Special Rapporteur on human rights and the environment

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The Overlooked Environmental and Human Rights Crisis: Desertification, Land Degradation and Drought

A Policy Brief from the UN Special Rapporteur on Human Rights and the Environment

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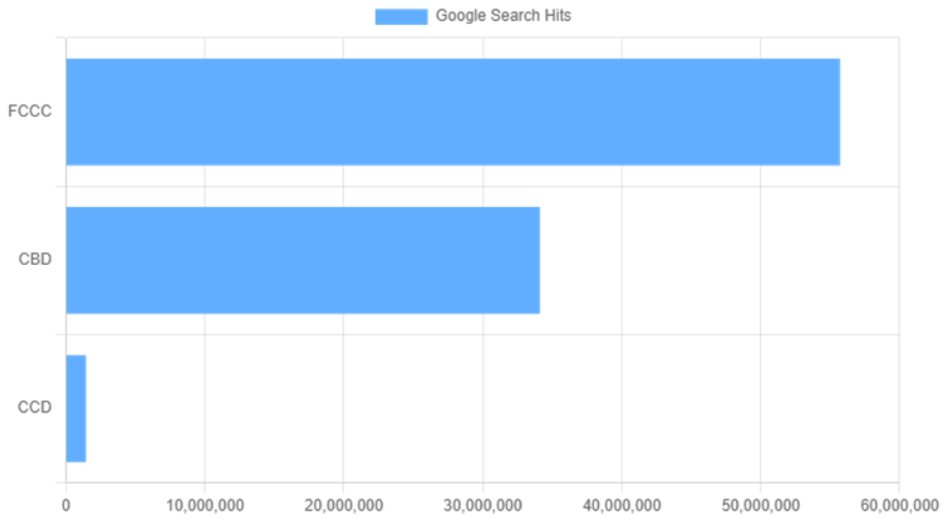
I. Introduction

The world faces an unprecedented environmental crisis, driven by human activities. Climate change, biodiversity loss, pollution, water scarcity and the growing frequency and severity of zoonotic disease outbreaks, all driven and exacerbated by human activities, are wreaking havoc on our planet and our societies. Climate change is resulting in extreme weather events including frequent floods, heatwaves, raging wildfires, and severe droughts that are having a devastating impact on the world's population. Air pollution is the single largest cause of disease and premature death in the world. Biodiversity loss is causing ecosystems, and the critical ecosystem services upon which humans, to crumble. Water scarcity is harming billions of people and damaging ecosystems. Zoonotic diseases driven by environmental risk factors, including COVID-19, HIV/AIDS, avian influenza, monkeypox and Ebola, are spilling over with greater frequency and heightened impacts. Desertification, land degradation and drought interact with all of these environmental crises. Each of these interlinked issues must be addressed through systematic and transformative changes in order to achieve a just and sustainable future, as the UN Sustainable Development Goals envision.

At the historic Earth Summit in Rio, in 1992, extraordinary advances were made in international environmental law to address three global threats. In addition to the non-binding but influential Rio Declaration on Environment and Development, States agreed to establish three new treaties: the UN Framework Convention on Climate Change (FCCC), the UN Convention on Biological Diversity (CBD) and the UN Convention to Combat Desertification in those Countries Facing Serious Drought and/or Desertification, Particularly in Africa (CCD).[1] While the focus in 1992 was on the environment, we now understand that these inter-connected global environmental crises are also human rights crises.

While the climate and biodiversity crises have received massive media, public, academic and political attention, desertification has been largely overlooked, as the figure below indicates, and receives far less funding. The low profile and lack of financial support reflect the systemic marginalization of people of colour and low-income States whose people are embroiled in extreme poverty.



The world's drylands, which are home to three billion people in 169 States and cover almost half of the Earth's land, are under severe threat from drought, land degradation and desertification (DLDD).[23] Drylands provide fuel, food, building materials and numerous ecosystem services including water filtration and retention and carbon sequestration.[4] They hold 44 percent of the world's croplands, half of the world's livestock and rich biodiversity.[5]

The CCD defines "desertification" as "land degradation in dryland areas due to various factors, including climatic variations and/or human activities." The Convention also defines "land degradation" as "the reduction or loss, in arid, semi-arid and dry sub-humid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or processes caused by human activities and habitation patterns, such as:

> i) soil erosion caused by wind and/or water;
> ii) deterioration of the physical, chemical and biological or economic properties of soil; and
> iii) long-term loss of natural vegetation."[6]

While desertification is not a new phenomenon, due to human actions it is happening at approximately 30 to 35 times the historical rate.[7] Between 2015 and 2019, the world lost at least 100 million hectares of healthy and productive land every year, affecting food and water security globally.[8] If desertification and land degradation continue at a similar rate, more than one billion hectares of productive land will be degraded by 2030. Even more daunting is an estimate that 95 percent of the planet's land area could be degraded by 2050 unless preventive and remedial

steps are implemented, beginning immediately.[9] This is a "silent, invisible crisis that is destabilizing communities on a global scale".[10]

Desertification, land degradation and drought reduce access to water for agriculture, drinking, cooking and hygiene, increasing the risks of food insecurity, malnutrition, waterborne diseases, conflict and violence. DLDD also leads to an increase in respiratory diseases due to atmospheric dust from wind and erosion.[11] These impacts are pushing vulnerable people, such as women, girls, Indigenous Peoples and local communities, into even more precarious situations, and forcing more individuals to migrate in search of more fertile land that is better able to sustain life. By 2030, DLDD is likely to cause 135 million people to migrate.[12] Desertification and land degradation undermine populations' ability to adapt to extreme weather events, which are becoming increasingly common as the climate crisis worsens. The human rights implications are daunting, implicating rights to life, health, food, water, adequate livelihoods, cultural rights, the rights of the child, and a clean, healthy and sustainable environment, among others.

Desertification is often driven by social, political, economic and industrial forces in wealthy States that benefit from the exploitation of resources in dryland regions.[13] Among the drivers are unsustainable consumption, intensive agricultural practices, population growth, and extractive industries including mining, oil and gas, and forestry. For example, drylands in Latin America are a major source of beef and soybean exports (for cattle feed) to China and the global North.[14] Wealthy States, for the most part, are far less affected by the direct negative effects of desertification, and so have the least incentive to take actions that would prevent this environmental degradation. The European Court of Auditors concluded that the steps taken by the European Union and its Member States to combat desertification lack coherence and that there is no shared vision in the EU on how land degradation neutrality will be achieved by 2030.[15]

The people most impacted by desertification and land degradation are often the poorest people in the poorest countries, deepening global inequality. Many of the world's poorest countries are located in dryland areas. A major problem involves the lack of legal recognition of land ownership and resource tenure security for Indigenous Peoples, local communities, women and girls. The situation is particularly challenging in Africa, where 70 percent of the continent is comprised of desert and drylands (27 and 43 percent, respectively) that are home to hundreds of millions of people. More than 35 years ago, the Brundtland Commission warned of a vicious cycle of poverty and environmental degradation: "parts of the world are caught in a vicious downwards spiral: poor people are forced to overuse environmental resources to survive from day to day, and their impoverishment of their environment further impoverishes them, making their survival ever more difficult and uncertain."[16] The Millennium Ecosystem Assessment stated that "desertification is potentially the most threatening ecosystem change impacting livelihoods

of the poor."[17] The human population in drylands is projected to increase about twice as rapidly as non-drylands, exacerbating the sustainability challenges.[18]

The former UN Special Rapporteur on the right to food observed that "Half of the world's hungry people therefore 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."[19] For these reasons, the CCD explicitly prioritizes assisting African States in overcoming these challenges.

Because land degradation is caused by multiple factors, it rarely can be addressed by a single policy measure. Many policies and programs focus on mitigating the damage already occurring, but do not address the root causes of desertification. Systemic and transformative strategies and policies are required to prevent and reverse desertification and land degradation.

States must respect, protect and fulfil the human rights put at risk by desertification, land degradation and drought. The global community has pledged to end land degradation and restore a billion hectares of degraded land by 2030, during the UN Decade on Ecosystem Restoration. To achieve these ambitious goals, States must employ a human rights-based approach and dedicate substantially more resources to implementing the Convention to Combat Desertification, which prioritizes protecting those most vulnerable to the impacts of land degradation, desertification and drought: the world's poorest and hungriest people. Unless the pace and scale of responses to date are accelerated and expanded, areas prone to desertification will continue to expand in the future, causing severe impacts on food security, access to water, economies, health, and the right to a healthy environment.

II. Desertification, Land Degradation and the Planetary Environmental Crisis

While desertification, land degradation and drought are the result of multiple complex factors, there are strong interactions between desertification and climate change. Climate change exacerbates desertification and land degradation by increasing the frequency and severity of heat-related events including drought, heatwaves, and wildfires. It also accelerates soil erosion on degraded lands.[20] Conversely, desertification and land degradation impact climate change through reductions in vegetation cover, increases in sand and dust aerosols, and greenhouse gas fluctuations.[21] The way these processes interact results in populations that are less resilient and able to adapt to desertification, land degradation and extreme events such as droughts and floods.[22] Climate change and desertification reduce both the quantity and quality of food suitable for human consumption and disrupt food security.[23] Water scarcity and water pollution interact as dwindling sources of water face increased use from drylands populations. It is

profoundly unjust that the climate crisis is making difficult living conditions even more difficult for people who bear no responsibility for creating the problem. The richest 10 percent of the world's population were responsible for more than half of the cumulative carbon dioxide emissions between 1990 and 2015.[24]

Biodiversity is declining faster today than at any other point in human history, with up to 1 million species facing extinction within the next few decades.[25] Immediate and transformative changes are desperately needed to halt biodiversity loss and conserve nature. Healthy land is a prerequisite for healthy ecosystems and biodiversity. Healthy ecosystems and biodiversity, in turn, are critical for the realization and full enjoyment of human rights.[26] They provide a dazzling array of tangible and intangible benefits for humanity, ensuring human wellbeing in both the present and future.[27]

Desertification, land degradation and biodiversity loss share a similar primary driver: the conversion of land by humans for use in farming, raising livestock, settlements, extractive industries and infrastructure.[28] Addressing desertification offers synergies with biodiversity conservation and climate action. All three challenges require enhanced international cooperation as well as concerted efforts to achieve internationally agreed-upon goals and targets.

Air pollution is one of the most dangerous threats to human health, causing upwards of 7 million premature deaths around the world per year.[29] Clean air helps to prevent numerous health problems including respiratory illness, heart disease, cancer and neurological disorders.[30] Polluted air is particularly harmful for vulnerably situated groups, such as children, older persons, persons with disabilities, pregnant women and other pregnant people, and those who have pre-existing respiratory or cardiovascular illnesses. DLDD increases levels of erosion and dust, leading to high levels of fine particulate matter in the air.[31] Desertification and land degradation also contribute to mobilizing toxic chemicals from drying lake beds and tailings deposits from large mines, where they have been accumulating for years or decades.[32]

Desertification and land degradation affect every continent on Earth, threatening to undermine sustainable development. In 2019, United Nations Environment Programme estimated that the annual cost of land degradation and desertification is approximately $127 billion.[33] A 2015 study estimated that the value of lost ecosystem services (e.g. water filtration and retention, flood regulation, nutrient cycling, waste decomposition) caused by desertification and land degradation is between $6 trillion and $10 trillion annually.[34] Another study put the annual cost far higher, at up to 17 percent of global GDP, or close to $15 trillion.[35]

III. The Impacts of Desertification on Human Rights

Desertification, land degradation and drought have negative consequences for the enjoyment of a wide range of human rights including rights to life, health, water, food, adequate livelihood, self-determination, non-discrimination, cultural rights, the rights of the child and the right to a clean, healthy and sustainable environment.

Unfortunately, Parties to the Convention have consistently ignored the impacts of desertification, land degradation and drought on human rights, and the potential of human rights-based approaches to turbocharge progress in solving these environmental challenges. The CCD makes no mention of human rights. Nor did the 2008 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018) or the Strategic Framework 2018-2030.36 The oversight might have been understandable in 1994 but was inexcusable in 2017. In 2019, the CCD finally adopted a decision which "invites Parties to ensure that measures to combat desertification, land degradation, and drought are carried out in a non-discriminatory and participatory way so that they promote equal tenure rights and access to land for all, in particular vulnerable and marginal groups".37 The second edition of the CCD's Global Land Outlook, published in 2022, represents a positive breakthrough in calling for the implementation of rights-based approaches, based on principles that include participation, equality, non-discrimination, transparency and accountability.[38]

a. The Right to Water

Safe and sufficient water is a both a standalone human right and an integral component of the right to a clean, healthy and sustainable environment.39 Water is "the lifeblood of human beings and life on Earth" and is essential for, among other things, health, food, energy, and recreation.[40]

Desertification, land degradation and drought result in reduced water retention in soil and depleted water resources, resulting in a lack of safe drinking water, difficulties maintaining good hygiene, and an increased threat of waterborne diseases.[41] At a time when billions of people lack access to safe and sufficient drinking water, the declining quality and quantity of water is deeply concerning.[42] The United Nations Educational, Scientific and Cultural Organization estimates that over 3 billion people may face water scarcity by 2050.[43] Water resources in drylands also face pressure from increasing demand. Up to 35 percent of global water withdrawals for irrigation exceed sustainable levels, combining with increasingly frequent and severe droughts to dangerously deplete water supplies.[44]

b. The Right to Food

Like water, healthy and sustainably produced food is both a standalone human right and a vital element of the right to a clean, healthy and sustainable environment. Food is vital for life, health, community, culture, and the economy.[45] Desertification, land degradation and drought and global food systems are closely interlinked. Agricultural intensification, over-grazing, excessive irrigation and clear-cutting forests has led to a loss of soil fertility, loss of topsoil and decreased water retention, degrading productive land in dryland ecosystems. Twelve million hectares of farmland are lost each year, reflecting an opportunity cost of 20 million tonnes of grain and significantly impacting access to healthy and sustainable food.[46] The reduction in water supplies discussed above increases food insecurity and the risk of malnutrition by making it challenging to cultivate crops.[47] On the other hand, increasing populations and demand for food lead to unsustainable agricultural practices and further exacerbate desertification and land degradation.[48] These facts are profoundly problematic given that more than 800 million people are already malnourished. Global food production will need to increase by 50 percent by 2050 in order to feed the more than 10 billion people expected to live on our planet.[49] It is clear that continued desertification, land degradation and drought are dire threats to the full enjoyment of the right to food.

c. The Right to a Clean, Healthy and Sustainable Environment

Substantive elements of the right to a clean, healthy and sustainable environment include access to safe and sufficient water and healthy and sustainably produced food, as described above. The right to a healthy environment also includes clean air, a safe climate, non-toxic environments, and healthy biodiversity and ecosystems. This right also includes procedural elements such as access to information, participation in decision-making, and access to justice with effective remedies, all of which are of vital importance to good governance.[50] Both immediate and long-term losses due to desertification, land degradation and drought impact the right to a healthy environment, and combatting these three environmental threats is essential to enable everyone, everywhere to fully enjoy this right. This will require international cooperation and increased application of the concept of extraterritorial obligations under international human rights and international environmental law.

A significant barrier to action on desertification, land degradation and drought is the lack of awareness about these problems and their drivers. The right to a healthy environment requires States to provide all persons with environmental education as well as access to timely and up-to-date scientific information regarding environmental issues. Public access to information helps individuals understand how environmental harms undermine their human rights. States must regularly collect, update, and disseminate environmental information in addition to

ensuring timely access to information requested by any individual or association.[51] Unfortunately there are often gaps and barriers in accessing information on DLDD. Information systems, including assessments, monitoring and reporting, are lacking, infrequently established and under-utilized. Efforts to promote an understanding of the drivers of desertification and land degradation lack adequate resources. More credible and accessible information is needed to ensure sustainable land management and fulfill the right to a healthy environment.

States also have obligations to protect environmental human rights defenders who work on issues related to desertification, land degradation and drought. Promising recent developments include the coming into force of the Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement), the first treaty in the world to articulate specific State obligations to protect defenders and the appointment of a Special Rapporteur on environmental human rights defenders under the auspices of the Aarhus Convention.

d. The Gendered Impact of Desertification, Land Degradation and Drought

Desertification, land degradation and drought, like most environmental threats, have disproportionate and differentiated impacts on women and girls. Despite international human rights and sustainable development frameworks intended to reduce and eliminate discrimination and inequality, women and girls continue to experience increased vulnerability and violence. Those injustices are exacerbated by climate change, biodiversity loss, desertification, land degradation and drought.

Globally, one-third of women's employment is in agriculture[52] and in some developing nations, women and girls produce up to 80 percent of the food.[53] Desertification, land degradation and drought force women and girls to look for other, less productive activities when crops fail.[54] These low-paying alternatives to agricultural work include foraging and seasonal work. Women take on the majority of the burden of the resulting food insecurity, on top of caring for children and older persons and other household activities. Girls are often tasked with helping to meet these demands, forcing them to miss out on educational and extra-curricular opportunities.[55] Where there is food insecurity, women and girls are at increased risk of gender-based violence, and are less likely to have access to food as they often eat last and least to support their families.[56]

Women and girls also bear the primary responsibility for collecting water, spending a global total of 20 million hours daily on this task.[57] As desertification, land degradation and drought reduce access to adequate supplies of clean water, women and girls are forced to travel farther to acquire water, exposing them to increased risks of injuries and violence.[58]

Gender-blind laws, policies, budgets and procedures, including those relevant to land, climate and the environment, are proven to enable discrimination against women and to disproportionately disadvantage them, and thus are incompatible with States' obligations under international law.[59] Land is a fundamental asset for the majority of people living in developing countries, providing food security and supporting livelihoods. Yet women and girls have unequal access to and control over land, often lacking legal title and tenure rights. When they do own land, their holdings are often smaller, inferior in quality, and more vulnerable to environmental degradation than land owned by men.[60]

Women and girls around the world are also subject to discriminatory laws and practices that act as barriers to securing land. These barriers include customary, religious and traditional laws that deny women the right to inherit their husband's property, as well as laws that fail to criminalize inheritance grabbing and property dispossession.[61] These laws disproportionately expose women and girls to poverty, hunger, gender-based violence and displacement.[62] The problem is especially severe for rural and Indigenous women, who typically have weaker legal protections and social status.[63] Desertification and land degradation amplify displacement, violence, poverty, and food scarcity, and exacerbates the negative consequences of women and girls' lack of equal access to land.[64] Poverty and food insecurity, worsened by climate change and drought, are forcing girls into marriage, violating their rights and undermining their futures.[65]

Women and girls' lack of land rights is often directly correlated with limited access to financial resources and lack of participation in environmental decision-making. Women are severely underrepresented in leadership, management and decision-making roles across the world, which undermines their political agency and economic power.[66] This is compounded for Indigenous and rural women.[67] The lack of women's voices in environmental decision-making spaces results in worse environmental outcomes and leads to ineffective solutions to environmental problems like desertification and land degradation.[68]

e. The rights of Indigenous Peoples, Afro-descendants, and Local Communities

Desertification, land degradation and drought negatively and disproportionately impact the cultural identity and rights of Indigenous Peoples, Afro-descendants and local communities that traditionally have a close relationship with, and dependence upon, nature. The result is an erosion of traditional knowledge and management systems for land, water, wildlife and plants.[69] Other devastating consequences of desertification and land degradation include displacement from traditional territories, a decline in access to Indigenous food, a disruption of nature-based livelihoods, an erosion of cultural identities that are tied to the land, the gradual loss of customary governance systems, and the elimination of sacred spaces and rituals.[70] This

threatens a wide range of their rights, including self-determination, health, food, water, development, an adequate standard of living and cultural rights.

Many States do not adequately recognize, respect or protect the rights of Indigenous Peoples and local communities over their traditional territories, cultures and knowledge, thus making these communities more vulnerable to land degradation, desertification, and the other interrelated aspects of the planetary crisis. Indigenous Peoples and local communities—including Indigenous and rural women—must be able to participate meaningfully and effectively in efforts to prevent and respond to desertification, land degradation and drought, and their rights should be highlighted and prioritized in CCD outcomes.

f. The Influence of Desertification, Land Degradation and Drought on Migration

> "In arid regions around the world, as the land becomes as hard as concrete and the wells dry up, thousands of families are forced to leave their villages. But where can they go?"[71]
>
> Jean Ziegler, former UN Special Rapporteur on the right to food

The link between environmental degradation and migration is well-established and has significant consequences for the realization and enjoyment of human rights. While the decision to migrate is often based on a range of economic and political factors, environmental factors are gaining influence as the planetary crisis intensifies. Desertification, land degradation and drought intensify other socioeconomic stressors, resulting in migration from severely degraded areas.[72] Migration as a result of desertification and land degradation acts synergistically with climate-induced migration, which is projected to lead to an exponential increase in displacement over the next several decades.[73] The international community is ill-prepared for this volume of movement, as illustrated by anti-immigration policies, xenophobic sentiments and the lack of a binding international agreement extending protection to environmental migrants. Hostile attitudes, militarization and securitization of borders are undermining human rights.[74] Political and legal responses to climate and environment-related migration are light years away from being adequate for the magnitude of today's environmental challenges.

The right to freedom of movement, which includes the right to choose to stay in the area where you live, is severely impacted by the effects of desertification, land degradation and drought. A projected 4 billion people will be living in drylands by 2050.[75] Some studies estimate that by 2050, the combined effects of land degradation and climate change will have forced almost 700 million people to migrate.[76] Soil erosion, the loss of soil fertility and worsening water scarcity not only threaten lives, rights and livelihoods, but also domestic and international stability.[77] Forcing communities to move in search of more productive land violates their right to stay put.

At the same time, desertification, land degradation and drought disproportionately impact the human rights of lower income groups who lack the economic resources to consider migration as a viable option.[78] This is a type of "poverty trap", where vulnerable communities are forced to stay on land that cannot meet their food, water, health and economic needs, eroding their ability to exercise their human rights.[79]

Migration can also be a driver of desertification, as individuals and communities move to other vulnerable locations, searching for new land to bring into agricultural production and increasing land degradation pressures in their new communities.[80] Without a coordinated strategy and decisive action to restore degraded land and implement sustainable land management practices, migration into frontier areas will contribute to land degradation, deforestation, biodiversity loss and increased risks of zoonotic disease outbreaks.[81] Migration also contributes to conflict because of intensified competition for access to land, water and other resources. This is particularly true when migrants are from a different nation or ethnic group.

Migration—spurred in part by desertification, land degradation and drought—adds to pressure on the environment of urban areas as migrants seek employment and economic opportunities.[82] This demographic shift puts pressure on urban infrastructure by increasing demand for housing, food, water, sanitation, electricity, transit and waste management.[83]

g. Exacerbating Conflict and Violence: The Role of Desertification, Land Degradation and Drought

"When resources are degraded, we start competing for them. … So one way to promote peace is to promote sustainable management and equitable distribution of resources."

Wangari Maathai, Nobel Peace Prize laureate

Drought, land degradation and desertification have exacerbated conflicts between nomadic pastoralists and farmers in many States in sub-Saharan Africa. Although these conflicts often have multiple causes, drought and desertification intensify competition and conflict over important water and grazing resources. In 2018, the African Union warned that violent conflicts between farmers and pastoralists killed more people than terrorism.[84] Conversely, sustainable land management and land rehabilitation contribute to a reduction of risks related to migration, security, violence and armed conflict, including conflict over resources.

IV. Combatting Desertification: Integrated Approaches

In the face of today's interconnected environmental challenges, developing a systemic, integrated and human rights-based approach is imperative. Rights-based approaches impose an obligation to act, are a catalyst for accelerated action, and without a doubt are the most effective, efficient, and equitable way forward. A rights-based approach emphasizes States' obligation to address the underlying causes of desertification and land degradation, which are the same actions driving the other elements of the planetary environmental crisis. As a result, applying a rights-based approach to DLDD can spur environmental, economic and social progress, creating beneficial spillover effects for human well-being and ecosystem health.

a. The UN Convention to Combat Desertification

As DLDD is often the result of multiple interacting causes, the CCD works together with the CBD and the UNFCCC to address the complex interactions between land, biodiversity, and climate change.[85] Each of the three Rio Conventions includes provisions to avoid, reduce and reverse land degradation. Unfortunately, the CCD is often treated as the "poor sister" of the three Rio conventions. The CCD has a much lower public profile and receives far less funding. The low profile and lack of financial support reflect the systemic marginalization of people of colour and low-income States whose people are embroiled in extreme poverty.

The CCD places States at the centre of combatting desertification but emphasizes that participation of impacted communities is essential.[86] This is a human rights obligation, not an option. The Convention explicitly requires developed states to actively support the efforts of affected developing States, particularly those in Africa, in combatting desertification and mitigating the effects of drought.[87] Parties are required to develop National Action Plans with the participation of affected populations and communities and submit national reports every four years outlining the measures taken to implement the Convention.[88] Since 2018, the reporting process has monitored the implementation of the UNCCD 2018 – 2030 Strategic Framework. The Framework is described as "the most comprehensive global commitment to achieve Land Degradation Neutrality in order to restore the productivity of vast swathes of degraded land, improve the livelihoods of more than 1.3 billion people, and reduce the impacts of drought on vulnerable populations."[89]

The framework contains five strategic objectives including:

1. To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality
2. To improve the living conditions of affected populations

3. To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems
4. To generate global environmental benefits through effective implementation of the CCD
5. To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level.[90]

The framework is also accompanied by an implementation pathway that defines the roles and responsibilities of Parties, CCD institutions, partners and stakeholders. The framework highlights that Parties bear the primary responsibility for implementation and are required to: increase the mobilization of both financial and non-financial resources; develop and implement policies for promoting and engaging in solutions to combat desertification; and establish systems for information-sharing on best practices.[91] States are required to report regularly on progress.[92]

Land degradation neutrality (LDN), a concept that emerged from the 2012 United Nations Conference on Sustainable Development (Rio+20), is defined as "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services to enhance food security remain stable, or increase, within specified temporal and spatial scales or ecosystems".[93] This requires three concurrent actions: avoiding new degradation by maintaining existing healthy land; reducing existing degradation by adopting sustainable land management practices; and increasing and intensifying efforts to restore degraded lands to a natural or more productive state.[94] Land degradation neutrality represents a paradigm shift that compensates for expected loss of productive land with recovery of degraded areas. To date, 129 countries have committed to set LDN targets, and more than 115 have already set those targets, collectively committing to restore one billion hectares.[95]

The economic case for preventing desertification and land degradation, and rehabilitating degraded lands is strong. A study published in 1992 estimated the cost of rehabilitating all of the world's degraded land that is capable of being restored at a total of $213 billion over 20 years. The authors emphasized that the annual benefits ($28 billion) would be substantially larger than the annual costs ($11 billion).[96] A more recent study estimated that achieving land restoration targets by 2030 requires investment of $300 billion annually, but notes that this figure is less than the total of environmentally harmful subsidies provided by wealthy States to farmers.[97] Another study concluded that restoring degraded land would remove carbon from the atmosphere, help communities adapt to climate change and generate up to $1.4 trillion dollars in agricultural production annually.[98] Every dollar invested in restoring land can generate 7 to 30 times that amount in benefits.[99] However, avoiding land degradation in the first instance is always preferable to attempting post-degradation restoration.

b. The UN Sustainable Development Goals

The 2030 UN Sustainable Development Goals (SDGs) provide a holistic vision for the transformation of today's troubled world into a just and sustainable future where nobody is left behind. The SDGs aim to address environmental and human rights problems by transforming the economy, alleviating inequality, ending discrimination, and enhancing environmental protection. The realization of the Goals would result in a dramatic increase in quality of life for billions of people around the world, while failing to meet these goals would subject billions of people to ongoing environmental and human rights harms.[100]

SDG 15 is to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss." Target 15.3 is "by 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world".[101] This target is expected to help accelerate implementation of the CCD.[102]

Addressing desertification, land degradation and drought is important to the achievement of all 17 SDGs. Tackling desertification and achieving land degradation neutrality is obviously relevant for some SDGs, including food (SDG 2) water (SDG 6) and life on land (SDG 15), but is also vital for gender equality (SDG 5), peace, justice and strong institutions (SDG 16), and partnerships (SDG 17).[103] It is essential to understand that while the SDGs are often misunderstood as political aspirations, they are in fact built on a rock-solid foundation of international human rights law, meaning they are obligations for States, not options.[104] Businesses also have important responsibilities, including the imperative of making positive contributions to achieving the SDGs.

UN Secretary-General Antonio Guterres observed that reversing land degradation is "simple, inexpensive and accessible to all" and is one of the most expeditious ways of achieving all SDGs.[105] The SDGs, taken together with the CCD, UNFCCC and CBD provide an ambitious, rights-based framework for land restoration that must be implemented immediately.[106]

c. Empowering Women, Girls, Indigenous Peoples and Local Communities

i. Women and Girls

Women and girls are vital agents of change in efforts to minimize, stop and reverse desertification and land degradation. Women's access to, ownership of, and control over the land is key to their economic empowerment and full enjoyment of their human rights.[107] Not only does land ownership increase their economic security, it also increases their decision-

making power within communities and families.[108] When women and girls have equal land ownership and tenure rights, they tend to invest in soil conservation and sustainable land management practices.[109] CCD Executive Secretary Ibrahim Thiaw emphasizes that women are critical to reversing desertification and land degradation, as they restore, protect, nourish and care for the land while simultaneously caring for their families and communities.[110]

As noted by gender and environment expert Lorena Aguilar, gender transformative actions are required to address unequal power structures, gender gaps and human rights violations, including: "socio-economic inequality and the persistence of poverty; inequitable control of and access to natural resources (including land); lack of or limited access to markets, capital, training, technical assistance, financial services and technologies; patriarchal, discriminatory and violent cultural patterns; the sexual division of labor and the unfair social organization of care; and the concentration of power and hierarchical relations that prevail in the public domain, where institutional decision-making structures in the field of sustainable development demonstrate women's limited access to the exercise of power and decision-making processes."[111] Gender transformative actions are steps capable of changing the norms and systems that perpetuate gender inequality, and addressing the root causes of gender-based discrimination.[112]

One of the core principles of the CCD is that the participation of women in environmental decision-making is critical to addressing desertification and land degradation.[113] Empowering women and girls as landowners, increasing their participation in decisions about the land, and increasing their access to education training and financial resources are essential actions for accelerating land restoration and making progress towards land degradation neutrality. Ensuring more equitable land governance, ownership and tenure result in positive environmental and human rights outcomes. LDN is unlikely to be achieved without the simultaneous achievement of gender equality.

In this context, it is disappointing that very few LDN plans have references to women, and only 21 percent of delegates during the 14th session of the CCD Conference of Parties were women.[114] In 2018, the CCD published a Gender Action Plan, which mandates gender mainstreaming to advance State efforts in achieving their land degradation neutrality targets. The Gender Action Plan identifies critical areas for women's engagement in LDN programs, including i) increasing participation in the design and implementation of programs; ii) integrating women's economic empowerment in implementation activities; iii) strengthening women's land rights and access to resources; and iv) enhancing capacity-building, education and public awareness.[115]

The 15th session of the CCD Conference of Parties (COP 15), which occurred in 2022, approved a roadmap to accelerate implementation of the Gender Action Plan through gender-responsive and transformative approaches.[116] It also requested the CCD Secretariat to convene an annual Gender Caucus in order to enhance the implementation of the Gender Action Plan and its

roadmap. COP 15 also saw the adoption of the Abidjan Declaration on Gender, which emphasizes the need to promote all necessary measures to identify and eliminate all forms of discrimination against women in the context of fighting against desertification, especially in relation to access, ownership and control over land.[117]

In 2023, under the theme "Her Land, Her Rights", the World Day to Combat Desertification and Drought highlights women's land rights as a key element of achieving both LDN and gender equality. Objectives include raising awareness about the gendered impacts of desertification, land degradation and drought on women and girls, highlighting women's contributions to sustainable land management, and mobilizing support to advance land rights for women and girls around the world.[118] The key takeaway of the 2023 theme is that "investing in women's equal access to land and associated assets is a direct investment in their future and the future of humanity".[119]

ii. Indigenous Peoples and Local Communities

At least one quarter of global land is traditionally owned, managed, used or occupied by Indigenous Peoples.[120] These lands, including extensive drylands, hold much of the world's biodiversity.[121] Indigenous Peoples and local communities often are at the forefront of land defence and restoration, with little or no support from States despite the fact that customary practices offer effective solutions to desertification, land degradation and other environmental problems. Indigenous Peoples and local communities who have been stewarding their territories for thousands of years hold vital knowledge and wisdom about sustainable land management practices that help ecosystems and biodiversity flourish. Nature on Indigenous, local community and Afro-descendant community lands is declining at a less rapid rate than in other areas, including protected areas designated and managed by States, which speaks to the efficacy of their traditional nature conservation practices.[122]

When the rights of Indigenous Peoples and local communities are protected, including through the implementation of the UN Declaration on the Rights of Indigenous Peoples and the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas, the results include increased environmental protection and restoration. Lands managed by Indigenous Peoples and nature-based local communities have lower rates of deforestation, higher levels of biodiversity, and greater reductions in carbon emissions.[123] Seasonal knowledge and intergenerational wisdom collected and transmitted within Indigenous and local communities aid in restoring degraded land and preventing degradation in the first instance.[124]

As with empowering women and girls through stronger land rights, recognizing land and tenure rights for Indigenous Peoples and local communities safeguards their human rights and empowers them to protect healthy land and restore degraded land. When these groups own or

manage land, they enjoy increased decision-making power and can engage in participatory land management planning.[125] This enables the integration of Indigenous and community knowledge with modern science and helps to provide these communities with access to social services and economic opportunities.[126] Integrating Indigenous and community knowledge and participation in land management is imperative for stopping desertification and land degradation, restoring damaged ecosystems, and respecting, protecting and fulfilling the human rights of these groups. Studies show that when Indigenous and community knowledge—including from women and girls—are incorporated in decision-making, this is an effective way of restoring land and enhancing the quality of life of these groups.[127]

d. Implementing the Right to a Clean, Healthy and Sustainable Environment

Adopting a human rights-based approach to combatting desertification and land degradation places those who are most vulnerable to their effects at the center of designing and implementing solutions to these problems. The right to a healthy environment has a critical role to play in this conversation. In 2021, the UN Human Rights Council adopted a resolution recognizing, for the first time at the global level, the right to a clean, healthy, and sustainable environment.[128] In 2022, the UN General Assembly adopted a similar resolution, confirming that this is a universal human right.[129] The General Assembly resolution specifically recognized the role that desertification plays in threatening the ability of present and future generations to enjoy the full extent of their human rights.[130]

The right to a healthy environment acts as a catalyst for State action and empowers civil society to hold governments accountable for upholding human rights and fulfilling environmental commitments. In four nations including Cabo Verde, Ecuador, the Niger and Somalia, the right to a healthy environment is explicitly linked to desertification in constitutional and legislative documents. The Constitution of Niger requires the State to lead the fight against desertification, expressly treating this as a human rights issue (Title II: Human Rights and Duties, Art. 36). The Constitution of Somalia also imposes a duty to reverse desertification (Art. 45.3).

In Cabo Verde, Article 72 of the Constitution, adopted in September 1992, requires public authorities to fight desertification and the effects of drought in order to guarantee the right to a healthy and ecologically balanced environment.[131] Desertification has impacted the entire archipelago of Cabo Verde and is a significant problem for the State, whose economy depends on agriculture and tourism.[132] To combat desertification, Cabo Verde has set land degradation neutrality goals and has implemented numerous initiatives including reforestation and innovative agricultural techniques that preserve soil and the environment.[133] As of 2016, Cape Verde was the only country in the world to report that over half of agricultural holdings (50.5 percent) belonged to women.[134] The constitutional recognition of the right to a healthy

environment in Cabo Verde has also spurred initiatives to address problems relating to water scarcity and contamination.[135]

Ecuador also recognizes the right to a healthy environment both in its Constitution and its legislation.[136] The Constitution states that "Soil conservation, especially its fertile layer, is a matter of public interest and national priority" and the government must establish a regulatory framework to prevent desertification, degradation, erosion and pollution (Art. 409). The Organic Environmental Code emphasizes that the right to live in a heathy and ecologically balanced environment includes the conservation, sustainable use and restoration of soil, as well as the prevention of erosion, degradation and desertification (Article 5).[137] Ecuador is pursuing LDN, using the support of the World Overview of Conservation Approaches and Technologies to help map hotspots of degradation within the State and identify priority areas in which to implement sustainable land management practices.[138]

Access to relevant and credible scientific information is required to prevent land degradation and spur land restoration. Implementing the right to a healthy environment holds States accountable for providing that access.[139] Constitutional recognition of the right to a healthy environment has also served as a catalyst for a proliferation of national laws related to environmental education.[140] More generally, States that have legally recognized the right to a healthy environment have seen improved implementation and enforcement of environmental laws, higher levels of public participation in environmental decision-making and improved environmental performance.[141] Implementing the right to a healthy environment, including both its substantive and procedural elements, can be a powerful tool in addressing problems of desertification and land degradation.

e. Good Practices

There are proven solutions and many examples of good practices in combatting desertification, reversing land degradation and mitigating drought.[142] A human rights-based approach that places vulnerable populations at the centre of solutions, and integrates Indigenous, local community and women's knowledge about the land is likely to be effective in achieving LDN goals and sustainable land management. Strengthening land rights for women, Indigenous Peoples and other potentially vulnerable groups will provide both socio-economic and environmental benefits, including enhanced access to nutritious food and safe and sufficient water, gender equality, decreased poverty, inclusive participation in decision-making, improved resilience and reduced conflicts over resources. Access to land must also always be accompanied by sufficient access to other inputs, including water, credit, extension services, new technologies and basic infrastructure. Farmers with land ownership or secure tenure, and

adequate access to other resources, are more likely to invest in their land, which improves environmental outcomes.

Dozens of additional good practices can be found in the Global Land Outlook, 2nd edition, published by the CCD in 2022.

i. The Great Green Wall of Africa

Launched in 2007 by the African Union, and involving twenty-one States (Algeria, Benin, Burkina Faso, Cameroon, Cabo Verde, Chad, Djibouti, Egypt, Eritrea, Ethiopia, the Gambia, Ghana, Libya, Mali, Mauritania, the Niger, Nigeria, Senegal, Somalia, the Sudan and Tunisia), the Great Green Wall is an initiative that aims to restore degraded land in the Sahel region of Africa. The multi-billion-dollar effort initially planned to do this by planting a 6,000-km-long wall of trees in the semi-arid region.[143] This original plan was criticized by scientists who believed that the plan was unlikely to succeed.[144] Scientists noted that the Sahara Desert was not expanding south into the Sahel region but that large swathes of land in the Sahel had been degraded. Planting a wall of trees was impractical and likely to be ineffective, as large regions of the Sahel are uninhabited, meaning no one would be present to care for the saplings.

Fortunately, the original plan evolved, incorporating Indigenous and traditional knowledge from farmers across the Sahel, and particularly in Niger and Burkina Faso. These farmers used simple water harvesting techniques and strategies to protect naturally emerging trees on their farms.[145] The Great Green Wall is now a broader initiative focused on restoring degraded land with a wide belt of mixed vegetation, trees, and bushes. The African Union and the UN Food and Agricultural Organization refer to the Great Green Wall as "Africa's flagship initiative to combat land degradation, desertification and drought".[146] By 2020, Senegal had already planted more than 18 million drought-resistant trees and Ethiopia had restored 15 million hectares of degraded land. The Niger has already restored 5 million hectares, resulting in the production of an additional 500,000 tonnes of grain annually, which is enough to feed 2.5 million people.[147]

An additional element being integrated into the Great Green Wall initiative is solar electricity. A large proportion of people in the 21 States involved have never had access to electricity. Low population density and vast distances made it challenging to make connections to national electricity grids. With the dramatic decline in the cost of solar, decentralized electricity production is now cost-effective, and access to power can be life-changing for families and communities. The African Development Bank is pursuing a Desert to Power project, a $20 billion project to bring solar electricity to 250 million people in the Sahel, with the added benefit that access to solar will prevent people from cutting down the trees for fuel.[148]

The mosaic of sustainable land use practices and interventions that make up the Great Green Wall illustrate the importance of systemic and transformative actions to combat desertification, land degradation, poverty and water scarcity. They also emphasize the importance of Indigenous and local knowledge and practices, and of empowering residents to develop and implement solutions to restore degraded land. Not only has the Great Green Wall initiative been successful in restoring over 20 million hectares of land, but it has also created 350,000 jobs and helped to address issues related to climate change, famine, conflict and migration.[149] The Global Environment Facility has provided over $800 million in funding.[150] At the One Planet Summit for Biodiversity in 2021, States pledged more than $16 billion to accelerate progress towards the goals of restoring 100 million hectares of land and creating 10 million green jobs in the region.[151]

ii. Türkiye's Ankara Initiative

Türkiye experiences a high risk of desertification and land degradation due to excessive grazing, inefficient agricultural practices, soil erosion, and population growth.[152] The nation's topography and soil characteristics make it highly susceptible to erosion.[153] Experts warn that 22.5 percent of Türkiye's lands are at risk of desertification.[154] The State has unique and rich biodiversity, and its geographic location at the intersection of the Mediterranean and the Near East make it an important source of genetic diversity for both plant and animal species.[155] It is home to over 9,000 plant species, one-third of which are endemic to the region, making it one of the leading countries for plant endemism and placing responsibility on the State to ensure adequate plant protection.[156] Desertification has significant implications for not only Türkiye but for the surrounding region and the world.

Though facing a serious and pressing threat from desertification and land degradation, Türkiye also represents an important success story in the fight against these environmental disasters. Semi-arid regions in Ankara, once ravaged by desertification, have been rehabilitated into areas rich in biodiversity that play a significant role in contributing to fighting climate change and the enjoyment of human rights.[157] Soguksu National Park and the Lake Abant Nature Park are prominent examples of these changes, which were driven by concerted reforestation efforts involving government working in collaboration with local communities. These communities were key participants in decision-making and planning processes and remain involved in Türkiye's participatory forest management system.[158] Since it began its fight against desertification, Türkiye has restored over 4.2 million hectares of degraded land, forested areas have grown by 900,000 hectares, and the rate of soil loss has fallen by almost two-thirds.[159]

Following this success, Türkiye, working with the CCD secretariat, developed the Ankara Initiative. This initiative aims to apply lessons learned in Türkiye to similar situations around the world, with the goal of achieving land degradation neutrality with the assistance of CCD tools

and resources.[160] Annual capacity-building training sessions are hosted in Türkiye, where experts from over 50 countries learn about issues of desertification, LDN, drought and gender.[161] The program emphasizes the importance of an integrated approach to addressing desertification targeting socio-economic factors, institutional cooperation and policy-making. The Ankara Initiative highlights the importance of a rights-based approach that places people at the centre of decision-making.[162] The initiative also draws attention to the importance of strengthening land and tenure rights and building the capacity of Indigenous Peoples and local communities, with an emphasis on women and girls, to enable greater public engagement.[163] By 2019, over 800 foreign experts had attended training sessions under the Ankara Initiative.[164]

iii. Recovery of Degraded Areas and Reduction of Climate Vulnerability in Brazil

The Caatinga drylands in northeastern Brazil cover 11 percent of the country's area, approximately 100 million hectares. These drylands are home to 34 million people and support a host of different mammal, bird, reptile, amphibian, fish and insect species.[165] The semiarid climate of the Caatinga biome is extremely important in the context of Brazil's adaptation to climate change, because it is home to plant and animal species that are resilient in the face of higher temperatures and water scarcity.[166] However, in recent decades the region has experienced desertification and land degradation as a result of inadequate land management, severe droughts, and overexploitation of resources.[167]

In 2016 Brazil established the Recovery Units of Degraded Areas and Reduction of Climate Vulnerability (URAD) initiative to address the main drivers of desertification and land degradation in the region. Through URAD, local communities are mobilized to restore their watersheds with support from the federal government. The initiative has placed the participation of local communities at the center of its strategy, recognizing that environmental actions are more likely to succeed when they involve extensive public participation in decision-making and implementation.[168]

URAD was given a minimum 10-year mandate and supported by a financial commitment of $100 million, collected from domestic environmental fines. Implementation actions for the first two years of the initiative received an additional $1 million from the Brazil Climate Fund, and $9 million from the international community.[169] Funding is invested in resources and training for local communities to participate in projects that restore watersheds within the Caatinga region.

URAD's innovative approach simultaneously addresses the environmental, social and economic challenges of desertification and land degradation. Environmental actions focus on soil conservation, biodiversity preservation, a safe water supply and sustainable food production. Social actions target the energy and water needs of communities in the Caatinga region.

Economic actions include sustainable bee-keeping and integrated crop-livestock-forest systems to support livelihoods.[170] The first activities under the project were completed in half the time originally estimated, and the URAD model has empowered communities to combat desertification and make the short-and-long-term changes necessary for transformation of the region.[171] The results include increased enjoyment of the rights to food, water, health, adequate livelihoods and a clean, healthy and sustainable environment.

iv. The Great Green Wall of China

For decades, China has been gravely concerned about the expansion of the Gobi and Taklamakan Deserts in the northern part of the country and the massive dust storms that emerge from these deserts and wreak havoc with air quality. In 1978, China began a massive afforestation project with a goal of creating a 4,500 km tree belt with more than one billion trees.[172] There appear to have been reductions in the intensity of dust storms as the level of vegetation has increased. Critics have warned that monoculture tree plantations are susceptible to disease outbreaks and may also consume high levels of water in this arid region, urging China to make greater use of native species and drought resistant shrubs and grasses.[173]

V. Conclusion and Recommendations

Humanity cannot continue to degrade agricultural lands if we hope to feed ten billion people by 2050. Combatting desertification and restoring degraded land is an urgent priority that must be addressed by States around the world. Desertification, land degradation and drought worsen existing inequalities, increase vulnerabilities and multiply the risk of human rights harms. The rights of women, girls, Indigenous Peoples, and local communities are disproportionately vulnerable. Unfortunately, the failure of States to employ a human rights-based approach is a major reason why efforts to stop and reverse desertification and land degradation have been unsuccessful to date.[174]

Decisive action to prevent and reverse land degradation will increase the full enjoyment of human rights and improve responses to the planetary environmental crises of climate change, biodiversity loss, pollution, zoonotic diseases and water scarcity. As the European Commission has noted, “Avoiding, reducing and reversing land degradation, including desertification, would enhance soil fertility, increase carbon storage in soils and biomass, and increase agricultural productivity and food security.”[175] Additional benefits include enhanced water security, conservation of healthy biodiversity and ecosystems, and employment opportunities for young people.

To prevent further land degradation, reverse desertification, protect human rights, restore healthy ecosystems, and combat the planetary environmental crisis, States must:

1. Systematically prioritize human rights when implementing their commitments under the CCD, including incorporating LDN measures into domestic law and policy frameworks. States that already have established LDN targets must accelerate the work of achieving those targets. States that have committed to, but not yet set, LDN targets must do so as soon as possible and then immediately begin efforts to stop land degradation and restore land. Those States that have yet to commit to setting LDN targets must do so immediately, establish targets and then rapidly implement the required actions.

2. Increase financial, human and institutional resources needed to accelerate actions to halt and reverse desertification and land degradation, while restoring vital ecosystems. This includes:

    a. Immediately dedicating additional financial support to LDN policies, programmes and practices that help to prevent and reverse land degradation. The estimated need of $300 billion annually is less than the amount environmentally harmful subsidies currently provided to farmers in wealthy States, which should thus be re-allocated.[176] As set forth in the CCD, wealthy countries must take on the majority of the financial responsibility for funding LDN practices, through additional aid, investment, debt relief and innovative proposals such as the Bridgetown Initiative for climate and development finance. States should establish flexible social protection, insurance and financing mechanisms to support economic and social displacement arising from drought (i.e., climate and disaster risk financing and insurance)

    b. Embedding and facilitating, in all strategies to combat desertification and land degradation, rights such as access to information, public participation in environmental decision-making and access to justice. States in Latin America and the Caribbean should sign, ratify and implement the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement), while States in other regions should consider becoming parties to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) or develop new regional agreements similar to Escazú and Aarhus.

    c. Making credible, relevant and up-to-date scientific information regarding degraded areas, good practices and sustainable land management accessible to all. This includes monitoring and assessment mechanisms to track and understand desertification and land degradation patterns. Additional effort is required to ensure that relevant information is accessible to Indigenous Peoples and rural populations, including publication in other languages.

    d. Immediately incorporating the right to a clean, healthy and sustainable environment in their constitutional, legal and policy frameworks—with explicit recognition of

women as rightsholders—and prioritizing the implementation of State obligations related to both the substantive and procedural aspects of this right.

3. Integrate Indigenous Peoples' and local communities' rights, customary practices, knowledge and full and effective participation in all decision-making related to desertification and land degradation, especially regarding sustainable agricultural practices and land use management. This includes:

    a. Prioritizing legal recognition of title, tenure, and rights of Indigenous Peoples, Afro-descendants, peasants and local communities over all territories and resources that they customarily or otherwise own, manage, or use, with explicit recognition for the tenure rights of women within these communities.

    b. Where relevant, adopting and implementing legislation that operationalizes the United Nations Declaration on the Rights of Indigenous Peoples, ensuring full consultation with, and the free, prior and informed consent of Indigenous communities before projects or activities are commenced in their traditional territories, and throughout the duration of all approved projects or activities.

    c. Where relevant, adopting and implementing legislation that operationalizes the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas.

    d. Ensuring equitable benefit sharing in land management systems so that Indigenous Peoples and local communities—including Indigenous and rural women—are empowered to participate in LDN and ecosystem restoration initiatives.

    e. Guaranteeing the availability of legal information and advice to Indigenous Peoples and local communities, in their own languages and according to their culture.

4. Empower women, girls and youth as key rights-holders and partners in efforts to prevent land degradation and desertification.[177] This includes:

    a. Recognizing, upholding and enforcing women's land ownership and tenure rights and their role as stewards of the land. States must act in a gender-transformative manner to address and dismantle discriminatory and gender-blind laws and practices that limit women's access to and control over land and natural resources, and provide targeted financial support as well as access to education, credit, extension services, other needed resources, and access to justice. This is particularly important for Indigenous, Afro-descendant, peasant and local community women, who often have weaker legal protections and social status.

b. Accelerating implementation of the CCD Gender Action Plan by: working with women's organizations; developing strategic partnerships with experts, development partners, government and the private sector; mobilizing the financial resources needed to achieve gender equality in context of the CCD; and regular reporting on State interventions to assess progress, gaps and challenges to ensure that they deliver meaningful results for women or are strengthened on an urgent basis.

c. Building the capacity of i) national women's institutions (i.e., Ministry of Women Affairs) so that they can engage in CCD consultation processes in a substantive and informed manner; ii) government ministries and departments to address topics related to gender and desertification, land degradation and drought, including gender-transformative budgeting; and iii) grassroots organizations led by women.

d. Promoting the equal participation and leadership of women and men in CCD processes and structures as well as land, water and environmental governance at the national and local levels

e. Ensuring that all laws, regulations, policies, projects and programmes addressing desertification, land degradation, drought and restoration are gender-transformative

f. Closing the gender data gap to enable evidence-based interventions and responses by:

    i. Disaggregating data, gender targets and baselines by sex, age, race/ethnicity, geography, class, livelihood source, migrant status and gender identity.
    ii. Regularly collecting and publishing this disaggregated data.
    iii. Tracking the land rights and tenures held by women and men.

g. Prioritizing the involvement of youth in designing, implementing and monitoring land restoration activities as well as ensuring access to education and training programs focused on sustainable land management

5. Review and update domestic migration laws and policies to extend immigration, refugee and asylum protection rights to those migrating for ecological and environmental reasons. States should implement the Global Compact for Migration, especially objective 5(h) which requires States to "cooperate to identify, develop and strengthen solutions for migrants compelled to leave their countries of origin due to slow-onset natural disasters, the adverse effects of climate change, and environmental degradation, such as desertification, land degradation, drought and sea level rise, including by devising planned relocation and visa options, in cases where adaptation in or return to their country of origin is not possible". There is also a desperate need for substantially increased and targeted humanitarian assistance for both migrants and refugees.

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Endnotes

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