impacting the right to life, livelihoods and food security of those affected.[66] Droughts, flooding, rising sea levels and infrastructure damage from climate-related disasters pose a continuous and increasing risk to human rights, including to water and sanitation, food, health, housing and education.

18. Other people at risk owing to their geographic location include those that are impacted by retreating glaciers, changes in mountain and Arctic ecosystems and flooding or drying rivers.[67] Climate change-related human rights impacts and future risks are particularly high in drylands, which cover around 46.2 per cent of land globally and are home to 3 billion people.[68] Climate change is expected to further exacerbate several desertification processes, with increased risks for people living in conditions of desertification, including increased pressure on land leading to increased poverty and food insecurity.[69] According to the Intergovernmental Panel on Climate Change, land degradation is both affected by climate change and contributing to it, and it affects people all over the world.[70] The majority of the

[58] Intergovernmental Panel on Climate Change, "Summary for Policy Makers", *Climate Change 2022: Impacts, Adaptation and Vulnerability*, p. 13.

[59] Ibid.; and A/64/255, para. 32.

[60] See Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, "About Least Developed Countries"; and United Nations Framework Convention on Climate Change, "20 Years of Adaptation Support for Least Developed Countries", 24 November 2021.

[61] United Nations Environment Programme (UNEP), *The Gathering Storm: Adapting to Climate Change in A Post-Pandemic World*, Adaptation Gap Report 2021 (Nairobi, 2021), p. 21. See also United Nations Framework Convention on Climate Change, "20 Years of Adaptation".

[62] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, chap. 10, p. 87; and UNCTAD, "COP26: Least developed countries need more funds to adapt to climate change".

[63] UN-Water and the United Nations Educational, Scientific and Cultural Organization (UNESCO), *The United Nations World Water Development Report 2021: Valuing Water*, p. vi.

[64] OHCHR, *Frequently Asked Questions on Human Rights and Climate Change*, p. 12.

[65] Intergovernmental Panel on Climate Change, "Summary for Policy Makers" in *Climate Change 2022: Impacts, Adaptation and Vulnerability*, p. 14.

[66] UN-Water and UNESCO, *Valuing Water*, p. 15; FAO, *Agriculture and Climate Change: Challenges and Opportunities at the Global and Local Level – Collaboration on Climate-Smart Agriculture* (2019), p. v; and "Special thematic report on climate change and the human rights to water and sanitation by the Special Rapporteur on the human rights to safe drinking water and sanitation" (OHCHR, January 2022), part 1, para. 19.

[67] Intergovernmental Panel on Climate Change, "Summary for Policy Makers" in *Climate Change 2022: Impacts, Adaptation and Vulnerability*, pp. 8 and 19.

[68] See Intergovernmental Panel on Climate Change, "Chapter 3: Desertification" in *Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems* (2020).

[69] Ibid.

[70] Ibid.

people living in conditions of land degradation – which adversely impacts peoples' livelihoods – are living in poverty in developing countries.[71]

III. Promoting and protecting the rights of persons in vulnerable situations in the context of climate change

A. Legal and policy framework

19. The nine core international human rights instruments set forth binding legal obligations on the States that are party to them, including some that are relevant to climate change.[72] In the context of climate change, fulfilling these obligations may require States to, among other things, take action to protect people against climate change-related harms that impact on the enjoyment of human rights and to implement inclusive climate policies. Climate action should empower people in vulnerable situations, ensuring their full and effective participation as rights holders.

20. The United Nations Declaration on the Rights of Indigenous Peoples, adopted by the General Assembly in 2007, and the Indigenous and Tribal Peoples Convention, 1989 (No. 169)[73] of the International Labour Organization (ILO) articulate the specific rights of indigenous peoples – including the rights to consultation and participation.[74] The Declaration recognizes in its preamble that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment. Article 32 of the Declaration requires States to provide effective mechanisms for just and fair redress for activities affecting indigenous peoples' lands or territories and other resources, and to mitigate adverse environmental, economic, social, cultural or spiritual impact. Its article 29 addresses the rights of indigenous peoples to the conservation and protection of the environment and of their lands, territories and resources. Furthermore, the Declaration stipulates the need to obtain free, prior and informed consent regarding all measures and projects that affect indigenous peoples' rights (arts. 19 and 32). This includes actions related to climate change mitigation and adaptation measures.

21. The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas stipulates the rights of these people to contribute to the design and implementation of national and local climate change adaptation and mitigation policies, including through the use of practices and traditional knowledge (art. 18 (3)). It also sets out their right to adequate training, including on climate change (art. 25 (1)), and the need for States to provide effective mechanisms of redress, including for violations of their human rights (art. 12 (5)).

22. In the Durban Declaration and Programme of Action States are invited, among other things, to enhance access to public information on health and environment issues, to ensure that relevant concerns are taken into account in the public process of decision-making on the environment, to share technology and successful practices to improve human health and

[71] Ibid.

[72] The International Convention on the Elimination of All Forms of Racial Discrimination; the International Covenant on Economic, Social and Cultural Rights; the International Covenant on Civil and Political Rights; the Convention on the Elimination of All Forms of Discrimination against Women; the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment; the Convention on the Rights of the Child; the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families; the Convention on the Rights of Persons with Disabilities; and the International Convention for the Protection of All Persons from Enforced Disappearance.

[73] The ILO Convention has been ratified by 24 States. See https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312314.

[74] Indigenous and Tribal Peoples Convention, 1989 (No. 169), arts. 6, 15, 17, 22, 27 and 28.

environment in all areas and to take appropriate remedial measures with respect to those affected.[75]

23. The Guiding Principles on Business and Human Rights, endorsed by the Human Rights Council in its resolution 17/4, affirm that States have an obligation to protect against human rights abuse within their territory or jurisdiction by third parties, including by business enterprises. The Guiding Principles state that States must take adequate measures through effective policies, legislation, regulations and adjudication to protect all persons from human rights harms involving business enterprises, including through the contribution of such enterprises to environmental harm. The obligation of all business enterprises to respect human rights includes the obligation to do no harm and to address the adverse human rights impacts that they have caused or contributed to. When adverse impacts or harms occur, those impacted must have access to an effective remedy.[76]

24. In October 2021 the Human Rights Council adopted resolution 48/13, recognizing the human right to a clean, healthy and sustainable environment – an important step[77] towards securing the enjoyment for all people of a safe and stable climate, healthy ecosystems and a non-toxic environment, as well as their rights to participation, access to information and justice in environmental matters.

25. These obligations and others related to climate change are also reflected within an array of other relevant international instruments, including those highlighted below.

26. Article 6 of the United Nations Framework Convention on Climate Change stipulates that parties shall promote and facilitate public access to information on climate change and its effects and public participation in addressing and developing adequate responses to climate change. Article 3 states that the specific needs and special circumstances of developing country parties, especially those particularly vulnerable to the adverse effects of climate change, and of those parties, especially developing country parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration in actions to achieve the objectives of the Convention and to implement its provisions.

27. According to the preamble of the Paris Agreement, parties should respect, promote and consider their respective human rights obligations – including the right to health; the rights of indigenous peoples, local communities, children, migrants, persons with disabilities and people in vulnerable situations; and the right to development, gender equality, the empowerment of women and intergenerational equity – when addressing climate change. Its articles 7, 9 and 11 include commitments related to international cooperation, climate finance and capacity-building related to mitigation and adaptation, in particular for those groups, peoples and countries that are most vulnerable to climate impacts. Article 12 of the Paris Agreement establishes the obligation of the parties to cooperate to enhance climate change education, training, public awareness, public participation and public access to information.[78] Article 7 (5) of the Paris Agreement specifically mentions the use of traditional knowledge, knowledge of indigenous peoples and local knowledge systems in adaptation strategies as well as the need for adaptation action to be country-driven, gender-responsive, participatory and transparent.[79]

28. Principle 10 of the Rio Declaration on Environment and Development adopted in 1992, the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) adopted in 1998 and the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement) adopted in 2018, all guarantee the right to access information, the right to participation and the right to

[75] Programme of Action, para. 111.
[76] See OHCHR, “Human Rights, Climate Change and Business: Key Messages”.
[77] Submission by the World Health Organization (WHO), p. 6.
[78] See https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=_en.
[79] See the OHCHR report A/HRC/41/26 for an overview of relevant legal and policy frameworks related to climate change and gender equality.

access justice in environmental matters. The Escazú Agreement aims to guarantee the full and effective implementation in Latin America and the Caribbean of the rights to access environmental information, to participate in environmental decision-making and to access justice in environmental matters. The Agreement specifically outlines the responsibilities of its parties to include persons or groups in vulnerable situations in carrying out these efforts. In implementing the Agreement, parties are required to guarantee that their domestic legislation and international obligations in relation to the rights of indigenous peoples and local communities are observed.

29. The United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, specifically addresses the drylands hosting some of the world's most vulnerable ecosystems and peoples. The Convention promotes the participatory development of national programmes (arts. 3 (a) and 5 (d)) and stipulates the need for developed country parties to support the efforts of affected developing country parties, particularly those in Africa, and the least developed countries, to combat desertification and mitigate the effects of drought (art. 6).

30. The SIDS Accelerated Modalities of Action (SAMOA) Pathway of 2014 highlights the importance of engaging a broad range of stakeholders for effective climate action as part of the efforts to support small island developing States in achieving sustainable development.

31. The 2030 Agenda for Sustainable Development places particular emphasis on reaching the most vulnerable and leaving no one behind. The implementation of effective climate action under Goal 13 is key to the achievement of all the Sustainable Development Goals.

B. Persons in vulnerable situations as agents of change

32. The rights to access to information, meaningful participation and access to justice in environmental matters, including in the context of climate change, are key to empowering people to engage in climate action and for climate action to be responsive to their needs. People in vulnerable situations have played an important role in advancing climate justice. They have taken a wide range of steps to address climate change and its disproportionate impacts on them, including by organizing and participating at climate marches, setting up civil society organizations and grass-roots initiatives engaged in climate action, and engaging in climate litigation. Climate action cannot be fully effective without reflecting their perspectives and lived experiences. The skills and knowledge of people in vulnerable situations should inform climate policymaking, which needs to be tailored to their needs and requirements. This can only be achieved through a rights-based approach grounded in values and principles like inclusive participation, transparency, accountability, equality and non-discrimination, equity, solidarity, compassion and justice.

33. People of African descent have played an instrumental role in documenting, protesting against and acting on the adverse impacts of climate change and environmental degradation. The environmental justice movement in the United States of America benefits from diverse leadership, including by African-Americans, Latinos, Asians and Pacific Islanders and Native Americans.[80] The Seed indigenous youth climate network – a movement including aboriginal and Torres Strait Islander youth – works to protect their land, culture and communities from fossil fuel extraction and global warming.[81] The Asia Pacific Forum on Women, Law and Development led a feminist participatory action research programme to help indigenous women and lesbian, gay, bisexual, transgender and intersex persons to document their experiences, responses and needs, to support those most affected by climate change in shaping climate policies.[82]

[80] Renee Skelton and Vernice Miller, "The Environmental Justice Movement", Natural Resources Defence Council, 17 March 2016.

[81] See https://www.seedmob.org.au/.

[82] Alyson Brody, "Mapping the Linkages between Climate Change, Health, Gender and SOGIESC for the Asia-Pacific Region", Literature Review, January 2021, p. 27.

34. During the twenty-fifth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, the United Nations Children's Fund, YOUNGO – the children and youth constituency to the Framework Convention – and a group of Governments developed the Declaration on Children, Youth and Climate Action. The Declaration addresses the rights of children and young people with respect to environmental harm and climate change.[83] Environmental and climate justice movements play a key role in promoting rights-based climate action. They can contribute to making climate action more effective and sustainable by giving a voice to those most affected by climate change and promoting inclusivity, including within their own movements.

35. The Intergovernmental Panel on Climate Change has acknowledged the importance of indigenous peoples' traditional knowledge and practices, including their holistic view of community and environment, to effective adaptation.[84] Traditional practices are often extremely effective at conserving biodiversity and ecosystems and enhancing resilience against climate change. The Local Communities and Indigenous Peoples Platform was established under the United Nations Framework Convention on Climate Change to promote the exchange of experiences and best practices related to traditional, local and indigenous knowledge systems, build the capacity of indigenous peoples and local communities to engage in the processes under the Convention and facilitate the integration of different knowledge systems, practices and innovation in climate action, programmes and policies.[85] In consultations for the present report, stakeholders shared good practices implemented by indigenous peoples to mitigate and adapt to climate change. In Honduras, indigenous peoples and Afro-Hondurans apply ancestral knowledge to mitigate the effects of climate change.[86] In Ecuador, Shuar and Achuar communities use seed exchanges and networks, education on traditional agriculture and relocation of gardens to improve resilience to climate-related disasters.[87] The Wampis Nation in the Peruvian Amazon is developing its own climate adaptation plan to limit climate harms and reduce forest degradation by 2030.[88] Respecting the rights of indigenous peoples to their traditional knowledge, lands, resources and territories is fundamental to efforts to protect peoples and the planet.

36. Many of the people in vulnerable situations that are working for climate justice are environmental human rights defenders, whose work is critical for protecting biological diversity, addressing environmental degradation and pollution and mitigating and adapting to climate change. States have the primary obligation to ensure that environmental human rights defenders can operate safely and to protect them from intimidation, attacks and reprisals. Human rights due diligence policies, environmental and social impact assessments, safeguards, inclusive and participatory processes, and independent redress mechanisms can help empower people in vulnerable situations and limit the risks of adverse effects on human rights and the environment linked to State laws, policies and actions as well as business activities.

37. Climate litigation has become an increasingly effective tool to hold States and businesses accountable and to protect the human rights of persons in vulnerable situations from the adverse impacts of climate change. While undertaking potentially costly and time-consuming legal action poses challenges for those most affected by climate change,[89] successful rights-based climate litigation by or for people in vulnerable situations contributes

[83] Submission by the Office of the Envoy of the Secretary-General on Youth, p. 1 (OSGEY and YOUNGO submission).

[84] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, chap. 9, p. 37.

[85] See https://unfccc.int/LCIPP#:~:text=The%20Local%20Communities%20and%20Indigenous,a%20common%20concern%20of%20humankind.

[86] Submission by Honduras, p. 18.

[87] Submission by Cultural Survival, p. 4.

[88] Submission by EarthRights International, p. 2.

[89] Submission by the Castan Centre for Human Rights Law, p. 4.

to advancing the climate ambition of countries and businesses.[90] In May 2021, in *Milieudefensie et al. v. Royal Dutch Shell PLC*, the first major climate change litigation ruling against a corporation, The Hague District Court ordered Shell to reduce its emissions by 45 per cent by 2030. Shell appealed the case, which is currently pending. The Supreme Court of Colombia ruled in May 2018 in favour of a group of 25 children and youths in the case of *Future Generations v. Ministry of the Environment and Others*, holding that their constitutional right to a healthy environment was being violated by climate change and the deforestation in the Amazon. The Committee on the Rights of the Child, responding to a petition by 16 children alleging that inadequate climate action by five countries violated their rights, held that States could be liable for extraterritorial human rights impacts related to climate change.[91]

C. Supporting people in vulnerable situations

38. In consultations for this report, Member States shared several good practices related to supporting and strengthening the capacities of people in vulnerable situations. Chile[92] and the Philippines[93] included loss and damage caused by climate change in their nationally determined contributions. Mexico is including people in vulnerable situations in their early warning systems.[94] Mauritius is working to protect vulnerable coastal ecosystems and communities.[95] Iraq took measures to prevent drought and to safeguard the food security of vulnerable groups, including the internally displaced and rural communities.[96] Guatemala[97] and Slovakia[98] have taken measures to enhance public participation in environmental decision-making. The national adaptation strategy of Greece was adopted in line with the Aarhus Convention provisions for participatory governance.[99] The national adaptation plan of Argentina, which is currently being drafted, is expected to include local communities and indigenous peoples.[100] The Latvian national plan for adaptation to climate change until 2030 includes provisions related to the least protected groups in society.[101]

39. Climate-vulnerable countries increasingly appeal to developed countries to deliver on their international climate finance commitments – including under the United Nations Framework Convention on Climate Change – as part of their call for climate justice.[102] In its resolution 47/24, the Human Rights Council called upon States to enhance international cooperation and assistance, in particular in financing, the transfer of technology and capacity-building, to assist the most vulnerable to adapt to and mitigate the adverse effects of climate change on their human rights.[103] States parties to the Paris Agreement have obligations to mobilize climate finance, technology transfer and capacity-building through international cooperation – including to address loss and damage caused by climate change – in line with the principle of common but differentiated responsibilities and respective capabilities in light of national circumstances, and the needs of developing country parties. Fulfilling these

[90] See, e.g., Joana Setzer and Catherine Higham, *Global Trends in Climate Change Litigation: 2021 Snapshot* (London, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change, Economics and Policy, 2021).

[91] See *Sacchi et al. v. Argentina* (CRC/C/88/D/104/2019); *Sacchi et al. v. Brazil* (CRC/C/88/D/105/2019); *Sacchi et al. v. France* (CRC/C/88/D/106/2019); *Sacchi et al. v. Germany* (CRC/C/88/D/107/2019); and *Sacchi et al. v. Turkey* (CRC/C/88/D/108/2019).

[92] Submission by Chile, p. 6.

[93] Submission by the Philippines, p. 5.

[94] Submission by Mexico, p. 12.

[95] Submission by Mauritius, p. 4.

[96] See submissions by Iraq.

[97] Submission by Guatemala, p. 20.

[98] Submission by the Slovak National Centre for Human Rights, p. 8.

[99] Submission by Greece, p. 2.

[100] Submission by Argentina, No. 1, p. 3.

[101] Submission by Latvia, p. 2.

[102] See Climate Vulnerable Forum, “Special Envoy Abul Kalam Azad, Statement for Press Conference at UNFCCC COP26”, 10 November 2021.

[103] Para. 5.

commitments would contribute to addressing the adverse effects of climate change on the rights of persons in vulnerable situations now and in the future.[104]

40. Under international human rights law, States have obligations to protect and fulfil human rights. This includes obligations to prevent and address the negative human rights impacts of climate change, particularly on people in vulnerable situations. In the International Covenant on Economic, Social and Cultural Rights, States are specifically called upon to work together and to mobilize the maximum available resources for the progressive realization of human rights.[105] In the context of climate change, these obligations require the effective mobilization of finance to support rights-based climate action that benefits people in vulnerable situations. A human rights-based approach to climate finance includes the obligations to cooperate internationally, as outlined in the Charter of the United Nations,[106] the International Covenant on Economic, Social and Cultural Rights[107] and the Declaration on the Right to Development.[108] It also includes safeguarding against human rights harms, supporting projects that advance human rights and ensuring the meaningful and effective participation of people and communities in vulnerable situations, without discrimination, in decision-making. This approach is particularly critical to ensure the effective use of increasingly large volumes of climate finance to address urgent needs, including adaptation. UNEP has estimated that the annual costs of adaptation in developing countries by 2030 will be between $155 and $330 billion and will continue to increase as the temperature rises.[109]

41. According to the Organization for Economic Cooperation and Development, two thirds of the climate finance flows mobilized by developed countries in 2019 went to mitigation.[110] Climate finance for adaptation – a priority for the world's poorest countries – remains far below what is needed to respond both to the current and future impacts of climate change, in particular for developing economies.[111] Existing climate finance is insufficient to put the world on track to limit heating to 1.5°C and to support needed adaptation, and is therefore inconsistent with the obligation to protect human rights from the adverse effects of climate change. Compounding the problem, climate finance sometimes supports large projects that have limited potential to reach local actors and at their worst even harm people in vulnerable situations.[112] Too often, the people who need it most do not have access to international climate finance.[113]

42. Current international climate finance mainly takes the form of loans, with grant assistance remaining very limited.[114] The need to rely on loans to fight the worst effects of climate change poses a real threat, especially for countries with limited resources, of exacerbating already high levels of debt. Small island developing States in particular face high levels of debt, including in many cases owing to borrowing to address climate-related impacts on their economies.[115] Least developed countries and small island developing States receive an estimated 20.5 per cent and 3 per cent of climate finance respectively, which is not commensurate with the increasing climate risk that they face.[116] Nearly half of these funds have been in the form of loans and other non-grant instruments.[117] The General Assembly, in its resolutions 75/215 and 76/203, called for the development of a multidimensional vulnerability index for small island developing States with the aim of facilitating their access

[104] Ibid., preambular para. 29.
[105] Art. 2 (1).
[106] Art. 55.
[107] Arts. 1–2, 11 and 15.
[108] Arts. 3–4 and 6.
[109] See *The Gathering Storm*.
[110] *Climate Finance Provided and Mobilised by Developed Countries: Aggregate Trends Updated with 2019 Data – Climate Finance and the USD 100 Billion Goal* (2021), p. 7.
[111] UNEP, *The Gathering Storm*, p. 29.
[112] Center for International Environmental Law, *Funding Our Future: Five Pillars for Advancing Rights-Based Climate Finance* (2021), p. 10.
[113] Ibid., p. 6.
[114] Ibid., p. 3.
[115] Oxfam International, *Climate Finance Shadow Report 2020: Assessing Progress towards the $100 Billion Commitment* (October 2020).
[116] Ibid., p. 3; and OECD, *Climate Finance Provided and Mobilised by Developed Countries*, p. 9.
[117] Oxfam International, *Climate Finance Shadow Report 2020*, p. 4.

to concessional finance. Providing climate finance in the form of grants rather than loans can help prevent the cost of the climate crisis being born by the people and countries least responsible for it.[118]

43. Although developed countries have committed to lead on mobilizing climate finance in line with their common but differentiated responsibilities under the Paris Agreement, more than three quarters of climate finance is channelled domestically.[119] Mechanisms to ensure access, inclusiveness, safeguards and redress are often lacking or are not implemented effectively, for example in the case of those related to indigenous peoples.[120] Developed countries must provide enhanced and additional support for activities addressing loss and damage associated with the adverse effects of climate change and the impacts of both economic and non-economic losses on resources and human rights, including to culture, life, livelihoods and territory – benefitting the most vulnerable first.[121]

IV. Conclusions and recommendations

A. Conclusions

44. **Poverty, historical and structural inequity and discrimination, as well as geography, affect people's exposure to the adverse effects of climate change. Economic and social constructs contribute to putting people in vulnerable situations and at greater risk of suffering the adverse human rights impacts of climate change. Intersecting discrimination further compounds the unfair burden of climate harms. Rights-based climate action must address the root causes of social injustice and inequality.**

45. **People in vulnerable situations are often most exposed to the impact of climate change while having contributed the least to its origins. Those most responsible for climate change should lead climate change mitigation and adaptation efforts, and include the people most affected by climate change as part of the solution.**

46. **Beyond recognizing and better assessing their risks, including those related to discrimination, it is critical that people in vulnerable situations are seen as agents of change and that their rights and dignity are upheld and enhanced because they possess the resilience, knowledge and skills to support effective climate action. The rights to participation, access to information and access to justice are key elements for effective, equitable climate action. Fulfilling relevant international, regional and national obligations to ensure equitable, effective and meaningful participation in environmental decision-making must remain a priority in this regard.**

47. **Reducing climate change-related impacts on the enjoyment of human rights requires urgent implementation of commitments under the Paris Agreement. Limiting warming to no more than 1.5°C requires a global reduction of 45 per cent in greenhouse gas emissions by 2030 and carbon neutrality by mid-century. System-wide efforts are needed to address both the patterns of consumption and production that are causing emissions, along with efforts to address the historical inequalities that exacerbate their impacts. A significant increase in international climate finance, with 50 per cent dedicated to adaptation, is needed to empower and build the resilience of persons in vulnerable situations and to reduce the adverse impact of climate change on their rights. Without substantial upscaling, a more equitable distribution and facilitated access for the countries and people most affected by climate change, climate finance will continue to fall far short of the international commitments made by developed countries to**

[118] See United Nations, Inter-Agency Task Force on Financing for Development, *Summary: Financing for Sustainable Development Report 2021*.
[119] Climate Policy Initiative, *Global Landscape of Climate Finance 2021* (December 2021), p. 4.
[120] See A/HRC/36/46.
[121] A/74/161, para. 91.

alleviate and share the additional burden placed by climate change on developing economies.

B. Recommendations to States and other stakeholders

48. **The Secretary-General addresses the following recommendations to States and other stakeholders to address the impacts of climate change on the human rights of people in vulnerable situations.**

49. **Take immediate, ambitious and rights-based climate action, including by adopting and implementing inclusive rights-based national climate action plans, aligned with the objectives of the Paris Agreement and the United Nations Framework Convention on Climate Change to limit global warming to no more than 1.5°C and to protect human health and welfare from the adverse effects of climate change. The countries that historically bear the responsibility for the majority of greenhouse gas emissions must lead the way by drastically reducing emissions while channelling climate finance to and sharing technology solutions with the countries at the forefront of the crisis at a level that matches its scale. All main emitters – with the Group of 20 leading the way – must take an extra step to drastically reduce their emissions this decade.**

50. **Business enterprises should respect human rights in the context of climate change and address the adverse human rights impacts that they have caused or contributed to, including those resulting from climate change.**

51. **Ensure that people in vulnerable situations can access information about climate change and climate action, effectively participate in climate-related decision-making and implementation and access justice when climate-related harms occur. In order for climate action to advance human rights and climate justice, States should include the lived experiences and expertise of frontline communities in climate action at all levels by:**

(a) **Making available and facilitating access to information about climate change, including information on early warning, in languages and formats that are accessible and understandable to everyone everywhere, and ensuring that every person worldwide is protected by early warning systems in the next five years;**

(b) **Ensuring that climate policy planning and implementation is undertaken with the meaningful and effective participation of people in vulnerable situations;**

(c) **Promoting access to justice in environmental matters, including the access of people in vulnerable situations to court facilities, interpreters and culturally appropriate (legal and other) services, as needed.**

52. **In order to strengthen the climate resilience of people in vulnerable situations:**

(a) **Implement rights-based climate adaptation measures informed by the contributions of the people most adversely impacted by climate change, and that respond to their requirements and needs;**

(b) **Address the root causes of discrimination against and exclusion of people in vulnerable situations – including related to historical patterns of discrimination – and their interrelations with climate change impacts.**

53. **Design and implement climate policies with a human rights approach that benefit people and communities that are disproportionately suffering the impacts of climate change, including by:**

(a) **Collecting disaggregated data on climate change impacts in a human rights-compliant way;**

(b) **Developing inclusive rights-based climate action policies and disaster risk reduction plans that specifically include and address the needs of the persons and communities that are most at risk of being left behind in climate and emergency relief efforts;**

(c) **Recognizing and protecting the rights of people in vulnerable situations to their traditional lands, resources, territories and knowledge;**

(d) **Ensuring that all climate mitigation and adaptation measures that have an impact on the rights of indigenous peoples are implemented with their free, prior and informed consent.**

54. **Promote the inclusion of persons in vulnerable situations in environment and climate movements.**

55. **Redouble efforts to promote and protect the rights of environmental human rights defenders to undertake their work in an enabling environment, without fear of reprisals, threats, violence and killings. Ensure accountability, access to justice and redress when the rights of human rights defenders are violated.**

56. **Put in place measures to ensure that the energy transition includes a just transition for impacted workers and communities, and that adaptation investments benefit all, including people and communities in vulnerable situations.**

57. **Secure adequate resources for climate action, including through international cooperation, in line with the principle of common but differentiated responsibilities and respective capabilities in light of national circumstances, to match the scale of the climate crisis, including by:**

(a) **Easing access to climate finance for the countries and people most affected by climate change and systematically integrating a human rights perspective in climate finance;**

(b) **Boosting international climate financing – in particular for adaptation as well as loss and damage – through increased financial flows to developing countries;**

(c) **Ensuring that international climate financing, especially to vulnerable countries, increasingly takes the form of grants rather than loans so as not to add to the already heavy debt burden on developing economies.**

58. **Seek to address the impacts of both economic and non-economic loss and damage on human rights.**

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Adverse impact of climate change on the full realization of the right to food

Report of the Secretary-General*

Summary

In the present report, submitted pursuant to Human Rights Council resolution 50/9, the Secretary-General examines the adverse impacts of climate change on the full realization of the right to food, as well as greenhouse gas emissions relating to food systems. The Secretary-General highlights examples of human rights-based adaptation and mitigation strategies and good practices and provides concrete recommendations, building on literature reviews, consultations with experts and submissions from Member States, national human rights institutions, international organizations and civil society organizations.

* The present report was submitted after the deadline in order to reflect the most recent information.

I. Introduction

1. The present report is submitted pursuant to Human Rights Council resolution 50/9, in which the Council requested the Secretary-General, in consultation with and taking into account the views of States, the Council's special procedures, the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), the United Nations Environment Programme (UNEP), the World Meteorological Organization, the Committee on World Food Security and other relevant international organizations and intergovernmental bodies, including the Intergovernmental Panel on Climate Change and the secretariat of the United Nations Framework Convention on Climate Change, and other stakeholders, to submit a report to it at its fifty-third session on the adverse impact of climate change on the full realization of the right to food.

2. On 4 October 2022, the Office of the United Nations High Commissioner for Human Rights (OHCHR) circulated a note verbale and a questionnaire to Member States, requesting their inputs.[1] Other stakeholders, including international organizations, national human rights institutions and civil society organizations, were also contacted. The 47 contributions received, together with stakeholder consultations, informed the present report.[2] In the report, the Secretary-General concludes that, given the catastrophic impact of climate change on food production, the only way to limit climate-related hunger, stunting and starvation is for States and relevant stakeholder groups, including businesses, to take immediate action to fulfil their respective human rights obligations and responsibilities with respect to climate action and food security. That includes reducing the impacts of climate change on the full realization of the right to food, as well as cutting the greenhouse gas emissions created by food systems.

II. Right to food

3. Climate change poses a serious threat and is increasingly becoming an obstacle to the full and effective realization of the right to food.[3] It affects the four components of the right to food – namely, its physical and economic accessibility, availability, adequacy and sustainability – in different and related ways.[4] By undermining the right to food, climate change impacts also threaten the full and effective enjoyment of other human rights. The Intergovernmental Panel on Climate Change has found that climate change will lead to increasing pressure on food production and access, particularly in vulnerable regions, thereby undermining food security and nutrition.[5] Extreme weather events and natural hazards hamper crop, livestock, fisheries and aquaculture productivity.[6] The intensification of droughts and floods leads to decreases in crop yields, which greatly affect rural populations dependent on agriculture.[7] Rising sea levels and the acidification of oceans affect fisheries.[8] Changing seasons and rising temperatures degrade pastoral systems, leading to reduced herd mobility, decreased productivity, increases in vector-borne diseases and parasites and reduced access to water and feed.[9]

[1] See www.ohchr.org/sites/default/files/documents/issues/climatechange/food/nv-and-questionnaire-climate-change-and-human-rights-04102022-en_0.pdf.

[2] All contributions are available at www.ohchr.org/en/climate-change/impact-climate-change-right-food.

[3] See A/64/170, A/67/268, A/69/275, A/70/287, A/71/282, A/72/188, A/HRC/7/5, A/HRC/9/23, A/HRC/16/49, A/HRC/25/57, A/HRC/31/51, A/HRC/31/51/Add.1, A/HRC/31/51/Add.2, A/HRC/34/48, A/HRC/34/48/Add.1 and A/HRC/37/61.

[4] A/HRC/16/40, para. 16.

[5] Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability* (Cambridge, United Kingdom of Great Britain and Northern Ireland, Cambridge University Press, 2022), p. 14.

[6] A/HRC/37/61, para. 11.

[7] FAO, *Climate Change and Food Security: Risks and Responses* (Rome, 2015), pp. 9 and 17.

[8] Ibid., p. xii.

[9] Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 746.

4. Climate change poses a threat to the ability of entire regions to feed themselves, by increasing the frequency and intensity of extreme weather disasters, such as floods, droughts and megafires. Between 2008 and 2018, agricultural production loss caused by climate change amounted to $30 billion in Africa alone.[10] The Intergovernmental Panel on Climate Change has projected that 10 per cent of the area that is currently suitable for major crops and livestock will be climatically unsuitable by 2050 under high-emissions scenarios.[11] Temperature rise and extreme weather events are expected to reduce yields of staple crops, such as rice, wheat and corn, and the area and quality of farmland, especially in Africa.[12]

5. Malnutrition has increased in many places, including for Indigenous Peoples, local communities, peasants, small-scale food producers and low-income households. This is due to sudden losses of food production related to more extreme weather and climate events, which reduce access to food with dietary diversity.[13] While a decline in food productivity leads, in general, to an increase in food prices, the increasing costs of fuel and fertilizers further drives up food prices, which have a negative impact on affordability. Owing to several factors, including the armed conflict in Ukraine, the coronavirus disease (COVID-19) pandemic and climate change, global food prices increased by 21 per cent between January and September 2022 compared with the same period in 2021.[14] Children, older persons and pregnant women are among those that are most affected by the impacts of climate change on food accessibility.[15]

6. According to scholars, climate change affects the availability of food both directly through climate variabilities, such as drought and flooding, and indirectly, through pests and diseases, rising sea levels and changes in the availability of fresh water.[16] Women are likely to be the first to go hungry as they make up a sizable portion of small-scale food producers and often bear the main responsibility for feeding their families.[17]

7. The adequacy of food and its fulfilment of dietary needs, different according to a person's age, culture, health, occupation and living conditions,[18] is also affected by climate change. Scholars state that climate change affects the nutritional quality of food by reducing the production, storage and consumption of fruits, vegetables, nuts, seeds and fish.[19] It leads to heat stress, resulting in yield losses and impaired product quality, as well as increasing amounts of food loss and waste,[20] leading to increased workloads for women.[21]

8. Climate-related extreme weather events disrupt the stability of food supply. An increase in the frequency and intensity of extreme weather events, such as wildfires, droughts, floods and storms, leads to reduced crop yields, which directly affect those persons whose livelihoods depend on agriculture and livestock.[22] According to the Intergovernmental Panel on Climate Change, increasing extreme weather and climatic events are exposing millions of people to acute food insecurity.[23] Climate change compounds pre-existing food insecurity

[10] Submission by FAO.
[11] Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 725.
[12] FAO, *The Impact of Disasters and Crises on Agriculture and Food Security* (Rome, 2021), pp. 35, 36 and 82.
[13] Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 9.
[14] World Bank Live, "A shortage of life's essentials: the human cost of the food and fuel crises", 11 October 2022.
[15] Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 9.
[16] Tais de Moura Ariza Alpino and others, "The impacts of climate change on food and nutritional security: a literature review", *Ciência & Saúde Coletiva*, vol. 27, No. 1 (2022), p. 276.
[17] OHCHR, "Recommit to the right to food – UN expert", 15 November 2022.
[18] OHCHR and FAO, "The right to adequate food", Human Rights Fact Sheet No. 34 (2010), p. 3.
[19] De Moura Ariza Alpino and others, "The impacts of climate change", p. 277.
[20] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems* (Cambridge, United Kingdom, Cambridge University Press, 2019), p. 439.
[21] United Nations Entity for Gender Equality and the Empowerment of Women, "Explainer: how gender inequality and climate change are interconnected", 28 February 2022.
[22] FAO, *The Impact of Disasters and Crises on Agriculture and Food Security*, p. 9.
[23] Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report*, "Summary for Policymakers" (forthcoming), p. 5.

and is reversing the progress made in abolishing hunger and starvation. Poverty and high levels of inequality are compounding climate change-related food insecurity and malnutrition.[24]

9. In 2021, between 702 and 828 million people were affected by hunger.[25] Climate change is projected to put another 80 million people at risk of hunger by the middle of the century.[26] Those who have contributed the least to global warming are disproportionately affected;[27] most of the world's undernourished live in Asia and Africa.[28] The majority of climate change-related disasters, such as extreme weather events, have hit countries in which the right to food is already being violated and social protection systems are not sufficiently robust to respond to climate-induced hunger, including in Africa, Asia, Central and South America, small island developing States, least developed countries, and the Arctic. Those hardest hit include Indigenous Peoples, small-scale food producers and low-income households – in particular, in developing countries.[29] Persons suffering from severe hunger include those directly dependent on agriculture and subsistence farming, herding, fishing and hunting. Their livelihoods, knowledge and traditional ways of life are threatened by climate change and competition over resources, which will lead to increasing hunger and malnutrition if the right to food is not respected, protected and fulfilled.[30]

10. In consultations for the present report, stakeholders shared examples of how climate change is affecting the full realization of the right to adequate food. Many stakeholders highlighted the intersecting relationship between inequality, food insecurity, declining ecosystem productivity and climate change. Countries that have contributed very little to climate change often lack the resources to support a climate-resilient, rights-based response to its impacts on people. Stakeholders also noted that, in many cases, those that had profited from industries and government policies that passed the costs of climate change on to others had not paid for the human and ecological devastation that they had caused.

11. In Afghanistan, the flash floods in July 2022 – which followed a severe drought in 2021 – caused significant damage to crops, infrastructure and livelihoods, severely affecting the 85 per cent of the population that relies on agriculture for subsistence.[31] In 2021, Madagascar experienced its worst drought in 40 years, causing widespread food insecurity.[32] In the aftermath of the floods in Pakistan in 2022, alarming levels of severe acute malnutrition among children were reported.[33] Somalia has experienced more than 30 climate-related shocks since 1990 and the devastation of pastures, grazing lands and crops by desert locusts in 2020 compounded the impacts of decades of conflict, insecurity and spiralling food prices, leading to heightened food insecurity and the loss of livelihoods for millions of agropastoralists. Recent droughts in the Central American Dry Corridor have resulted in food insecurity and increasing malnutrition, acting as a driver of migration from the region.[34]

12. The submissions received also highlighted climate impacts on the right to food for fishers and coastal communities. Climate change contributes to changes in oceanographic conditions, declining reproduction patterns and the distribution of fish species towards higher

[24] United Nations, "Secretary-General's chair summary and statement of action on the United Nations Food Systems Summit", 23 September 2021.
[25] FAO and others, *The State of Food Security and Nutrition in the World 2022: Repurposing Food and Agricultural Policies to Make Healthy Diets More Affordable* (Rome, FAO, 2022), p. xiv.
[26] Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 64.
[27] A/70/287, paras. 3 and 29; and A/HRC/34/48/Add.1, para. 64.
[28] FAO and others, *The State of Food Security and Nutrition in the World 2021: Transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All* (Rome, FAO, 2021), p. xii.
[29] Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report*, "Summary for Policymakers", p. 5.
[30] A/HRC/19/75, para. 18.
[31] Submission by WFP.
[32] Submission by the Anglican Consultative Council.
[33] United Nations Children's Fund, "More than 1 in 9 children in flood-affected areas of Pakistan suffering from severe acute malnutrition", press release, 21 October 2022.
[34] Submission by Climate Refugees and Alight.

altitudes, which negatively affect food security in the tropics.[35] In India, fish cultivation in the Lower Dibang Valley district of Arunachal Pradesh has been affected by flooding and heavy rain.[36] In Indonesia, climate change affects the right to food of fishers and coastal communities due to declining fish catches and coastal erosion.[37] Climate change negatively affects the right to food of Indigenous Peoples and local communities, including in Peru.[38] In the Brazilian Amazon, illegal mining, deforestation and climate change are adversely affecting the full realization of the right to food by the Yanomami.[39]

III. Climate change impacts of food systems

13. While climate change impacts put global food systems at risk, food systems are a significant source of the anthropogenic greenhouse gas emissions that are causing climate change.[40] According to the International Food Policy Research Institute, today's industrialized food system is a major contributor to climate change and environmental degradation, including through biodiversity loss, soil degradation, water depletion and pollution.[41] Between 21 and 37 per cent of global greenhouse gas emissions come from food systems.[42] The idea of transporting food long distances due to the "comparative advantage" of production is not adequately factoring in the costs imposed on the rights to health and livelihoods of those who are not part of the transaction. As the global population increases and if no change is made in the food production system, food systems emissions are projected to grow between 60 and 90 per cent between 2010 and 2050.[43]

14. Some two thirds of greenhouse gas emissions from food systems come from agriculture, forestry and other land use.[44] That is mainly related to changes in land use, deforestation and peatland degradation.[45] Agriculture is responsible for 80 per cent of global deforestation,[46] which is carried out to create land for agricultural production of export commodities, including beef, soy and palm oil. The production of meat was responsible for approximately 54 per cent of greenhouse gas emissions from agriculture between 2018 and 2020 and is projected to increase by more than 60 per cent between 2010 and 2050 as meat consumption continues to increase.[47] In such a scenario, the reduction of fossil fuel emissions alone – however significant – will not be sufficient to meet the goals of the Paris Agreement.[48] Food system transformation is therefore key to limiting global warming.

15. While boosting food production, the technologies of the Green Revolution have contaminated soils and waters through their use of chemical fertilizers and pesticides, causing significant damage to the soil.[49] Pesticides and chemical fertilizers, together with other components of the pre- and post-production stages (such as feed production, processing, storage, refrigeration, retail, waste disposal, food service and transport), are responsible for

[35] Submission by One Ocean Hub.
[36] Submission by Tilu Linggi, Centre of International Legal Studies, Jawaharlal Nehru University, India.
[37] Submission by Nukila Evanty, Executive Director of Women Working Group, Indonesia.
[38] Submission by Peru.
[39] Submission by the School of Public Health, Drexel University, United States of America.
[40] Submission by the secretariat of the United Nations Framework Convention on Climate Change.
[41] International Food Policy Research Institute, *2022 Global Food Policy Report: Climate Change and Food Systems* (Washington, D.C., 2022). See also A/76/179 and A/76/237.
[42] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 439.
[43] UNEP, *Emissions Gap Report 2022: The Closing Window – Climate Crisis Calls for Rapid Transformation of Societies* (Nairobi, 2022), p. 54.
[44] International Food Policy Research Institute, *2022 Global Food Policy Report*, p. 3.
[45] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 439.
[46] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development* (New York, United Nations, 2019), p. 65.
[47] UNEP, *Emissions Gap Report 2022*, pp. 56 and 57.
[48] Ibid, p. 54.
[49] A/76/237, para. 12.

an estimated 5 to 10 per cent of greenhouse gas emissions.[50] Soil erosion reduces crop yields and the soil's ability to store and cycle carbon, nutrients and water.[51]

16. According to the Intergovernmental Panel on Climate Change, emissions from aquaculture and large-scale fisheries may represent approximately 10 per cent of total agriculture emissions.[52] Aquaculture produces approximately 50 per cent of the fish consumed by humans, however, around 35 per cent of the harvest in capture fisheries and aquaculture globally is either lost or wasted.[53]

17. Supply chain activities account for between 19 and 29 per cent of the greenhouse gas emissions of the global food system.[54] Energy use in the food supply chain is a rapidly growing emissions source that includes on-farm fuel use, food transportation, food service, cooking, cooling and freezing in the food-processing industry, packaging and energy use in retail, as well as food-related energy consumption by households. The retail sector accounts for 20 per cent of the energy use of food systems, in comparison with a figure of 30 per cent for households, which includes the energy spent in travelling to purchase food.[55] Changing food consumption patterns have affected transport and storage needs, leading to increased greenhouse gas emissions: transport accounts for between 5 and 11 per cent of the global food system's emissions.[56]

18. Food loss and waste are estimated to account for between 8 and 10 per cent of global greenhouse gas emissions.[57] One third of all food produced for human consumption is either lost or wasted due in part to poor logistics or exposure to pests and diseases that are exacerbated by climate change.[58] Marketing practices that encourage consumers to buy more than they can consume and that rely on long periods of transport and storage also contributed to the estimated 931 million tonnes of food waste that was generated in 2019.[59] On average, 74 kg of food per capita is wasted every year. Reducing food waste could contribute to a decrease in greenhouse gas emissions and an improvement in food security.[60]

19. Some types of climate action can negatively affect the right to food, for example, by converting land to monoculture plantation forests or bioenergy crops with adverse effects on food production and food prices. For climate action to successfully reduce emissions and safeguard the right to food of concerned communities, human rights must be integrated into its planning, design, implementation and evaluation. The adoption of agroecological practices, combining local knowledge, traditional products and innovation, could improve food security, nutrition and rural development, including the right to a clean, healthy and sustainable environment.

[50] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, pp. 476, 478 and 479.

[51] FAO, *The State of the World's Land and Water Resources for Food and Agriculture: Systems at Breaking Point – Synthesis Report 2021* (Rome, 2021), p. 23.

[52] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 478.

[53] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, pp. 73 and 74; and FAO and others, *The State of Food Security and Nutrition in the World 2022*, p. 80.

[54] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, p. XXV.

[55] UNEP, *Emissions Gap Report 2022*, p. 60.

[56] Ibid.; and Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, p. 66.

[57] UNEP, *Food Waste Index Report 2021* (Nairobi, 2021), p. 20.

[58] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, p. 66.

[59] UNEP, *Food Waste Index Report 2021*, p. 8.

[60] Ibid., p. 4.

IV. Promoting and protecting the right to food in the context of climate change

A. Legal and policy framework

20. The right to food is enshrined in the Universal Declaration of Human Rights (art. 25 (1)) and the International Covenant on Economic, Social and Cultural Rights (art. 11). Article 11 of the Covenant recognizes the right to an adequate standard of living, including adequate food, clothing and housing, and to the continuous improvement of living conditions – in addition to the fundamental right of everyone to be free from hunger. Article 24 of the Convention on the Rights of the Child enshrines the obligation of States parties to provide adequate and nutritious food, while article 28 of the Convention on the Rights of Persons with Disabilities recognizes the right of persons with disabilities to adequate food.

21. In its general comment No. 12 (1999), the Committee on Economic, Social and Cultural Rights described its interpretation of the obligations of States parties to ensure the fulfilment of the right to adequate food, including for vulnerable groups and individuals and when faced with severe resource constraints, which include those caused by climatic conditions. It also highlighted that food sustainability implied food being accessible for both present and future generations. In its general comment No. 26 (2022), the Committee stated that the extraterritorial obligation to respect human rights required States parties, inter alia, to prevent domestic and international policies and actions – including those related to agriculture, climate change, development, energy, trade and investment – from interfering, directly or indirectly, with the enjoyment of human rights. That obligation also includes the right to food.

22. The Committee on the Elimination of Discrimination against Women, in its general recommendation No. 39 (2022), called upon States parties to adopt urgent measures to ensure that Indigenous women and girls had adequate access to sufficient food. Moreover, it noted that Indigenous women and girls were adversely affected by State failures to prevent foreseeable harm connected to climate change. In its general comment No. 15 (2013), the Committee on the Rights of the Child called upon States to put children's health concerns at the centre of climate action and to regulate and monitor the environmental impact of business activities that might compromise food security.

23. In the United Nations Declaration on the Rights of Indigenous Peoples, the General Assembly affirmed that States should consult and cooperate in good faith with Indigenous Peoples to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that might affect them, and prior to the approval of any project affecting their lands or territories and other resources (arts. 19 and 32). That could include climate change mitigation and adaptation measures. In the preamble to the Declaration, the General Assembly highlighted that respect for Indigenous Peoples' knowledge and traditional practices contributed to sustainable development and proper management of the environment. Furthermore, it recognized the right of Indigenous Peoples to be secure in the enjoyment of their own means of subsistence and development (art. 20 (1)). The Declaration sets out the right of Indigenous Peoples to the conservation and protection of the environment and the productive capacity of their lands or territories and resources (art. 29 (1)).

24. The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas recognizes the right of peasants to adequate food and the fundamental right to be free from hunger, which includes the right to produce food and the right to adequate nutrition (art. 15 (1)). In the Declaration, the General Assembly affirmed that States should ensure that peasants and other people working in rural areas enjoy physical and economic access at all times to sufficient and adequate food that was produced and consumed sustainably and equitably, respecting their cultures and preserving access to food for future generations (art. 15 (2)). The General Assembly also affirmed that States should take appropriate measures to combat malnutrition in rural children, including by ensuring that women had adequate nutrition during pregnancy and lactation (art. 15 (3)). Moreover, it spelled out the right of peasants and other people working in rural areas to determine their

own food and agriculture systems and to participate in decision-making processes on food and agriculture policy (art. 15 (4)). In the preamble to the Declaration, the General Assembly recognized the right to food sovereignty for peasants and other people working in rural areas, as well as the right to culturally appropriate food produced through ecologically sound and sustainable methods that respected human rights. In article 2 (6) of the Declaration, the General Assembly indicated that States should take appropriate and effective measures in support of the realization of the purposes and objectives of the Declaration, such as improving the functioning of global markets to limit extreme food price volatility. The Declaration also promotes the participation of peasants in decision-making processes that may affect their lives, land and livelihoods (art. 10 (2)), which includes climate-related decision-making.

25. The ultimate objective of the United Nations Framework Convention on Climate Change is to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, which should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change to ensure that food production is not threatened (art. 2). According to the preamble to the Paris Agreement, parties should respect, promote and consider their respective human rights obligations when taking action to address climate change. The Agreement is aimed at strengthening the global response to climate change, including by increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (art. 2 (b)).

26. At its twenty-seventh session, the Conference of the Parties to the United Nations Framework Convention on Climate Change adopted a decision on joint work on implementation of climate action on agriculture and food security. It recognized the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change. It urged parties and other stakeholders to promote sustainable agriculture, including by strengthening the role of Indigenous Peoples and local communities, in particular women and youth, with a view to eradicating hunger and poverty while ensuring food security (para. 10). In the decision, the Conference of the Parties took note of the recommendations of the different workshop reports under the Koronivia joint work on agriculture, which recognized the priority of designing and financing sustainable and climate-resilient agricultural systems, while applying a systemic approach in line with long-term global climate objectives to safeguard food security and end hunger (para. 2).

27. In the Guiding Principles on Business and Human Rights, the Human Rights Council affirmed the obligation of States to protect human rights within their territory or jurisdiction from actions by business enterprises. States should set out clearly the expectation that all businesses respect human rights throughout their operations and prevent and mitigate adverse impacts related to climate change, including by requiring them to exercise human rights due diligence, conduct environmental and climate impact assessments and/or disclose greenhouse gas emissions and climate change impacts.[61] In the context of climate change, in particular in situations in which businesses have contributed to severe impacts – for instance, large businesses involved in industrial agriculture and transportation – each business should provide for remediation appropriate to its share of the responsibility for the impacts.

28. The General Assembly has recognized the negative impact of climate change on food security, including through its resolution 76/166 on the right to food, in which it highlighted the importance of designing and implementing actions to reduce impacts, in particular on vulnerable populations (para. 44). In its resolution 40/7, the Human Rights Council also recognized the interlinkages between climate change and food insecurity. The General Assembly and the Human Rights Council recognized, in resolution 76/300 and resolution 48/13, respectively, the human right to a clean, healthy and sustainable environment. It is recognized in those resolutions that sustainable development and environmental protection contribute to and promote the enjoyment of human rights, which include the right to food.

[61] OHCHR, “Human rights, climate change and business: key messages”.

29. An array of other international instruments and structures relating to climate change and the right to food are also relevant, including those highlighted below.

30. The Rome Declaration on World Food Security, adopted at the World Food Summit in 1996, reaffirmed the fundamental right of everyone to be free from hunger and the need to minimize vulnerability to and the impact of climate-related ecological changes. The Voluntary Guidelines on Food Systems and Nutrition, which were endorsed by the Committee on World Food Security in 2021, provide guidance on aligning policies, laws, programmes and investment plans to address hunger and malnutrition, including in the context of climate change.

31. The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security, which were endorsed by the Committee on World Food Security in 2012, stipulate that States, in accordance with their respective obligations, should ensure that the legitimate tenure rights to land, fisheries and forests of all individuals, communities and peoples likely to be affected – with an emphasis on farmers, small-scale food producers and vulnerable and marginalized persons – are respected and protected by laws, policies, strategies and actions aimed preventing and responding to the effects of climate change. The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (2014) highlight the need for States to address climate impacts on small-scale fisheries.

32. International policy tools and platforms promoting agroecological knowledge and skills as part of the global response to climate change include the 10 Elements of Agroecology, developed by FAO,[62] and the recommendations for just and sustainable food system transformations based on 13 agroecological principles (2019) developed by the High-level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. The Committee on World Food Security's policy recommendations on agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition (2021) provide guidance for its membership and other stakeholders on strengthening agroecological approaches, in order to reduce the climate change impacts of food systems.

33. The United Nations Food Systems Summit, which was held in 2021, set the stage for global food systems transformation to achieve the Sustainable Development Goals by 2030. To achieve sustainable food systems by 2030, the United Nations Food Systems Coordination Hub has been established to act as a catalyst and connector inside the United Nations system on the contribution of food systems transformation to the 2030 Agenda for Sustainable Development. As a follow-up to this process, countries will be invited to review their commitments to action made at the Summit during the United Nations Food Systems Stocktaking Moment in 2023. That event will showcase several examples of how the Hub supports the right to food as a framework informing national pathways. In addition, the Hub encourages countries to adopt a rights-based approach to food systems transformation, supporting the implementation of a long-term response to multilateral challenges.

34. In order to achieve all the Sustainable Development Goals, it is necessary to implement effective climate action under Goal 13. The 2030 Agenda emphasizes, within Goal 12, the importance of ensuring sustainable consumption and production patterns. The targets set therein include halving per capita global food waste at the retail and consumer levels and reducing food loss along production and supply chains by 2030 (target 12.3). Goal 2 sets out to ensure access by all people to safe, nutritious and sufficient food by 2030, while implementing resilient agricultural practices that increase productivity and production (targets 2.1 and 2.4). In the context of Goal 2 there is special focus on the poor and persons in vulnerable situations, including infants, adolescent girls, pregnant and lactating women, and older persons (target 2.2).

[62] *The 10 Elements of Agroecology: Guiding the Transition to Sustainable Food and Agricultural Systems* (Rome, 2018).

B. Human rights-based adaptation and mitigation strategies

35. The Intergovernmental Panel on Climate Change has found that climate action implemented with a rights-based approach leads to more sustainable outcomes.[63] Addressing the climate crisis and its impacts on human rights, including the right to food, requires States and businesses to take account of human rights in food systems. To promote and protect the right to food, States are obliged to mitigate and adapt to climate change, including through international cooperation.[64] Food systems transformation can present a pathway to tackle the climate crisis. Reducing emissions from food systems and minimizing their negative environmental impacts can strengthen their resilience to climate change and thereby safeguard the right to food.[65] That includes maximizing the quantity, quality, diversity and nutritional value of food and enabling more equitable access to nutritious food.[66] Food systems can reduce emissions by implementing a combination of supply-side and demand-side mitigation actions.[67]

36. Supply-side mitigation includes efficient production, storage, transport, processing and distribution, including the reduction of crop and livestock emissions. For cropping systems, mitigation can be done through soil carbon sequestration and reductions in emissions from fertilizers and paddy rice, and the bridging of yield gaps. In livestock systems, mitigation options include improved grazing land management, with higher net primary production and soil carbon stocks, higher quality feed and better manure management.[68] Demand-side mitigation includes dietary changes towards sustainable and nutritionally balanced diets, more diverse local varieties of production and the reduction of food loss and waste.[69] Dietary changes that contain more plant-based foods will reduce the demand for additional land needed for meat production, thereby reducing food system vulnerabilities and enhancing ecosystem provisions for food security, which will also affect the supply side.[70] Increased energy and water efficiency and better waste recovery are key for food system mitigation.

37. To create human rights-enhancing economies in which people can enjoy their human rights, including the right to food, businesses need to assess their practices, through the supply chain, in terms of their impact on the right to food and States must prioritize the fulfilment of human rights in their budgets and revenue generation. That includes dedicating sufficient resources to avert risks and reduce the adverse impacts of climate change on the right to food. To enable the transition to sustainable food systems, Governments should take their responsibility relative to business practices seriously and prioritize healthier, more diverse and balanced diets. Fiscal policies, including taxation on food according to its greenhouse gas emissions, and subsidies that promote healthy and sustainable food rather than harmful agricultural approaches can also contribute to food systems transformation. Those measures should be applied jointly with targeted investments and regulations.[71] Of the $540 billion that are currently given as agricultural subsidies, 87 per cent is either distorting prices or harmful for biodiversity, climate and human health.[72] Cities and local governments should recognize their human rights obligations and facilitate food system transition, for example by increasing the availability of organic and local products and reducing food loss

[63] Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report*, "Summary for Policymakers", p. 33.

[64] Committee on Economic, Social and Cultural Rights, general comment No. 26 (2022).

[65] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, p. 69.

[66] Ibid., p. 68.

[67] UNEP, *Emissions Gap Report 2022*; and Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, pp. 439 and 440.

[68] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 440.

[69] UNEP, *Emissions Gap Report 2022*, pp. 54 and 55.

[70] Ibid., p. 55; and Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 439.

[71] UNEP, *Emissions Gap Report 2022*, pp. 60 and 61.

[72] FAO, United Nations Development Programme and UNEP, *A Multi-Billion-Dollar Opportunity: Repurposing Agricultural Support to Transform Food Systems* (Rome, 2021).

and waste.[73] Governments at all levels should increase efforts to ensure more just and equitable access to food.

38. Insecure land tenure rights and unequal access to resources and territories are among the root causes of food insecurity for small-scale farmers and peasants, notably women, Indigenous Peoples, local communities and those who practice nomadic, transhumance and hunter-gatherer lifestyles and depend on accessing traditional forest habitats and using land seasonally for grazing.[74] For those people – many of whom are at the forefront of experiencing climate change impacts – land is a source of income, food and identity.[75] Better protecting the right to land, including for women, who are often discriminated against in relation to accessing, using and controlling land, will contribute to safeguarding their right to food and reducing greenhouse gas emissions.

39. According to FAO, 1 per cent of the world's farms operate more than 70 per cent of all farmland. While those farms are integrated into the corporate food system, the more than 80 per cent of farms composed of smallholdings of less than 2 hectares[76] are generally excluded from global food chains. The majority of global agricultural subsidies has been given to commodities such as beef, milk and rice, which are responsible for high greenhouse gas emissions.[77] It is imperative to properly integrate the human rights costs of large farming operations, which may include avoiding regulatory constraints that negatively affect the ability of peasants and small-scale farmers to access markets and ensuring women's equal participation in agricultural production throughout the supply chain.[78]

40. For trade systems to reduce inequalities, contribute to food security and mitigate climate change, trade agreements must respect pre-existing human rights law and environmental safeguards throughout food supply chains and ensure that the real costs of food production and consumption – including their climate impacts – are reflected therein.[79] Small-scale farmers and peasants should be protected in accordance with human rights law by social security schemes and adequate insurance – especially in areas subject to climate-related hazards – and have access to markets, groundwater and irrigation, credit and finance.[80] As 80 per cent of the world's population is fed in part by imported agricultural products today, trade policies must fully integrate the right to food in their institutional frameworks. Measures could include, among others, removing the asymmetric use of trade-distorting subsidies, such as export restrictions on essential foodstuffs for food-deficit countries and on food aid to countries in emergency situations.[81]

41. Agroecology – defined by FAO as "a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems" – is an essential approach to adapting to climate change and fulfilling the right to food.[82] Agroecological practices encompass production techniques derived from local experience and expertise, rely on traditional knowledge and draw upon immediately available resources.[83] An agroecological approach preserves biodiversity, utilizes fewer synthetic fertilizers, pesticides and other

[73] UNEP, *Emissions Gap Report 2022*, pp. 60 and 61.
[74] A/HRC/25/56/Add.1, para. 80; and Submission by International Land Coalition.
[75] A/HRC/51/28, para. 60.
[76] FAO, "Small family farmers produce a third of the world's food", 23 April 2021.
[77] FAO, United Nations Development Programme and UNEP, *A Multi-Billion-Dollar Opportunity*, p. 13.
[78] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, pp. 67–69.
[79] Ibid.; and submission by the World Trade Organization. See also A/75/219; and World Trade Organization, *World Trade Report 2022: Climate Change and International Trade* (Geneva, 2022).
[80] Independent Group of Scientists appointed by the Secretary-General, *Global Sustainable Development Report 2019*, pp. 67–69.
[81] David Bicchetti, Carlos Razo and Miho Shirotori, "Trade and food security: when an agreement delayed becomes a human right denied", United Nations Conference on Trade and Development, 7 June 2021.
[82] FAO, "Agroecology knowledge hub". See also A/76/237, A/HRC/16/49, A/HRC/46/33 and A/HRC/49/43.
[83] A/77/177, para. 61.

polluting agents, and produces livestock and crops that are more nutritious and resilient to environmental shocks caused by climate change.[84] Producer-based agroecology contributes to strengthening social cohesion by reducing social inequalities, promoting local governance and sovereignty and empowering local communities.[85]

42. A conversion from industrialized to agroecological food systems would require investments in traditional and Indigenous knowledge and scientific practices dedicated to agroecology.[86] It would require a just transition for workers, strong and secure land rights, genuine agrarian reform and effective regulation of agribusinesses.[87] Industrial agriculture and export-oriented food policies are among the driving forces of climate change and related harms and costs.[88] The adverse impacts of business on both nature and human health – deriving from unsustainable business practices – must be better accounted for.

43. According to the Intergovernmental Panel on Climate Change, approaches that work with natural processes, such as agroecology, ecosystem-based fisheries and aquaculture management, support food security, nutrition and sustainability and can strengthen resilience to climate change.[89] Small-scale farmers, fishers, peasants and pastoralists are highly vulnerable to climate change and face tremendous challenges regarding the abandonment of traditional farming practices, erosion of on-farm genetic diversity and loss of local knowledge. Small-scale farmers possess specialized knowledge on farming and resource management and help preserve genetic biodiversity that can be included in medicines and cures, as well as responses to emerging threats, including those caused by climate change.[90]

44. Indigenous Peoples and environmental defenders across the world risk their lives to protect the environment, including against climate impacts. In 2021, the killings of 200 land and environmental defenders were documented, of whom 50 were small-scale farmers.[91] Many peasants and Indigenous Peoples play a key role in conserving and restoring natural ecosystems, managing natural resources and safeguarding biodiversity. Their effective participation in food- and climate-related decision-making is imperative for reducing climate impacts, safeguarding the right to food and reducing emissions from food systems.

45. Many small-scale fishers are self-employed and catch fish for direct consumption within their households or communities. Women are important participants in the sector, in particular in post-harvest and processing activities.[92] Small-scale fisheries are integral to food security and support the livelihoods of riparian communities by providing food, nutrition and employment to local economies.[93]

46. The creation of conservation areas – both land and marine protected areas – and industrial aquaculture can negatively affect the rights of Indigenous Peoples, including their right to food, if implemented without their free, prior and informed consent.[94] Climate mitigation projects in the form of large-scale renewable energy projects and carbon sequestration through reforestation or forest protection measures may also negatively affect the livelihoods and food security of peasants, rural communities, pastoralists, fishers and

[84] David R. Boyd and Stephanie Keene, "Human rights-based approaches to conserving biodiversity: equitable, effective and imperative", Policy Brief No. 1 (OHCHR, 2021), p. 12.
[85] A/HRC/46/33, para. 59.
[86] A/77/177, para. 65.
[87] Ibid., paras. 65–78.
[88] A/76/237, para. 11.
[89] Intergovernmental Panel on Climate Change, *Climate Change and Land: An IPCC Special Report*, p. 21; and Intergovernmental Panel on Climate Change, *Climate Change 2022*, p. 90.
[90] Chelsea Smith, David Elliott and Susan H. Bragdon, "Realizing the right to food in an era of climate change: the importance of small-scale farmers" (Geneva, Quaker United Nations Office, 2015), p. 15.
[91] Global Witness, "Decade of defiance: ten years of reporting land and environmental activism worldwide" (2022), pp. 10 and 11.
[92] FAO, "Voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication" (Rome, 2015), p. v.
[93] Ibid.; and A/HRC/40/56, para. 8.
[94] A/HRC/36/46, para. 14; A/HRC/40/56, para. 46; and A/HRC/50/57, para. 9. See also Boyd and Keene, "Human rights-based approaches to conserving biodiversity".

Indigenous Peoples, including by leading to land grabbing.[95] The production and use of biofuels as an alternative to fossil fuels to help mitigate emissions negatively affects the availability of food as increasing amounts of land are shifted from food to biofuel and biomass production.[96] International climate finance should include funding for agroecology and other approaches that work with natural processes, such as ecosystem-based fisheries and aquaculture management, and integrate human rights, including cultural rights, and traditional knowledge and practices related to food.

C. Good practices

47. In consultations for the present report, stakeholders shared good practices to prevent and adapt to the adverse impacts of climate change on the full and effective realization of the right to food, as well as to mitigate the climate change impacts of food systems. Mauritius provides financial schemes to cooperative societies to boost local food production.[97] Mexico promotes agroecology and the collective custody of the biocultural heritage as part of its climate change adaptation.[98] In the Philippines, the Adaptation and Mitigation Initiative in Agriculture programme seeks to enable climate risk-prone agrifisheries communities to pursue sustainable livelihoods while effectively managing climate impacts.[99]

48. In 2021, WFP helped to provide climate-risk insurance against the impacts of catastrophic drought, through its African Risk Capacity Replica Initiative, to 1.5 million people in Burkina Faso, the Gambia, Mali, Mauritania and Zimbabwe.[100] In Colombia, OHCHR is developing and piloting a project that applies a human rights-based methodology in costing the right to adequate food.

49. Measures for adapting food production systems and ensuring that food security is prioritized were included by 86 per cent of the countries that incorporated climate change adaptation into their nationally determined contributions.[101] The impacts of climate change on food security and poverty eradication are among the elements guiding the implementation of the nationally determined contribution of Colombia.[102] Agriculture and food security were identified as priorities by 27 of the 39 countries that submitted a national adaptation plan under the United Nations Framework Convention on Climate Change.[103] The National Action Plan for Adaptation and Mitigation to Climate Change of Argentina includes the sustainable management of food systems and forests.[104]

V. Conclusions and recommendations

A. Conclusions

50. **Transitioning to sustainable food systems, including agroecological approaches, presents a pathway to simultaneously address the climate crisis and safeguard the right to food.**

51. **Climate change negatively affects the realization of the right to food, disproportionately affecting those who have contributed the least to its occurrence. Rural populations, peasants, small-scale farmers and fishers, pastoralists, Indigenous**

[95] Committee on Economic, Social and Cultural Rights, general comment No. 26 (2022), paras. 2 and 56.
[96] Sustainable Development Solutions Network and Fondazione Eni Enrico Mattei, *Roadmap to 2050: The Land-Water-Energy Nexus of Biofuels* (New York, 2021), pp. 15 and 66.
[97] Submission by Mauritius.
[98] Submission by Mexico.
[99] Submission by the Commission on Human Rights of the Philippines.
[100] Submission by WFP.
[101] Submission by the secretariat of the United Nations Framework Convention on Climate Change.
[102] Submission by Colombia.
[103] Submission by the secretariat of the United Nations Framework Convention on Climate Change.
[104] Submission by the Office of the Ombudsman (Argentina).

Peoples, local communities, low-income households, women, children and persons with disabilities in developing countries are among those most at risk of suffering from climate-induced food insecurity and hunger. The urgent reduction of greenhouse gas emissions is key to limiting global warming to 1.5°C and climate change-related impacts on the full realization of the right to food.

52. **Industrial food systems are significant greenhouse gas emitters. A food system transition towards agroecology and other approaches that work with natural processes, such as ecosystem-based fisheries and aquaculture management, can reduce emissions, enhance food security and build climate resilience. That requires a transformation of trade regimes, the end of harmful agricultural subsidies and the promotion of healthy diets and locally grown food varieties. Reducing food loss and waste is also critical to create low-impact, healthy and resilient food systems. Increased accountability of businesses regarding their contribution to greenhouse gas emissions through their activities is a key component of that transition.**

53. **Climate change adaptation and mitigation policies must be accompanied by measures addressing the root causes of all forms of hunger and malnutrition and protecting the rights of those most at risk. Protecting the rights of women, peasants, small-scale farmers and fishers, pastoralists, Indigenous Peoples and local communities to own, access and use land and resources and recognizing their role in safeguarding the right to food are key to effective climate action. For climate action to effectively contribute to upholding the right to food, it must place rights holders at the centre of all action, ensuring their effective contribution to its planning, development, implementation, monitoring and evaluation.**

B. Recommendations

54. **The Secretary-General makes the following recommendations to States and other stakeholders to address the impacts of climate change on the full realization of the right to food and the climate change impacts of food systems.**

55. **The Secretary-General recommends that States should:**

(a) **Respect, protect and fulfil the right to food. In the context of climate action, those legal obligations require measures by States to ensure that business enterprises or individuals do not deprive people of their access to food. Strengthened social protection that leaves no one behind with respect to the right to food and respect for all human rights are proven ways to advance climate-resilient development;**

(b) **Take immediate, rights-based action to ensure that access to sufficient, safe, adequate and nutritious food is ensured for all people, everywhere, including by reducing climate impacts on food systems. States should take urgent action to reduce the climate impacts of food systems, including by transitioning to food systems that operate on the basis of natural processes, such as agroecology and ecosystem-based fisheries, and aquaculture management;**

(c) **End harmful agricultural subsidies that benefit large agribusinesses, phase out trade restrictions, particularly tariff barriers, and ensure equitable access to markets, including for peasants, small-scale farmers and fishers;**

(d) **Reassess land use, which often significantly contributes to the emission of greenhouse gases, in the national context. When possible, measures to reduce greenhouse gas emissions from land use should be considered, including by promoting deforestation-free value chains, leveraging the circular bioeconomy and taking advantage of natural synergies in food production methods (for instance, integrating animal husbandry and crop production) to restore degraded ecosystems. Measures to promote a shift in consumption towards more balanced diets, in national contexts, and enabling more equitable access to animal-source food between and within countries may also support sustainable land and natural resource management while promoting the right to adequate food;**

(e) **Ensure the rights of rural populations, notably women, peasants, small-scale farmers and fishers, pastoralists and Indigenous Peoples, including to access, own, use and manage land, territories and resources;**

(f) **Protect land and environmental human rights defenders – including Indigenous Peoples, local communities and peasants – prevent killings, attacks against and criminalization of land and environmental human rights defenders, and ensure accountability and access to justice and full reparations when their rights are violated;**

(g) **Ensure that climate mitigation and adaptation projects do not adversely affect human rights, including the right to food. The key role of rural populations, peasants, small-scale farmers and fishers, pastoralists, Indigenous Peoples and local communities in adapting to and mitigating climate change should be recognized and their meaningful and effective participation in climate action should be ensured;**

(h) **Increase climate financing for adaptation measures and those to address loss and damage – and therein for food systems transformation, including in the areas of agriculture, forestry, land use and sustainable use of ocean resources. International climate financing should be made accessible to local and national organizations and benefit the people who are most adversely affected by climate change and food insecurity;**

(i) **Participate in the United Nations Food Systems Stocktaking Moment, during which they should affirm their strengthened commitments to further the resilience of food systems, including through actions to combat climate change, biodiversity loss and pollution, as well as to promote social equity.**

56. **States and other stakeholders should include a human rights-based approach when assessing, developing and implementing measures that respond to scientific advances in understanding climate change and its impact, including on the right to food. States should consider requesting the support of OHCHR in the development of methodologies to assess the climate-related impacts of food production and the implications thereof on the realization of the right to food.**

57. **Businesses, including agribusinesses, should respect human rights, which entails avoiding infringing on the human rights of others and addressing adverse human rights impacts with which they are involved. In particular, they should limit their greenhouse gas emissions, restore degraded soil and watersheds and stop clearing new land for production. That requires conducting environmental impact assessments and comprehensive due diligence reviews for new projects.**

58. **The parties to the United Nations Framework Convention on Climate Change should consider food systems transformation as an integral part of climate mitigation and adaptation when formulating the outcomes and decisions of the sessions of the Conference of the Parties.**

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Human rights bodies and mechanisms

Impact of new technologies intended for climate protection on the enjoyment of human rights

Report of the Human Rights Council Advisory Committee*, **

* Agreement was reached to publish the present report after the standard publication date owing to circumstances beyond the submitter's control.

** The annex is being circulated as received, in the language of submission only.

I. Background

1. In its resolution 48/14, the Human Rights Council requested its Advisory Committee to conduct a study and to prepare a report on the impact of new technologies for climate protection on the enjoyment of human rights, to be submitted at its fifty-fourth session. At its twenty-seventh session, the Advisory Committee established a drafting group, currently composed of Buhm-Suk Baek, Rabah Boudache, Milena Costas Trascasas (Chair), Ajai Malhotra, Javier Palummo, Vasilka Sancin, Patrycja Sasnal (Rapporteur), Vassilis Tzevelekos and Frans Viljoen.

2. In the elaboration of the report, the Committee worked in cooperation with the Special Rapporteur on the promotion and protection of human rights in the context of climate change. The study is based on scientific knowledge publicly available, semi-structured interviews with stakeholders and rights holders, including representatives of Indigenous Peoples, and inputs from non-governmental organizations, States, public institutions, academics and business.

3. The term "new technologies intended for climate protection" (NTCPs) reflects more accurately the current debate on the issue. Attributing at this stage a "protective" function to speculative technologies may be misleading as it presupposes evidence-based knowledge that they are all beneficial or desirable. It may give a false impression that there is scientific certainty about the efficacy of these technologies, which is not currently the case.[1] NTCPs are examples of "geoengineering", a larger and widely used term that refers to a broad set of methods and technologies operating on a large scale that aim to deliberately alter the climate system in order to alleviate the impacts of climate change.[2]

4. Climate change is one of the biggest threats that humanity faces, requiring a global solution. States have human rights obligations to prevent, to the greatest extent possible, the current and future negative impacts of climate. In successive reports, the Intergovernmental Panel on Climate Change has made it clear that phasing out fossil fuels is imperative to mitigate climate change and minimize its future negative human rights impact on people. The Panel emphasizes that rights-based approaches, by employing readily available renewable energy technologies and conserving and restoring the earth's natural systems, which serve as carbon sinks, offer a sustainable pathway to keep climate change below 1.5°C. On the other hand, climate engineering solutions pose risks, including moral hazard and delayed action, and are not presently feasible in terms of their accessibility and scalability.

5. The General Assembly and the Human Rights Council have, in several resolutions on the interrelationship between environmental protection and human rights,[3] stressed that climate change action needs to happen in accordance with States' human rights obligations and commitments. Otherwise, climate policies and measures will lack coherency and legitimacy, and would not be sustainable.[4] Moreover, the principles of participation and information, transparency, accountability, (intergenerational) equity and non-discrimination need to guide global efforts to mitigate and adapt to climate change.

II. Introduction

6. So far, new and emerging technologies intended for climate protection have not been extensively examined from the human rights viewpoint. Human rights law contains,

[1] Speculative technologies should not be presented as measures taken in conformity with article 3 (4) of the United Nations Framework Convention on Climate Change, which requests States parties to adopt policies and measures to protect the climate system against human-induced change.

[2] Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report – Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva, Switzerland, 2014), p. 89.

[3] See www.ohchr.org/en/climate-change/human-rights-council-resolutions-human-rights-and-climate-change. The first time the Council expressed its concern, in a resolution, that climate change posed an immediate and far-reaching threat to people and communities around the world was in its resolution 7/23.

[4] Human Rights Council resolution 10/4.

however, norms and principles that apply to any new technological development or application, particularly when it has the potential to produce large and long-lasting impacts on the enjoyment of human rights and on the environment. The present report is intended to provide States and other interested stakeholders with useful information to assess such impacts and prevent human rights harms. The Advisory Committee seeks to clarify applicable human rights obligations to ensure that climate change responses and measures are coherent and in accordance with the human rights framework. A human rights-based approach helps to ensure that those policies are not regressive in human rights terms and can effectively improve the lives of all people, including through the realization of the right to a clean, healthy and sustainable environment.[5]

7. NTCPs are defined here as technologies developed in the last two decades that fulfil the following characteristics: (a) as regards purpose and intent, they are exclusively aimed at abating the adverse effects of climate change and do not serve for energy or goods production; and (b) in terms of scale, they have the hypothetical potential to alter the earth's planetary climate if implemented at scale. In the report, the Advisory Committee primarily assesses the human rights impacts of two general types of geoengineering: carbon dioxide removal and solar radiation modification. Carbon dioxide removal methods that meet the definition of NTCPs above are: direct air capture, enhanced weathering and ocean fertilization. The definition should not be considered binding as each single technology generates different risks to human rights and should be assessed on a case-by-case basis. Potential new technologies beyond carbon dioxide removal, solar radiation modification and other geoengineering approaches exist to tackle climate change if a broader definition of "technology" is used that does not exclude system change approaches that aim at a zero waste circular economy or agroecological transformation.

8. However, industrial or agricultural production that uses carbon capture and storage or direct air capture with enhanced oil recovery cannot be considered as protecting the climate by definition, since they are not exclusively deployed to produce negative emissions. Despite their potential for being transformative, in the present study, the Advisory Committee does not assess nature-based carbon dioxide removal, including agroecological techniques and circular economy approaches, which are not considered new. Widely used bioenergy with carbon capture and storage, a technology posing grave risks to human rights, also falls outside the definition of NTCPs because it is not novel or an energy production method.[6] However, the findings of the present report apply to bioenergy with carbon capture and storage, as well.

9. If greenhouse gas emissions are not cut and some of the worst future scenarios not avoided, interventionist solar radiation modification technologies could, by increasing the earth's reflectivity, lower the global average temperature. However, solar radiation modification technologies do not act on the core problem of greenhouse gas emissions and, as such, are fundamentally different from carbon dioxide removal. The modes of operation and impact on human rights of NTCPs are elucidated in the annex to the present report.

10. At the current stage of their development, NTCPs cannot be considered viable mitigation or adaptation measures.[7] Most geoengineering technologies remain unproven, unavailable and unfeasible at scale. Since the hypothetical benefits of such technologies are still to be practically and scientifically proven, they are considered speculative. NTCPs, as is the case of all other geoengineering technologies with the possible exception of some nature-based solutions, currently do not lower emissions, as they all increase carbon dioxide in the system if the overall emissions produced by constructing and operating the relevant facilities are taken into account. Uncertainty and potential harm in relation to solar radiation modification are still much greater than for carbon dioxide removal.

[5] General Assembly resolution 76/300.

[6] For more information, see Philipp Günther and Felix Ekardt, "Human rights and large-scale carbon dioxide removal: potential limits to BECCS and DACCS deployment", *Land*, vol. 11 (2022).

[7] There is, for example, too much uncertainty surrounding the potential of solar radiation modification techniques to allow adjustments to expected climate in order to moderate harm or exploit beneficial opportunities. See definition of "adaptation": www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-II.pdf.

11. States parties to the Paris Agreement agreed to hold the increase in the global average temperature, caused by greenhouse gas emissions, to well below 2ºC above pre-industrial levels and pursue efforts to limit it to 1.5°C. There is an increasing consensus, formed on the basis of the best available science, that the higher ambition target of 1.5°C must be reached to prevent the worst impacts of climate change. Time is key in achieving it, because there is a rapidly closing window of opportunity to secure a liveable and sustainable future for all, as elucidated by the Intergovernmental Panel on Climate Change in its sixth assessment report. Reducing greenhouse gas emissions is the only scientifically certain way of coming close to achieving "real zero emissions". The use of that term is advocated by several civil society organizations because technologies to remove carbon dioxide from the planetary system are currently not only insufficiently developed, inefficient and financially unsustainable, but may also be used as an excuse not to cut emissions.[8]

12. One of the gravest risks that geoengineering technologies pose is that they act as a deterrent to cutting emissions (sometimes called "moral hazard risk"), which makes disastrous future scenarios more probable. A number of civil society organizations, Indigenous Peoples and researchers underscore that counting on the technological removal of carbon dioxide slows down reforms to cut emissions, including investing in renewables and the circular economy, and diverts public attention away from the primary goal, giving the false promise of a hypothetical future solution to a problem that requires immediate action. They recall that real, fundamental, long-term solutions to climate change are already available, but a major obstacle to their implementation is the lack of influence of frontline communities, small-scale food producers, Indigenous Peoples and others compared with that of polluting industries.

13. Carbon dioxide removal has gained traction as a ploy to meet nationally determined contributions under the Paris Agreement, while solar radiation modification is often presented as a "plan B" to remedy the critical situation that the failure to reduce greenhouse gas emissions is creating and as the only means to address the "overshoot" (scenarios in which the temperature increases by more than 1.5°C or even 2ºC). However, in the absence of scientific certainty and an appropriate international governance framework to deter and sanction inappropriate action, relying on pre-emptive and emergency rhetoric will most probably lead to counterproductive results.[9]

14. In that context, proponents of solar radiation modification call for a regulatory framework to facilitate the potential use of NTCPs.[10] Opponents advocate for a moratorium or even a total ban until the environmental and human rights risks posed by such technologies are understood.[11] Regardless of the stance, as science stands today, the deployment of solar radiation modification technologies poses, in particular, cascading global risks to people and the environment, the distribution of which would potentially be global.

[8] Real Zero Europe statement, available from www.realsolutions-not-netzero.org/real-zero-europe.

[9] One of the first attempts at governance is the proposed set of guiding principles known as the Oxford Principles. However, that proposal and others since have remained theoretical so far. See www.geoengineering.ox.ac.uk/www.geoengineering.ox.ac.uk/oxford-principles/principles/index.html.

[10] A private initiative, the Climate Overshoot Commission, has adopted such a stance. The United Nations Environment Programme proposed a regulatory framework in a report, "One atmosphere: an independent expert review on solar radiation modification research and deployment" (Nairobi, 2023). See also Tyler Felgenhauer and others, *Solar Radiation Modification: A Risk-Risk Analysis* (New York, Carnegie Climate Governance Initiative, 2022). For examples in scientific literature, see Gernot Wagner, *Geoengineering: The Gamble* (Cambridge, United Kingdom of Great Britain and Northern Ireland, Polity Press, 2021).

[11] See an open letter of more than 60 climate scientists and governance scholars at www.solargeoeng.org/non-use-agreement/open-letter. See also Frank Biermann and others, "Solar geoengineering: the case for an international non-use agreement", *WIREs Climate Change*, vol. 13, No. 3 (May/June 2022), p. 3; Nils Markusson, "'In case of emergency press here': framing geoengineering as a response to dangerous climate change", *WIREs Climate Change*, vol. 5, No. 2 (March/April 2014), pp. 281–290; and https://www.ohchr.org/sites/default/files/2022-06/Annex-SubmissionCIEL-ETC-HBF-TWN-Geoengineering-Opinion.pdf.

III. Risks and side effects

15. The earth's climate is characterized by intense interconnectedness, the nature of which is the subject of ongoing studies. The Intergovernmental Panel on Climate Change finds that risks can arise from certain responses that are intended to reduce climate change – e.g. the adverse side effects of some emission reduction and carbon dioxide removal measures. Implementing solar radiation modification techniques, in particular, introduces a wide range of new risks to people and ecosystems that are not well understood.[12]

A. Physical risks

16. Implementing NTCPs is resource intensive. The physical risks posed by carbon dioxide removal are listed in table 1 in the annex to the present report, including extensive water and energy consumption, adverse impacts on marine biology and the food web, health risks, ecological impacts of mineral extraction and transport, waste pollution and the chemical footprint. The types of risks, however, are interlinked and mere compartmentalization does not tell the whole story of the potential interlinkages and cascades, which hold true for all the risks described herein. For example, technological and environmental risks for direct air capture and enhanced weathering, among other types of NTCPs, could also incite negative perceptions, such as technological domination or new forms of colonialism.[13]

17. As regards solar radiation modification, the possible negative physical effects include unpredictable changes in hydrological patterns, harm to the ozone layer, global dimming, reduced photosynthesis, changes in crop growth resulting in decreased food production and access, as well as further cascading risks in social and political systems and relations.[14]

B. Social, societal and socioeconomic risks

18. NTCPs cause social risks, including for future generations. They generally require land or/and have an impact on land and other natural resources and biodiversity. Exposure to the effects on land is greater for frontline communities, including Indigenous Peoples, local communities, peasants, fisherfolk, rural women and other persons working in rural areas. Solar radiation modification risks disrupting local and regional weather patterns and creating greater imbalance in the climate, with potentially catastrophic effects, including on water availability and food production. Several technologies could have transboundary side effects in neighbouring countries or across the world. The social consequences of such a modification would likely be uneven geographically, for example through hydrological cycle disruption, which would potentially be harsher for poorer States and the global South, depending on where certain technologies are used (see annex below). That may in turn strengthen entrenched inequalities and deepen climate injustice.

19. According to the Intergovernmental Panel on Climate Change, many NTCPs could have adverse socioeconomic impacts, especially if implemented on a large scale and where land tenure is insecure. The Panel warns against dependence on carbon dioxide removal as it constrains sustainable development.[15] It emphasizes that societal choices and actions

[12] Intergovernmental Panel on Climate Change, *Synthesis Report of the IPCC Sixth Assessment Report: Longer Report*, p. 37.

[13] Benjamin K. Sovacool, Chad M. Baum and Sean Low, "Risk-risk governance in a low-carbon future: exploring institutional, technological, and behavioral tradeoffs in climate geoengineering pathways", *Risk Analysis*, vol. 43, No. 4 (April 2023), pp. 838–859.

[14] Alan Robock, "20 reasons why geoengineering may be a bad idea", *Bulletin of the Atomic Scientists*, vol. 64, No. 2 (May 2008), pp. 14–18.

[15] The Panel states that modelled pathways that assume using resources more efficiently or shift global development towards sustainability include fewer challenges, such as dependence on carbon dioxide removal and pressure on land and biodiversity, and have the most pronounced synergies with respect to sustainable development (Intergovernmental Panel on Climate Change, *Synthesis Report of the IPCC Sixth Assessment Report: Longer Report*, p. 54).

implemented in the present decade will determine the extent to which medium- and long-term pathways will deliver higher or lower climate resilient development. In that light, NTCPs weaken the time pressure to take appropriate actions[16] and pose overarching risks to equity, inclusion and just transitions, which enable deeper societal ambitions for accelerated mitigation and climate action more broadly.[17]

20. Surveys show that people worldwide are not familiar with carbon dioxide removal nor solar radiation modification. That may result in increased distrust should a technology be used on a larger scale, fuelling conspiracy theories in relation to NTCPs. Given the popularity of disinformation campaigns and their usage as tools of internal and international political conflict, climate technologies may become their subject, in which case it may be increasingly difficult to conduct an informed public debate about these methods. That would add to the growing distrust of technology and science.

C. Vested interests

21. There could be vested interests (personal or group stakes) in promoting NTCPs. When vested interests are combined with a relatively small pool of scientists researching the climatic (physico-chemical) impact of these technologies, there is a risk of group think. According to several interviewees, there is a tendency among these groups to exaggerate the certainties of the technologies in question, while underplaying the uncertainties. Moreover, discussions about the impacts of technologies are mostly confined to physicists, climatologists and other natural scientists with very limited involvement of social scientists, political scientists, economists and specialists in non-natural sciences. Most academic papers are focused on nature-based carbon dioxide removal methods and very few are published in social sciences or humanities journals. The scientific community working on carbon dioxide removal excludes social scientists at the research, development and implementation stages. Techno-fixes, such as climate engineering, assume solutions without addressing the root causes of climate change and are often supported by proponents of polluting industries.

D. Deterrence to cutting emissions and greenwashing

22. The deterrence risk of NTCPs, as described in paragraph 12 above, is multifaceted. The risk can be exacerbated by States, which, although they are top emitters, can afford investment in such technologies and hence can claim that their climate and energy goals are in accordance with the Paris Agreement, and by business entities, which are interested in continued emissions but can buy carbon credits by investing in NTCPs. Deterrence to cut emissions may be amplified in the near future by a public debate increasingly focused on the topic of carbon removal rather than carbon cuts, and research path dependencies.[18]

23. Fossil fuel extraction and production companies can use the prospect of carbon capture and storage to justify continued fossil fuel production. The business model of NTCPs raises questions about the lack of transparency concerning investors, who are often big emitters, and their intentions. Investment in such technologies may be used to improve an otherwise negative public image. However, ill-intentions should not be automatically assumed, as some companies claim that they began carbon dioxide removal research and/or investment because of climate concerns and deficiencies in the current system of carbon credits.

24. Another range of risks pertains to carbon markets and carbon credits, which are used to offset emissions. The portion of carbon offsets from artificial carbon dioxide removal technologies is growing. Overall, demand for credits is now greater than the supply. The offset market is unregulated, many of the credits sold do not meet efficiency goals or, simply,

[16] Ibid., p. 56.
[17] Ibid., p. 66.
[18] "Research on NETs, like research on SRM, may create path-dependencies, locking in a requirement for NETs to meet climate goals" (Jan C. Minx and others, "Negative emissions: part 1 – research landscape and synthesis", *Environmental Research Letters*, vol. 13, No. 6 (June 2018), p. 20).

do not contribute to emissions reductions at all (see annex below). The problems, revealed in studies on the most common rainforest protection credits, may reoccur in carbon dioxide removal credits if methodologies, certification and oversight are not objectively and rigidly administered and regulated and conflicts of interest avoided. If the situation persists, it will not only work against emission cuts but expand opportunities for greenwashing, misinformation and social distrust of these technologies. Currently, major emitters already put offsetting at the heart of their climate strategies rather than emissions reductions.

E. Other ethical risks

25. NTCPs, which are unproven on a large scale, may create climate-related harms in the future if these technologies prove not as efficient as assumed by some. If the gamble fails, present and future generations and the poorest within them will bear the cost of that failure. Another ethical risk emanates from hubris. Large-scale NTCPs deployment may greatly overestimate the ability of humans to understand complex natural systems and manage carbon cycle flows, thereby risking doing more harm than good. If climate change is a socially created problem, it may not be solvable technologically.

26. NTCPs may promote systemic close-mindedness and avert structural change. Inequalities keep increasing as long as the profit-driven business model dominates the global economy. Structural inequalities are also baked into the economic modelling that underpins climate mitigation scenarios, thus limiting the number of imagined futures; all such scenarios assume continued injustices. Failure to design and implement effective and equitable mitigation plans that will rapidly achieve emission reduction targets is inconsistent with the obligation of States to protect human rights from grave and foreseeable risks.[19]

F. Political and security risks

27. Climate change per se, apart from the principle of common but differentiated responsibilities and respective capacities, has for the most part not been the subject of international political conflict. Currently, although emissions are known to be harmful, there is no intended harm.[20] If countries begin to make large-scale investments in NTCPs or even to transgress boundaries by carrying out unilateral action, the situation could change. Solar radiation modification projects would be intentional and therefore could be seen as deliberate and politically hostile acts.

28. Hostile use of weather-modification technologies is prohibited under international law. Still, even “peaceful” use of such technologies could pose immense risks and result in negative human rights impacts. If climate becomes a tool a State can use against another State, such an action could radically change climate politics, making it a security issue. The use of solar radiation modification could bring about an unknown political and social order. Proponents of solar radiation modification recommend that it be subjected to well-structured global governance, although an international agreement on the use of such a controversial and uncertain technique borders on the impossible if it is not to ban it completely.

IV. Applicable normative framework

29. The General Assembly recently affirmed that the full implementation of multilateral environmental agreements under the principles of international environmental law was

[19] Amicus curiae brief submitted to the European Court of Human Rights by the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment and the Independent Expert on the enjoyment of all human rights by older persons, available at www.ohchr.org/sites/default/files/Documents/Issues/ToxicWaste/AmicusKlimmaECtHR.pdf.

[20] Olaf Corry, “The international politics of geoengineering: the feasibility of Plan B for tackling climate change”, *Security Dialogue*, vol. 48, No. 4 (August 2017), pp. 297–315.

required for the realization of the human right to a clean, healthy and sustainable environment.[21] Respect for this right is instrumental in the realization of other human rights, such as the rights to life, health, food, water and housing. In the context of climate change, human rights experts and bodies are urging States to step up their mitigation actions through emissions reductions.[22] There is a pressing need to determine whether the recourse to speculative technologies can even be considered as an alternative to mainstream mitigation measures. The current focus of climate action should be on deploying existing, tested and safe measures and technologies using a rights-based approach in line with the findings of the Intergovernmental Panel on Climate Change.

30. Global action to combat climate change is shaped by several instruments, including the Rio Declaration on Environment and Development (1992), the United Nations Framework Convention on Climate Change (1992), the Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997), the Paris Agreement (2015) and the 2030 Agenda for Sustainable Development. States have to guarantee that actions carried out in pursuing the set objectives do not endanger the environment and the enjoyment of human rights as provided by human rights law. The International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, as well as the other core human rights treaties and other principles and rules of general scope, provide a comprehensive and authoritative normative framework for a coherent, coordinated and collective response to climate change. That framework already provides standards and principles that require States to ensure access to information, participation in decision-making and access to justice in environmental matters. The principles of do no harm, transparency, prevention, precaution and the polluter pays are equally relevant and applicable to any policy or decision related to NTCPs.

A. Restrictions on the development and deployment of new technologies intended for climate protection

31. To date, States have not responded to the need to regulate NTCPs. Lack of regulation does not mean that such speculative technologies are permitted or can be developed in a legal vacuum. On the contrary, general principles of international law derived from environmental and human rights law may apply to any assessment or policy decision related to such technologies. In fact, in the context of multilateral environmental agreements, consideration of such principles has led to prohibiting the deployment of some NTCPs as a consequence of persistent uncertainties regarding their effectiveness and of their potential negative impact on human rights.

32. In the context of the Convention on Biological Diversity, a general moratorium on climate-related geoengineering was introduced in 2010 given the lack of transdisciplinary research.[23] The potential effects on the environment and biodiversity deriving from such activities and the associated social, economic and cultural impacts were decisive in prohibiting climate-related geoengineering without an adequate scientific basis and prior assessment of the associated risks.[24] Small-scale controlled scientific research could only take place exceptionally when justified by the need to gather specific scientific data and

[21] General Assembly resolution 76/300, para. 3.

[22] Office of the United Nations High Commissioner for Human Rights, “COP27: urgent need to respect human rights in all climate change action, say UN experts”, 4 November 2022.

[23] A decision in 2008 by the Conference of the Parties on ocean fertilization activities (decision IX/16) was broadened, in 2010, to other climate-related geoengineering activities in its decision X/33 and renewed in 2016. Such decisions are not legally binding, but authoritative; they represent a broad consensus on this issue and are adopted by the governing body of this multilateral treaty with universal application.

[24] See decision X/33 of the Conference of the Parties, para. 8 (w), in which it provides a definition of these technologies: “any technologies that deliberately reduce solar insolation or increase carbon sequestration from atmosphere on a large scale that may affect biodiversity (excluding carbon capture and storage from fossil fuels when it captures carbon dioxide before it is released into the atmosphere)”.

subject to a thorough prior assessment of the potential impacts on the environment.[25] It was recognized that there was a need to establish a transparent and effective global control and regulatory mechanism and that institutions should share knowledge to better understand impacts and options.[26]

33. The governing bodies of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention, 1972) and its Protocol (1996) have also called for extreme precaution and are currently evaluating several marine geoengineering technologies, having already agreed to prohibit ocean fertilization. In a resolution adopted in 2008, the parties to the London Convention and its Protocol introduced a ban, subject to review, on other marine geoengineering activities, while allowing legitimate scientific research (without commercial motivation) to proceed.[27] While carbon dioxide sequestration, research and deployment were generally permitted following an assessment of their environmental impact, ocean fertilization deployment was totally prohibited and associated research controlled as projects could only be carried out to increase knowledge without creating significant risks to the marine environment.[28] In 2023, the scientific groups reporting to the consultative meetings/meetings of the contracting parties agreed that four marine geoengineering techniques had the potential to cause deleterious effects that were widespread, long-lasting or severe.[29] The levels of uncertainty and of potential detrimental effects are the decisive criteria for such differentiated treatment.

34. The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (1976) expressly prohibits all techniques that are intended to alter − through deliberate manipulation − the natural processes, dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere or of outer space. In its recently adopted draft set of principles on protection of the environment in relation to armed conflicts, the International Law Commission included specific principles on environmental modification techniques, which provide that, in accordance with their international obligations, States should not engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State.[30] Even if the scope of the principles is to protect the environment from damage during armed conflict, it seems self-evident that the use of techniques leading to such serious environmental consequences are even less acceptable in peacetime. According to the Commission, in all circumstances, the environment remains under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience.[31]

[25] Ibid.

[26] Decision XIII/14 of the Conference of the Parties, para. 5. That approach has been endorsed by the Kunming-Montreal Global Biodiversity Framework, which includes target 10 to maintain nature's contribution to people, as well as, in general, the objectives of the Convention on Biological Diversity.

[27] Resolution LC-LP.1 on the regulation of ocean fertilization.

[28] Harald Ginzky, "Marine geo-engineering", in *Handbook on Marine Environment Protection*, Markus Salomon and Till Markus, eds. (Springer International Publishing, 2018), pp. 997–1011, available from https://doi.org/10.1007/978-3-319-60156-4_53.

[29] These involve carbon dioxide removal and solar radiation modification: ocean alkalinity enhancement and electrochemical carbon dioxide removal; biomass cultivation for carbon removal; marine cloud brightening; and surface albedo enhancement involving reflective particles and/or other materials (International Maritime Organization, "Marine geoengineering: assessing the impacts on the marine environment", 24 March 2023).

[30] A/77/10, para. 58, principle 17.

[31] Ibid., principle 12. The International Law Commission introduces an environmental "Martens clause", which would apply in cases not covered by international agreements. See also World Conservation Congress, Amman, 4–11 October 2000, recommendation 2.97, entitled "A Martens Clause for environmental protection". The recommendation was adopted by consensus and was meant to apply during peacetime, as well as during armed conflicts.

B. Principled approach

35. In the absence of a legal treaty or regulations on speculative technologies, decision makers and policymakers should follow a principled approach to preserve human rights and environmental protection from the risk of uncertain or uncontrolled impacts. That is in line with the environmental "Martens clause" referring to cases that are not covered by a specific rule or treaty or whenever the legal regulation provided by a treaty or customary rule is doubtful, uncertain or lacking in clarity.[32]

36. The precautionary principle has been and should be applied to geoengineering.[33] States have a general obligation to adopt legislative, administrative, judicial and other measures to prevent harm to the environment at an early stage and to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. Because the restoration of the situation that existed before environmental damage occurred is often impossible, prevention is the main approach to be followed by policymakers.[34] In situations in which scientific evidence of the environmental impacts of certain activities is not yet conclusive, States are required to act cautiously and diligently to avoid any steps that may cause harm to human health or the environment.[35]

37. Any technology to mitigate climate change, despite the scientific uncertainty regarding its impacts, must be evaluated against alternative options, including those about which there is more scientific certainty. In the event that there is a total or partial gap in governance, the precautionary principle dictates that alternatives should be assessed, so that less uncertain and risky alternatives should be recognized as preferable. From that perspective, a moratorium on fossil fuel extraction could be the least potentially harmful option. Other existing proposals and low-cost technologies, such as peatland and forest management, address climate change and its drivers, many of which have been tested and involve little or no risk, but provide benefits for people and the planet. A human rights-based approach to climate action, interpreted in accordance with the Paris Agreement, primarily requires prevention of further emissions by stopping excessive levels of greenhouse gas emissions. Failure to take measures to prevent foreseeable harm to human rights caused by climate change, or to regulate activities contributing to such harm, could thus constitute a violation.[36]

38. There is scientific uncertainty surrounding the risks and impacts of NTCPs on complex global planetary systems, but it is generally accepted that, at the current stage of development, these may be irreversible. Moreover, the existence of proven low-risk approaches and alternatives make the use of NTCPs, at their current stage of development, untenable under both human rights and environmental law. In such circumstances, human rights obligations, interpreted in the light of fundamental principles of environmental law, impose a rigorous application of the precautionary principle. That requires States to take action to diminish any potential environmental harm threatening human life or health in a

[32] The interpretation of human rights obligations in this area must be informed by fundamental principles under environmental law.

[33] At the international level, this principle was first codified in principle 15 of the Rio Declaration on Environment and Development (1992): "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The preambles to the Convention on Biological Diversity and the Cartagena Protocol on Biosafety thereto also contain this principle.

[34] Inter-American Court of Human Rights, Advisory Opinion OC-23/17, 15 November 2017, para. 130.

[35] This principle "provides justification for public policy and other actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need to act in order to avoid, or reduce, potentially serious or irreversible threats to health and/or the environment, using an appropriate strength of scientific evidence, and taking into account the pros and cons of action and inaction and their distribution" (European Parliamentary Research Service, "The precautionary principle: definitions, applications and governance" (2015), p. 10).

[36] A/74/161, paras. 62 and 70.

serious and irreversible manner. Because the effects of such harm would be inequitable to present and future generations, the possibility of accepting it is untenable.[37]

39. National case law follows that approach. It increasingly relies on the *pro persona* and *in dubio pro natura* principles to prioritize the most favourable protection of individuals and the environment. They are used as interpretative criteria to solve gaps in rights protection or to enhance environmental protection against harmful activities, giving preference to the least harmful option.[38] Those principles are endorsed in national case law and apply to all matters before courts, administrative agencies and other decision makers.[39] States are increasingly being brought before regional and international human rights bodies in climate change-related claims.[40]

C. Operationalizing a human rights-based approach

40. The obligation of States to take all measures necessary to respect, protect and fulfil human rights remains fully applicable in the context of NTCPs. That obligation applies to the development and application of any emerging technology. Existing guiding documents, such as the framework principles on human rights and the environment (2018), the United Nations Declaration on the Rights of Indigenous Peoples (2007) and the Guiding Principles on Business and Human Rights (2011), as well as other relevant practice from human rights bodies and mechanisms, should inform States when addressing challenges related to NTCPs. According to that framework, States should avoid taking or authorizing actions entailing environmental impacts that interfere with the enjoyment of human rights.[41]

41. Human rights, including the right to a clean, healthy and sustainable environment, have an extraterritorial dimension, which implies that States have a duty to refrain from causing environmental harm outside their own territory. That includes the duty to prevent areas subject to its jurisdiction or control being used for acts that may cause serious adverse environmental consequences to others. Preventive measures have to be taken to avoid not only environmental damage to other States, but also to areas beyond the limits of national jurisdiction, including the atmosphere and the high seas.

42. States also have a duty to protect all persons against potential human rights violations involving companies developing NTPCs.[42] Adequate measures need to be taken to protect persons from human rights and environmental harms that can be caused by such companies. In particular, there is a duty to prevent exposure of individuals and communities to toxic substances by adopting positive adequate measures.[43] States have to ensure that their own activities, including those conducted in partnership with the private sector, respect and protect human rights; and, in situations in which harm does occur, to ensure effective remedies.

D. Business regulation

43. As part of the obligation of States to exercise human rights due diligence with regard to the potential development and deployment of NTCPs, they are called upon to ensure that

[37] Committee on Economic, Social and Cultural Rights, general comment No. 25 (2020), paras. 56 and 57.

[38] Serena Baldin and Sara De Vido, "The *in dubio pro natura* principle: an attempt of a comprehensive legal reconstruction", *Revista General de Derecho Público Comparado*, No. 32 (December 2022), pp. 168–199.

[39] In Guatemala, the law on a climate change framework (Decree No. 7-2013) refers to these principles in article 6, noting that they must be observed by all entities when making decisions and acting in their respective areas of competence.

[40] For example: Committee on the Rights of the Child, *Sacchi et al. v. Argentina* (CRC/C/88/D/104/2019); and European Court of Human Rights, *Verein KlimaSeniorinnen Schweiz and others v. Switzerland*, Application No. 53600/20.

[41] A/HRC/37/59, annex, framework principle 8.

[42] Guiding Principles on Business and Human Rights.

[43] A/74/480, paras. 83 and 84.

environmental and human rights standards are effectively enforced against private actors.[44] Private actors must participate responsibly in climate change mitigation and adaptation efforts, which implies acting with full respect for human rights and being accountable for negative environmental impacts and human rights violations.[45] The compliance of businesses with those responsibilities is especially critical in situations in which States incorporate private financing or market-based approaches to climate change within the international framework, including the Paris Agreement.[46]

44. States should adopt appropriate regulatory measures to prevent and address human rights abuses by companies. Even if some examples of relevant legislation can be found at the national and regional levels, such a fragmented approach is insufficient to effectively address global risks and challenges posed by speculative technologies. It has been observed that global regulations are needed to effectively manage such technologies as fragmented national responses create governance gaps, perpetuating the technological divide and economic disparities, to the detriment of the enjoyment of economic, social and cultural rights.[47]

45. There are already more than a thousand climate engineering projects being developed and implemented, mostly in Europe, North America and Asia.[48] A moratorium on such projects should be put in place until a proper governance framework is developed.[49] That should include prior assessment of the possible environmental impacts of proposed projects and policies, including on the enjoyment of human rights. Where feasible, the framework principles on human rights and the environment provide guidelines for such an assessment.

V. Assessing the human rights impact

46. Because NTPCs are meant to be applied on a global scale, they have the potential to affect everyone indiscriminately. They could seriously interfere with the enjoyment of human rights for millions and perhaps billions of people.[50] The magnitude of the potential negative socioeconomic and human rights impacts is currently incommensurable with any hypothetical benefits.[51]

A. Impact on specific rights

47. There is a broad range of human rights that are at serious risk of the adverse impacts of the testing and deployment of NTCPs.

48. *Right to life.* NTCPs could perpetuate and exacerbate the threats that climate change already pose to life and the enjoyment of the right thereto by present and future generations. As mentioned, the mere possibility of their use could delay the implementation of urgent climate action. In the hypothetical case of deploying certain NTCPs, such as solar radiation modification, the potential adverse environmental impacts could increase food insecurity and diminish the quality of life of many people, particularly of those whose livelihoods rely on natural resources. Furthermore, it could lead to drought, delayed ozone recovery, changes in precipitation patterns and rapid warming pulses. If solar radiation modification is abruptly terminated (so-called termination shock; see table 1 in the annex), it would have a devastating

[44] A/HRC/37/59, annex, framework principle 12.

[45] Article 6 of the Paris Agreement calls upon parties to incentivize and facilitate private participation in the mitigation of greenhouse gas emissions. In doing so, States should include adequate safeguards and take effective measures to protect human rights from business harms in line with their obligations as outlined by the Guiding Principles on Business and Human Rights.

[46] Office of the United Nations High Commissioner for Human Rights, "Response to the request of Ad Hoc Working Group on the Paris Agreement (APA) to provide information, views and proposals on any work of the APA before each of its sessions", 6 May 2017.

[47] Committee on Economic, Social and Cultural Rights, general comment No. 25 (2020), para. 74.

[48] See https://map.geoengineeringmonitor.org.

[49] In practice, the existing moratorium has not prevented violations from occurring (see annex below).

[50] United Nations Environment Programme, "Climate change and human rights" (2015), p. 10.

[51] A/74/161, para. 83; and A/77/549, para. 65.

impact on ecosystems[52] and would therefore be contrary to the principle of intergenerational equity.[53]

49. *Right to a clean, healthy and sustainable environment*. Some NTCPs may potentially have negative or catastrophic effects on weather patterns, biodiversity and ecosystems as a whole. At the same time, the anticipated diversion of efforts and resources from a rapid phasing out of fossil fuels may have major effects on the environment, amounting to a violation of the right to a healthy environment, which includes the rights to clean air, a safe and stable 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.[54] The testing and deployment of NTCPs in the current circumstances would further violate the procedural dimension of this right, namely: access to information, participation in decision-making and access to justice and effective remedies. States have positive obligations relating to good governance and democratic accountability.

50. *Right to information and public participation*. The International Covenant on Civil and Political Rights and other human rights instruments guarantee the right to information and to free, active, meaningful and informed participation in public affairs. According to article 6 of the United Nations Framework Convention on Climate Change, all States should promote and facilitate public access to information on climate change and its effects, and public participation in addressing climate change and its effects and developing adequate responses. The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998) includes important standards concerning the right: (a) to receive environmental information; (b) to participate in preparing plans, programmes, policies and legislation that may affect the environment; and (c) to have access to review procedures should the rights on access to information or public participation be violated. A similar instrument has been adopted in the Latin American and Caribbean region, the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement, 2018). The General Assembly has also recognized the importance of public participation in addressing the impacts of climate change and the need to engage a broad range of stakeholders at the global, regional, national and local levels.[55]

51. *Right to an adequate standard of living and right to food and water*. NTCPs can be water intensive, change precipitation patterns and pollute freshwater resources and thus pose a threat to food and water security, imperil livelihoods and lead to mass displacements of persons. Most carbon dioxide removal technologies require vast swathes of land and extensive water resources, potentially increasing the demand for water and, therefore, affecting food production and access to water. Solar radiation modification could also reduce the availability of fresh water on islands that already face water shortages.[56] Solar radiation modification may have adverse impacts on the right to an adequate standard of living as a result of violations of the right to food and water through manipulation of regional weather and precipitation patterns. Because of the massive water demands of these technologies, they are likely to affect the availability of safe drinking water. The potential termination shock effect could undermine food production globally, specifically in vulnerable areas in the global South.[57]

52 *Access to justice and remedies*. The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and other human rights instruments guarantee effective remedies for human rights violations. States should ensure the necessary

[52] United Nations Environment Programme, “One atmosphere”.

[53] Human Rights Committee, general comment No. 36 (2019), para. 62.

[54] A/HRC/43/53, para. 2.

[55] General Assembly resolution 67/210, para. 12.

[56] Similarly, the use of bioenergy with carbon capture and storage can result in displacement of agricultural production and higher prices, causing food insecurity and thus endangering livelihoods, particularly for subsistence farmers and the poor.

[57] William C.G. Burns, “Human rights dimensions of bioenergy with carbon capture and storage: a framework for climate justice in the realm of climate geoengineering”, in Climate Justice: Case Studies in Global and Regional Governance Challenges, Randall S. Abate, ed. (Washington, D.C., Environmental Law Institute, 2016), pp. 157 and 158.

governance framework to effectively protect persons against human rights violations and harms from the activities of technology companies. Very often, the actions of economic actors that cause severe, widespread, long-term damage to the environment go unpunished as the actors are not prosecuted and the victims receive no economic compensation.[58] States may, in certain cases, not be in a position to effectively enforce legislation against businesses. While it is necessary to better understand NTCP-related risks before the international community decides on a course of action, negotiations on a global governance framework should ensure accountability and remedy for business-related human rights harms connected with NTCPs.

B. Impact on specific groups

53. Specific technologies would affect regions and persons differently, disproportionately affecting the poor and others in vulnerable situations. Furthermore, the decisions about and impacts of NTCPs could significantly affect the ability of children and future generations to exercise and fulfil their human rights. Women, children and persons with disabilities, who are systemically more affected by climate change and the way climate action is performed, may be disproportionately exposed to the negative effects of geoengineering technologies, which would deepen intersectional discrimination.

54. According to the Intergovernmental Panel on Climate Change, marginalized socioeconomic groups, such as migrants, people of colour, peasants, Indigenous Peoples and other frontline communities, may be particularly exposed to the negative impacts of NTCPs.[59] They are at high risk of suffering the consequences of experiments or testing but do not have a say in the decisions that may hinder the enjoyment of their rights.[60] Negative effects could be compounded for women, who already suffer from harmful gender-based discrimination, which often excludes them from participating in environmental decision-making.[61]

55. The potential deployment of NTCPs would have a massive and disproportionate impact on Indigenous Peoples whose traditional lands and territories are particularly exposed and at risk of experimental uses. NTCPs may expose them to forced displacement and deprivation of their lands, culture and traditional livelihoods through changes in land use, agriculture or weather patterns. The United Nations Declaration on the Rights of Indigenous Peoples requires States to consult and cooperate in good faith with the Indigenous Peoples concerned through their own representative institutions. States should obtain the free, prior and informed consent of Indigenous Peoples before adopting and implementing any legislative or administrative measure that may affect them. Such consent must also be given before taking any measures that affect Indigenous Peoples' rights to land, territory and resources, including mining or other exploitation of resources.[62] Indigenous Peoples have not been systematically involved in technological planning or consulted about the testing of NTCPs. The annex below provides examples of cancelled solar radiation modification field experiments (Stratospheric Controlled Perturbation Experiment in the United States of America and Sweden) that are presumed to have been planned without respecting the requirement of free, prior and informed consent. Indigenous representative organizations underline that, in the context of geoengineering, the implementation of that obligation has to represent a "dialogue that fosters understanding and provides for a consultation process that reflects higher standards of care than we have previously seen. Otherwise, it risks

[58] An independent expert panel convened by Stop Ecocide International has defined the crime of "ecocide"; see www.stopecocide.earth.

[59] A/77/549. Carbon capture programmes, for example, are often carried out in the so-called racial sacrifice zones, which are already overburdened by the heavy concentration of toxic industrial pollution, increasing the emission of harmful air pollutants.

[60] See A/HRC/50/57.

[61] See A/HRC/52/33.

[62] United Nations Declaration on the Rights of Indigenous Peoples, arts. 19 and 32.

compromising the progress on Indigenous self-determination and increasing existing divisions on geoengineering research."[63]

56. Due to their special dependency and attachment to land, peasants, fisherfolk and other persons living in rural areas also risk being disproportionately affected by NTCPs. In particular, their lands are vulnerable to being grabbed and/or polluted (i.e. by NTCP-related mining), thus undermining their right to land and natural resources.[64] There is a high risk that NTCPs would negatively affect the food production of peasants due to interference with natural cycles, which are likely to affect their management systems by undermining their traditional knowledge, practices and innovations.[65] Importantly, land has not only an economic function for peasants and other persons working in rural areas, but also social, cultural and spiritual dimensions. In a similar way to Indigenous Peoples, they may understand themselves as caretakers and custodians of ecosystems and the earth. Consequently, many employ agroecological management practices based on respect for nature and its cycles, seeking to promote biodiversity and capture carbon in the soil.

VI. Building up a protective framework

57. The conclusion to be drawn from the aforementioned considerations is that the deployment of NCTPs today would be contrary to the human rights and environmental frameworks. Even in the hypothetical scenario that there is no choice but to deploy NCTPs to address climate overshoot, the potential magnitude of the adverse impacts and risks make it imperative that a strong global rights-based governance framework be set up well in advance. The only way to overcome the political, ethical and security risks posed by any potential deployment of climate engineering requires a governance framework that facilitates inclusive dialogue, transparent processes, accountability and the active participation of all persons in decision-making processes.[66] Such a framework, at a minimum, should include: (a) ex ante human rights and environmental impact assessments before climate altering technologies are deployed and continuous monitoring and evaluation thereafter; and (b) a clear understanding of the human rights obligations of duty bearers, including the obligation of States and private sector actors to exercise human rights due diligence.

A. Multilateralism and governance framework

58. Any decision related to the governance and deployment of new technologies for climate manipulation should be taken with regard being paid to the obligation of States to cooperate and within existing multilateral decision-making bodies.[67] Bodies tasked and endowed by the international community with such competences must be representative and act in accordance with the requested standards of democracy, transparency, independence and objectivity.[68] Cooperation to establish, maintain and enforce effective international legal frameworks is key and a legal duty to foster common understanding on the kind of solutions that are needed to prevent, reduce and remedy transboundary and global environmental harm that interferes with the full enjoyment of human rights.

[63] See www.thearcticinstitute.org/sami-council-resistance-scopex-highlights-complex-questions-geoengineering-consent.

[64] United Nations Declaration on the Rights of Peasants, arts. 5 and 17.

[65] Ibid., art. 20 (2).

[66] States should take steps to strengthen the governance framework in situations in which the existing instruments prove insufficient (A/HRC/37/59, annex, framework principle 13).

[67] The General Assembly has been recognized as a representative body in which this topic could be discussed in a transparent manner.

[68] Some private entities, such as the Global Overshoot Commission, have been criticized for not fulfilling these requirements. See www.geoengineeringmonitor.org/2022/05/geoengineering-supporters-plan-to-set-up-a-new-climate-overshoot-commission. The goal of the Commission is to recommend a strategy to reduce risks should global warming goals be exceeded through carbon dioxide removal and solar radiation modification.

B. Inclusiveness in decision-making

59. Ongoing NTCP projects have been researched, financed and/or implemented in the global North while the expertise of the global South has not been sufficiently included either in scientific production or in public debates on the topic of NTCPs. Some refer to the operation of international climate institutions "as a form of indirect colonization" as many of the projects are often envisioned and directed by international institutions that tend to privilege global North perspectives over global South contributions.[69] It has been observed in this regard that "the current scientific and political framework structurally lacks diverse and inclusive representation, rendering participation of those most affected by geoengineering highly unlikely".[70]

60. Access to information and public participation in global environmental decisions is of the utmost importance when approaching geoengineering proposals. The views and opinions of the most affected groups, such as Indigenous Peoples and frontline communities, have been ignored.[71] Such a lack of diverse and inclusive representation in science and governance is at odds with the obligation to ensure that everyone enjoys the benefits of scientific progress without discrimination.

61. Lack of informed consent sought from communities in which these technologies are being implemented is of the utmost concern. Local communities, professional associations and Indigenous Peoples, among others, are not informed about these technologies and their participation is often obstructed. States have a duty to clarify any assumption related to the use of NTCPs and prohibit misinformation from private actors so as to protect the right to information – in accordance with the conclusions of the High-level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities.[72]

C. Ensuring accountability and oversight

62. Accountability and oversight in relation to research, development, patenting and deployment of geoengineering are critical but there is no way to ensure such responsibilities today. The risks and potential of technical advances and scientific research should be made public in order to enable society, through informed, transparent and participatory public deliberation, to decide whether the risks are acceptable.[73] As geoengineering offers great potential for economic profit from NTCPs, profit maximization could come in the form of engaging in political and economic corruption and lobbying to secure contracts and government-funded research, as well as participation in regulatory norm-making in a manner that constitutes a conflict of interest.[74] That may also become commonplace in the carbon offset markets (see annex below). The concentration of patent and geoengineering technology among a few individuals or corporate actors is the breeding ground for corruptive lobbying or influence in buying practices. In that area, most patents are held by a few corporate patent holders, including those in the renewable energy, manufacturing, oil and chemical industries. In addition, the process of granting patents may not be completely transparent, ultimately exacerbating inequalities among States in relation to patent ownership.

[69] A/77/549, para. 67.

[70] Submission by the network of academics for an international non-use agreement on solar geoengineering.

[71] Various international treaties and agreements, including principle 10 of the Rio Declaration and Agenda 21, provide the basis for public participation in sustainable development. Nine civil society groups are recognized as key actors, including Indigenous Peoples.

[72] See www.un.org/sites/un2.un.org/files/high-levelexpertgroupupdate7.pdf.

[73] Committee on Economic, Social and Cultural Rights, general comment No. 25 (2020), para. 57.

[74] Transparency International, "Climate geoengineering technologies: corruption and integrity gaps – policy position" (2022), p. 6.

D. Ensuring access to information, participation and access to justice in environmental matters

63. Inclusive monitoring and an independent grievance redress mechanism need to be established in order to track potential human rights impacts or risks and ensure access to remedies should NTCPs be deployed. Today, the exercise of those rights is key to avoid human rights violations and individuals being denied the enjoyment of their rights (to life, food, a healthy environment and health) in the future. Increasingly, individuals are petitioning human rights bodies to request protection against the impact of climate change on their rights and on behalf of a more general public interest. Those complaints strategically seek the adoption of urgent measures by States to curb emissions in accordance with the Paris Agreement. Recognition of the right to a healthy environment has empowered individuals and organizations to exercise that right, including by seeking access to information, participation in decision-making and access to justice in environmental matters.[75]

E. Operationalizing a human rights-based approach and assessments

64. Risks assessments are important tools to ensure that human rights are protected and that States adopt preventive and protective measures to address human rights risks. However, an important question is if existing tools allow a determination of whether NTCPs are human rights compliant and mitigation of potential impacts or whether a more institutionalized framework to carry out standardized human rights assessments is possible. Because of the speculative character of some NTCPs, such assessments need to be adjusted to the particular features and potential risks attached to each of these technologies.

VII. Conclusions

65. **Human rights standards and obligations apply to all climate action and should guide decision-making and risk assessment related to the potential deployment of NTCPs. In the current circumstances, those provisions, which also reflect the fundamental principles of humanity, advise a precautionary approach and justify the imposition of a moratorium on speculative technologies for as long as scientific uncertainty and the risk of causing serious, extensive and irreversible environmental and human damage remain high. The scope of such a regime should be defined by the pertinent expert bodies.**[76]

66. **NTCPs interfere with the enjoyment of human rights and can cause physical, political and social risks to frontline communities, including Indigenous Peoples, and harm the environment. There is scientific uncertainty about their scalability and side effects and there exist less risky alternatives. It is urgent to underscore that, at present, the development of any such technologies and policies to support them would not be in accordance with the protective standards of the human rights regime. Without an adequate protection framework, it is hard to envisage how technologies aimed at manipulating climate could be developed and used for the good of humankind. At this stage of their development, given the lack of sufficient knowledge of their risks and adverse impacts, it might be better to presume that all NTCPs are generally harmful to human rights and that their deployment would be contrary to the existing obligations of States. Because of the moral hazard risk, they limit emission cuts and systemic changes.**

67. **Restrictive regulations, including potentially a moratorium, should be adopted and implemented when large and foreseeable negative impacts can be reasonably expected. Such regulations should remain in force for as long as the claims about the**

[75] A/73/188, para. 42.

[76] Decision XIII/14 of the Conference of the Parties to the Convention on Biological Diversity, para. 2.

risks and negative impact of each technology have not been shown to be false.[77] **Such an approach is in accordance with the United Nations Framework Convention on Climate Change, according to which, in the context of action to combat climate change, States are called upon to respect, promote and consider their respective obligations on human rights. The Intergovernmental Panel on Climate Change has warned against overreliance on unproven technologies that could disrupt natural systems and disproportionately harm the communities of the global South and underscored the central role of the principle of transparency in climate action. Human rights bodies and mechanisms have expressed concerns about large-scale projects that may have a massive impact on human rights, severely disrupting ocean and terrestrial ecosystems, interfering with food production and harming biodiversity. Calls from experts, scientists and civil society for a complete ban on certain large-scale geoengineering projects – in relation to solar radiation modification, specifically stratospheric aerosol injection, which can endanger human rights in the most extensive and unimaginable way – cannot be ignored. Solar radiation modification is ungovernable, which warrants a ban on its development and implementation, as well as regulation of related research.**

68. **Given the current international circumstances, the adoption of a multilateral treaty to regulate NTCPs or geoengineering more broadly is unlikely, however, it is crucial to underscore the human rights norms and standards, which should guide policymakers and decision makers, that remain applicable to the development of NTCPs. A set of principles could be drawn from relevant texts, such as the Guiding Principles on Business and Human Rights, the framework principles on human rights and the environment and general comment No. 25 (2020) of the Committee on Economic, Social and Cultural Rights.**

69. **Building confidence among the public and ensuring participation of the most affected communities is an indispensable requirement in making a decision about a specific NTCP. Such decisions should be informed by scientific knowledge, cultural values, and Indigenous and local knowledge to adequately address adaptation gaps and avoid maladaptation. In practice, the opposite has often been true. Lack of informed consent of the communities affected by NTCPs and general obstruction of participation go against the principle of transparency and the duty of States to prohibit misinformation from private actors so as to protect the right to information and other human rights.**

70. **There are positive and feasible alternatives to NTCPs. Existing proposals and low-cost technologies that address climate change and its drivers should be considered. Many of them have been tested, carry little risk and provide benefits for people and the planet. The existence of such proven low-risk approaches should make the use of NTCPs untenable under human rights and environmental law, including the rigorous application of the precautionary principle.**

VIII. Recommendations

A. States, policymakers and the international community

71. **The main way for States to be human rights compliant is to rapidly phase out fossil fuels through viable, scientifically proven technologies and approaches. Rapid emission cuts, minimization of the negative impacts of livestock farming and some nature-based solutions, such as peatland, mangrove and forest management, should**

[77] Various respondents to the Advisory Committee's questionnaire considered that NTCPs distracted from the goals undertaken by States under international agreements on climate change, in particular, the Paris Agreement, and carried a wide range of human rights risks. Suggesting that NTCPs may contribute to the promotion and protection of human rights is misleading. Far from addressing the root causes of climate change, they are likely to have unintended and potentially catastrophic effects on planetary processes, resulting in great risks to the enjoyment of human rights. Submission by the network of academics for an international non-use agreement on solar geoengineering.

form the core of a sustainable, rights-based pathway to mitigate climate change. Proposals to phase out fossil fuels, including those for a fossil fuel non-proliferation treaty, are in accordance with the obligation of States to respect and protect human rights from the adverse effects of climate change.

72. **States should rigorously apply the precautionary principle and develop and conduct meaningful, comprehensive risk, human rights and environmental impact assessments. Such assessments should be conducted by independent and impartial bodies (paying particular attention to avoid conflicts of interest) and with public participation and oversight. Their results should be made public and inform measures to prevent any potential harm resulting from the development and use of NTCPs or those to halt the use of such technologies and remedy their effects where applicable.**

73. **States should adopt and implement restrictive regulations on solar radiation modification experiments, where necessary, including a ban on outdoor experiments, while only allowing conditional and controlled research. The lack of a mechanism to prevent the development of harmful solar radiation modification techniques should be addressed in a manner that includes the global South and climate vulnerable States and communities.**

74. **States should consider disincentivizing the development and deployment of carbon dioxide removal techniques by withholding public support (including funding) for them and requiring research to be non-profit based, while showing transparency, including by disclosing any finance provided by the fossil fuel industry.**

75. **States should put in place effective procedures to seek the free, prior and informed consent of Indigenous Peoples and meaningfully consult peasants, local communities and other affected or particularly interested groups.**

76. **In cases in which the effects of research on NTCPs transcends a State's jurisdiction, under all circumstances, the entity carrying out such research should ensure that human rights assessments are integrated into their work, specific protocols to assess human rights impacts are developed in advance and they accept responsibility for any damage done.**

77. **Given the limited financial and human resources available, research on greenhouse gas emissions reductions should be given the utmost priority. Expert bodies should be entitled to monitor and evaluate such assessments and to address recommendations to relevant decision-making bodies.**

78. **States should enhance public participation in the scientific and broad public debate about NTCPs by including voices from the global South, women, people of colour, Indigenous Peoples and frontline communities.**

B. Human Rights Council and special mechanisms

79. **Human rights treaty bodies, special rapporteurs and the universal periodic review should address the impacts and risks posed by deployment of NTCPs and the adequacy of national frameworks to effectively regulate and approach those risks.**

80. **The Special Rapporteur on the promotion and protection of human rights in the context of climate change, the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes and the Special Rapporteur on human rights and the environment lead the process of a holistic and coherent interpretation of environmental and human rights frameworks in the context of NTCPs.**

81. **Measures should be proposed to enhance the protection of the rights of potentially affected communities and groups, including Indigenous Peoples and other rights holders, in the context of decisions regarding the development, testing and deployment of NTCPs.**

82. **The Special Rapporteur on the rights of Indigenous Peoples should consider the elaboration of a thematic report on the impact of climate engineering on their rights.**

83. **The possibility of establishing an ad hoc mechanism to coordinate the action of relevant special rapporteurs in connection with NTCPs should be explored.**

C. Office of the United Nations High Commissioner for Human Rights

84. **The Office of the United Nations High Commissioner for Human Rights should:**

(a) **Identify a set of international guidelines or operative standards on the development, testing and potential deployment of all speculative technologies in relation to human rights that allows States to implement the precautionary principle;**

(b) **Support the right of potentially affected communities and groups, including Indigenous Peoples, to have access to information about NTCPs;**

(c) **Organize a multi-stakeholder meeting on human rights impacts of NTCPs.**

Annex

Technological component and additional information

1. The annex provides additional information on the technological components relevant to the study of the impact of NTCPs on the enjoyment of human rights. Some of the information from the main report is reproduced here in order to provide for a standalone reading.

2. Easing the climate crisis adequately requires immediate carbon dioxide emission cuts. Progress towards this goal has been very slow – global emissions keep rising and fossil fuel corporations have recorded historically highest profits in 2022. According to IPCC reports and UN Secretary General mitigating the crisis requires limiting temperature rise to 1.5 degrees by achieving global net-zero emissions by 2050.

3. Cutting emissions is the only scientifically and logically certain way of coming close to achieving real zero emissions – a term advocated for by several civil society organizations – since methods and technologies to remove carbon dioxide from the planetary system are currently not only insufficiently developed, inefficient and financially unsustainable but may also be used as excuse not to cut emissions.[1,2] NTCPs present a moral hazard and dangerous distraction from emissions reductions and quite notably are regularly advanced by the fossil fuel industry to justify continued exploration and exploitation of fossil fuels.

5. The offset carbon market, however, allows states and companies to balance unchanged or only slightly reduced emissions with purchasing carbon offsets, that is investment in emission reduction projects. As a result of these tendencies the need for emission reduction technologies has been growing. All the more so that, increasingly, carbon dioxide removal (CDR) technologies have become the focus of states' policies to reach the so called "net zero emissions," while still continuing to emit. New private actors, or public-private partnerships, are involved in development and implementation of these technologies. In the near future CDR technologies will most likely expand the carbon market and become a major source of carbon credits, which in turn will provide more funding for these technologies' expansion.

6. If emissions are not cut and some of the worst future scenarios are to be realized, another cluster of technologies of the solar radiation modification (SRM) kind is being researched. In its most advanced currently form in research and the most controversial in terms of effects on the environment and human rights it envisages stratospheric aerosol injection (SAI): in essence a continuous spray of aerosols in the upper atmosphere to partially block sunlight.[3]

Carbon dioxide removal

7. CDR technologies durably store carbon dioxide on land, in the ocean or in geological formations.[4] They can be grouped into artificial and natural methods. Currently, natural methods,[5] which primarily include reforestation, afforestation, improved forest management, agroforestry and soil carbon sequestration as the most popular ones, make up 99.9% of all

[1] The term "net zero emissions," defined as emissions achieved when anthropogenic carbon dioxide emissions are balanced globally by anthropogenic carbon dioxide removals over a specific period, implies a two-fold action: cutting emissions and removing carbon dioxide.

[2] *Statement*, Real Zero Europe, https://www.realsolutions-not-netzero.org/real-zero-europe.

[3] Several private initiatives already propagate including SAI and other SRMs in international strategies for the future.

[4] "Products" are another kind of storage. However, the definition of a "product" is broad and unclear for a human-rights based perspective.

[5] The Fifth Session of the UN Environment Assembly defined nature-based solutions as "actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits".

carbon dioxide removed. These technologies are not new, however, and even if they are currently the cheapest and most prevalent ones, they fall outside the scope of the study.[6]

8. Artificial methods include pre- and post-combustion Carbon Capture and Storage, Bioenergy with CCS (BECCS), Direct Air Capture (DAC), Enhanced Weathering (EW) and Ocean Fertilization (OF). With the exception of the first two, which are also either an energy production method or play a supplemental role to the production of other goods, the latter three kinds of artificial CDR technologies (DAC, EW, OF), satisfy the definition of NTCPs.

9. **Direct air capture (DAC)**. Out of artificial CDRs, DACs in particular have recently developed rapidly without equal consideration of their human rights implications, which needs to be attributed to the small scale of implementation and relatively narrower spectrum of possible risks to human rights that certain DACs pose as opposed to other CDR technologies. In Europe, the United States and Canada 18 DAC plants are now operational, although they are small scale, and capture carbon dioxide for utilisation, including enhanced oil recovery (EOR), except for two plants storing the captured carbon dioxide in geological formations for removal. DACs under consideration in this report are not paired with EOR– a method of using DAC to extract the remaining oil from oil wells – because such a technology is a fossil fuel producing technique, which is used by fossil fuel companies and cannot be considered a NTCP. Apart from being currently very expensive at the moment, DACs face biophysical constraints subject to geological storage underground, environmental side effects (see table 1) and surface area.[7]

10. **DAC case study.** The largest DAC facility of this kind, operating since 2021, consists of CO_2 collectors that capture it from the atmosphere with a low carbon footprint and nominal capacity of 4000 tCO_2 per year, powered by 100% geothermal energy, with carbon dioxide being permanently stored underground through mineralization.[8] The facility is said to be almost 1000 times more efficient than trees on the same land area, yet the current amount of carbon dioxide captured annually amounts to less than five return transatlantic flights emissions. The developers of the technology claim they advance it in order to defossilize in the vain of conventional mitigation, neutralize unavoidable emissions, and realize negative emissions. In the initial phase of research, it was publicly funded (through EU research funds).[9] New DAC installations are being built in the Middle East, where there are potentially good conditions for mineralization and large abundant supply of renewable energy. The human rights implications from current DAC projects, apart from land and water usage (although unintense in relation to other CDR methods) also include production of chemicals in the process and waste utilization, industrialization of the landscape, which is connected with identity of communities living in areas that had previously been untouched by industrial buildings and facilities.

11. **Enhanced weathering (EW)**. The process, both terrestrial and oceanic, aims to simulate natural weathering (rock decomposition via chemical and physical processes) in an artificial way to speed up chemical reactions that permanently sequester carbon dioxide in carbonate minerals or ocean alkalinity. Rock material is ground into powder to maximize the

[6] When it comes to direct impacts on human rights special consideration should be given to land-related CDR that does not qualify as a nature-based solution, esp. biomass-reliant CDR at large scale such as BECCS. Those approaches can increase land usage conflicts and lead to a reduction of food supply and loss of biodiversity and ecosystem services thereby increasing global injustice and inequality and creating resource based civil conflict potential. Unsustainable production and transport of biomass could even result in additional net emissions instead of carbon dioxide removal.

[7] The potential is estimated at 0.5-5GtCO2 annually by 2050, or 40GtCO2 by 2100, but there are doubts about its scalability. Unlike other CCSs DAC facilities can be located close to storage facilities and sources of renewable energy.

[8] Mineralization into calcite, argonite, magnesite, depending on local circumstances in the reservoir. The storage is to be permanent, counting in thousands of years.

[9] Later, private investors joined in, including large international corporations, while recently again large public investment was made into the project (US Department of Energy invested $3.5bln in Climeworks projects in US). Local regulations in the United States theoretically require that DAC sites are safe and suitable for storage. The Safe Drinking Water Act stipulates that injecting CO2 underground requires monitoring and characterization of the site. It needs to be a Class VI well, which there are few.

reactive surface area and applied to soils, open ocean and coastal zones. It has the potential to improve soil quality in tropical regions but field experiments at scale are missing in order to evaluate EW impact on biogeochemical circles, biomass and carbon stocks in soils and plants.[10] Side effects are enumerated in table 1 below. EW is permanent meaning geological residence times. EW can be simultaneously used with other land-based technologies – afforestation, soil carbon sequestration and bioenergy – because of its effect on additional biomass production. The main carbon penalty of EW is created by the energy demand for rock grinding.

12. **Ocean fertilization (OF)**. London Convention and London Protocol defines ocean fertilization as any activity undertaken by humans with the principal intention of stimulating primary productivity in the oceans, not including conventional aquaculture, or mariculture, or the creation of artificial reefs. It entails deliberately adding nutrients (often iron) to the upper ocean waters to increase biological production (mostly algal bloom) or upwelling of nutrient-rich deep ocean water. It requires acting upon large surfaces and velocities. Side effects are discussed in table 1. OF is considered a low efficiency technology given wide impact on ecosystems, logistical costs, uncertain permanence of CO_2 storage and side effects. Marine geoengineering activities are banned (see paragraph 33 of the report above).

Solar radiation modification

13. SRM attempts to modify the reflectivity of the Earth system (albedo) to reduce incoming solar radiation. Unlike CDR, it does not act on the causes of climate change (concentration of carbon dioxide in the atmosphere) but on its impacts. It needs to be adequately stressed that SRM is a unique technology that has to be analysed in separation as it "contrasts with climate change mitigation activities, such as emissions reductions and carbon dioxide removal (CDR), as it introduces a 'mask' to the climate change problem by altering the Earth's radiation budget, rather than attempting to address the root cause of the problem, which is the increase in greenhouse gases in the atmosphere."[11]

14. Some forms of SRM, notably stratospheric aerosol injection (SAI), may result in regionally and globally unpredictable changes in hydrological patterns, harm to the ozone layer, dimming, reduced photosynthesis, crop growth changes and associated with the aforementioned further cascading risks in the social and political systems and relations. Despite the presumed average global temperature decrease, all these risks would be amplified by the fact that, once applied at scale, SAI could be irreversible and cause geographically uneven, potentially international conflict provoking consequences and would have to be continued to avoid the rapid and extensive warming after cessation ("termination shock"). There are other forms of SRM currently tested. The first field experiment of marine cloud brightening was conducted over the coral reef in Australia in 2021. Nano-sized droplets engineered to brighten clouds and block sunlight were dispersed over the reef.[12] Another method is used by the Arctic Ice project, which aims to improve the Arctic's ice cap reflectivity by dispersing silica microbeads over the ice sheet. The project is criticized by indigenous communities.[13] SRM marine engineering technologies (as well as CDR marine technologies: ocean alkalinity enhancement and electrochemical CDR or biomass cultivation for carbon removal) have the potential to cause deleterious effects that are widespread, long-lasting or severe.

15**.** **SAI case study**. In 2021 Harvard's Solar Geoengineering Research Program, the most advanced in stratospheric aerosol injection (SAI) technology research group, attempted to conduct a stratospheric controlled perturbation experiment (SCoPEx) test at the Swedish

[10] The highest sequestration potential is reported to be ca. 88 GtCO2 yr^{-1} when spreading pulverized rock over large areas in the tropics, although depending on place, rock kind, and methods employed the potential varies greatly, as does the global cost assessment (US$50-200/$tCO_2^{-1}$). Median future sequestration potential is set at 2-4$GtCO_2$ yr^{-1} from 2050.

[11] IPCC AR6 WGII.

[12] https://www.nature.com/articles/d41586-021-02290-3.

[13] One of the test sites is in North Meadow Lake, on Indigenous Iñupiat territories near Utqiagvik, Alaska. https://www.geoengineeringmonitor.org/2022/05/support-alaska-native-delegation-to-stop-arctic-ice-project/.

Space Corporation in Kiruna, northern Sweden. It would entail dispersing a small amount (100g-2kg) of calcium carbonate or sulfates, material to "make quantitative measurements of aspects of the aerosol microphysics and atmospheric chemistry that are currently highly uncertain in the simulations" and, according to the testers, would "pose no significant hazard to people or the environment".[14] However, there had not been any consultations with Indigenous Peoples conducted prior to the experiment, nor had they been informed if it.

16. The Saami Council learned in February 2021 of the plans for the experiment in Sápmi, Sámi land, and previous unrealized SCoPEx attempts in the United States from indigenous contacts from north America. In 2018 there was a field test to be conducted in Tucson, Arizona, which did not materialize. Communities of Indigenous Peoples opposed to it.[15] In February 2021, the Saami Council together with Swedish environmental organizations sent an open letter to the SCoPEx advisory committee, copying the Swedish Space Corporation and three ministers in the Swedish government, saying that "SAI is a technology that entails risks of catastrophic consequences, including the impact of uncontrolled termination, and irreversible sociopolitical effects that could compromise the world's necessary efforts to achieve zero-carbon societies. There are therefore no acceptable reasons for allowing the SCoPEx project to be conducted either in Sweden or elsewhere."[16] The letter focused on the physical risks of SRM and on the problematic ethics, responsibility and decision making, and – predominantly on the risk of deterring the necessary climate action.[17] The Swedish Space Corporation contacted the Saami Council after receiving the letter, wanting to know more of the Saami Council position. Later the Swedish Space Corporation informed the Saami Council of the Corporation's withdrawal from the experiment. After the cancellation of the test in Kiruna, the Saami Council initiated a letter to Harvard University reiterating the position of opposing to the development of solar geoengineering technology and invited other Indigenous Peoples organizations to sign the letter showing their support for the position. The letter gained the support of 36 Indigenous Peoples organizations from different regions of the world.

17. The case study shows lack of consideration for Indigenous Peoples rights in SRM field tests, the need for free prior and informed consent of Indigenous Peoples, lack of broader consultations with the government, local authorities, civil and scientific society and local communities.

Table 1
Positive and negative side effects of NTCPs

CDR Technology	*Positive side effects*	*Negative side effects*
DACCS Potential: 0.5-5 $GtCO_2\ yr^{-1}$ Cost: 100-300 US$/$tCO_2$	certain applications can improve indoor air quality	CO_2 penalty if high (thermal) energy demand satisfied by fossil fuels (**not NTCP**); currently high front-up capital costs; insufficiently studied; material/waste implications (the chemical footprint of the processes: production of chemicals, production of waste, and for hydroxide-based

[14] https://www.keutschgroup.com/scopex.

[15] From TONATIERRA input: "Upon learning of the SCoPEx project in Tucson, we communicated with our networks of kinship and traditional cultural alliances as Indigenous Peoples of the territory to inquire what they knew of the project. There was a complete lack of information. We then communicated with the traditional ancestral leadership of the O'otham Nations upon whose land the city of Tucson is situated and asked for a consultation. We accompanied the Nukutham (Traditional O'otham guardians of the Sacred Sites) to visit the compound where the project was to be launched. Afterwards, the Nukutham stated that not only were they not informed of the nature and scope of the experiment, but they could not consent to such a project on any O'otham lands."

[16] https://static1.squarespace.com/static/5dfb35a66f00d54ab0729b75/t/603e2167a9c0b96ffb027c8d/1614684519754/Letter+to+Scopex+Advisory+Committee+24+February.pdf.

[17] Ibid.

CDR Technology	*Positive side effects*	*Negative side effects*
		DAC, the amount of chlorine produced); spacial requirements
Ocean fertilization Potential: extremely limited	Potential increase in fish catches, enhanced biological production	Limited potential; possible adverse impacts on marine biology and food web structure; deep water oxygen decline; changes to nutrient balance; anoxia in surface ocean; probable enhanced N_2O and CH_4 production
Enhanced weathering Potential: 2-4 $GtCO_2\ yr^{-1}$ Cost: 50-200 US$/$tCO_2$	Increase in crop yields; improved plant nutrition, soil fertility, nutrient and moisture; increase in soil pH	Human health risks from fine grained material (it may contain asbestos-related minerals); ecological impacts of mineral extraction and transport on a massive scale; direct and indirect land use change if biomass sourced from dedicated crops, potential heavy metal release (e.g. Ni and Cr) in case of inappropriate material use; changes in soil hydraulic properties

Table based on Jan C Minx et al 2018 Environ. Res. Lett. 13 063001, amended.