

## Future Challenges and Strategies in Combating Land Degradation

**\*Dr. Mamta Choudhary**

### Abstract

The United Nations Convention to Combat Desertification (UNCCD) was created in 1994 as a result of the 1992 Earth Summit, whereby it was acknowledged that one of the major environmental obstacles impeding sustainable development was desertification. With 197 Parties as of right now, UNCCD is a legally binding international agreement that attempts to combine sustainable land management solutions with challenges related to development and the environment. Every year on June 17, we commemorate Desertification and Drought Day, marking the day of its adoption.

The term "desertification" describes how drylands deteriorate. Two billion people live in these arid, semi-arid, and sub-humid regions across the world, mostly in developing nations. These regions account for 40% of the planet's land area. Every continent has drylands, but the majority of them are found in Asia and Africa.

In addition to other human actions like deforestation and unsustainable land use, climate fluctuations are the primary driver of dryland degradation. This has serious ramifications; for instance, it causes the annual loss of 24 billion tons of fertile soil, endangering the lives and livelihoods of people.

**Keywords:** desertification, drylands, reforestation, future, battling, and sustainable

### Introduction

Resolving desertification is critical because healthy drylands benefit people and the environment in many significant ways.

According to the New Climate Economy research, 200 million more people may have access to food and over USD 30 billion in additional revenue from the restoration of 150 million hectares of agricultural land. Restoration is essential to a green recovery from the COVID-19 epidemic and offers significant additional environmental advantages, like as carbon storage and biodiversity protection.

Reforestation, including tree regeneration, is one of the numerous strategies to aid in the restoration of damaged land. Among these is agroforestry, a method of managing natural resources in which trees are planted on the same land that is used for farming. Agroforestry holds promise in tackling several significant economic, environmental, and social concerns, including the preservation of the environment and meeting the world's increasing food needs. Agroforestry alone can improve food security for 1.3 billion people by repairing degraded land, according to a recently released UNEP

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research on ecosystem restoration. Additionally, in agroforestry systems, tree plantations serve as both habitats and a buffer zone against deforestation, allowing species to migrate.

The connections between deforestation, climate change, and biodiversity loss are highlighted by initiatives to recover degraded land via reforestation and agroforestry systems. The Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC), the other two Rio Conventions, share significant areas of overlap with the UNCCD.

Abisha Mapendembe, a UNEP-WCMC Programme Officer, spoke on this subject while assisting Namibia's sustainable development by putting the three Rio Conventions into practice in a coordinated manner. He says, "That."

"There isn't time to handle these urgent issues sequentially at this critical juncture for the global disaster of loss of biodiversity, climate change, desertification, and inequality—all of which are covered under the three Rio treaties adopted in 1992. These pressing issues require our simultaneous attention as we look for coordinated solutions and synergies. In order to address major development and environmental concerns in a coordinated way that benefits both people and the environment, the Sustainable Development Agenda and its accompanying Sustainable Development Goals offer a ready-made set of objectives. On the other hand, this calls for coordinated government policy development and execution.

The Reducing Emissions from Deforestation and Forest Degradation (REDD+) program is one instance of the initiatives aimed at addressing the connections between these norms. Reducing greenhouse gas emissions and increasing sequestration are two ways that REDD+ initiatives combat climate change. They also lessen forest degradation and promote biodiversity conservation and sustainable usage.

For instance, in Côte d'Ivoire, the production of cocoa both sustains the lives of numerous smallholder farmers and is the primary cause of deforestation and subsequent land degradation. In order to support more resilient agricultural ecosystems, increase food security, and mitigate climate change, agroforestry interventions may be done in certain locations, according to UNEP-WCMC's spatial analysis work mapping restoration options across the nation. This effort advances both the CocoaSoils partnership and the UN-REDD Program's implementation.

### **Discussion**

Countries pledged to attain land degradation neutrality by 2030 at the UNCCD COP13 in 2017, and the UNCCD 2018–2030 Strategic Framework fully addresses this objective. The UN Decade on Ecosystem Restoration, which aims to promote synergies between the three Rio Conventions over the next ten years, will encourage this.

The planet's ecosystems desperately need to be restored, with 75% of land having been altered from its natural state and 23% of land no longer being productive. Let's celebrate Desertification and Drought Day this year as the beginning of a decade that will have a significant impact, restoring over 2 billion hectares of damaged land and enhancing the lives of over 1.3 billion people worldwide.

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Governments and civil society will need to transform the knowledge and resources that are already available to promote sustainable land management into actions at the local and national levels.

To ensure that food safety, energy requirements, land tenure, gender equality, access to pure water, and biodiversity are taken into consideration and meaningfully addressed together, it can be helpful to create an enabling environment for land degradation neutrality, an approach that balances the expected loss of land that is productive with the recovery of degraded areas.

Paragraph 205 of the Future We Want recognizes the economic and social relevance of appropriate land management, particularly soil and its contribution to economic growth and social progress. In this context, Member States convey their apprehension regarding the obstacles to sustainable development presented by land degradation, drought, and desertification, particularly with regard to Africa and LDCs. Member states also emphasize the necessity of acting at the national, regional, and global levels to stop land degradation, encourage funding from public and private sources, and put the United Nations Convention to Combat Desertification (UNCCD) and its 10-Year Strategic Plan and Framework (2008-2018) into practice.

Additionally, Member States recognize and encourage the value of partnerships and initiatives in paragraphs 207 and 208 of the Future We Want to protect land resources and to further develop and implement reliable, sound, and socially inclusive methods and indicators for tracking and evaluating the extent of drought, desertification, and land degradation. It also discusses the importance of current initiatives to advance science and fortify the scientific foundation of initiatives to combat drought and desertification under the UNCCD.

During multiple sessions, the Commission on Sustainable Development deliberated on the fight against drought and desertification. Within the context of the Commission's multi-year work program, CSD 16-17 concentrated on drought and desertification, respectively, in 2008 and 2009, together with the interconnected problems of land, agriculture, rural development, and Africa.

As part of its multi-year work program, CSD-8 examined integrated land resource planning and management as its sectoral subject in 2000. The Commission on Sustainable Development stated in its decision 8/3 on integrated planning and management of land resources that in order to address the pressing issues of the development of deserts and drought, environmentally friendly mountain development, the avoidance and reduction of land degradation, coastal zones, deforestation, climate change, land use in both rural and urban areas, urban growth, and biological diversity conservation, it is crucial to approach sustainable development holistically, including through ecosystem management.

CSD-3 examined the sectoral cluster of land, biodiversity, forests, desertification, and mountains (as well as chapters 10-13 and 15 of Agenda 21) in 1995 and once more during the five-year review in 1997. In order to prepare an international convention to combat deforestation in those countries experiencing serious drought and/or deforestation, particularly in Africa, by June 1994, the United Nations General Assembly was called upon by the UN Conference on Environment and Development (UNCED) to establish an Intergovernmental Negotiating Committee (INCD). On June 17, 1994, the

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Convention was adopted in Paris, and on October 14 and 15, 1994, it was made available for signature. It became operative on December 26, 1996.

A chapter dedicated to "combating desertification and drought" discusses deserts, one of the "fragile ecosystems" included by Agenda 21. Desertification is the term used to describe the degrading effects of numerous variables, such as weather fluctuations and human activity, on land in arid, semi-arid, and dry sub-humid zones. Up to 25% of the world's land area, 70% of all drylands, and one-sixth of the world's population are all impacted by desertification. In addition to degrading billions of hectares of agriculture and rangeland, it causes widespread poverty.

Chapter 10 of Agenda 21 addresses the cross-sectoral aspects of making choices for the sustainable use and growth of natural resources, particularly the soils, minerals, water, and biota that make up land. It focuses on integrated planning and management of land resources. The foundation of Agenda 21's and the Commission on Sustainable Development's discussions of land concerns is this comprehensive integrated perspective of land resources, which are vital for life-supporting systems and the environment's potential for production.

Growing population demands and economic activity are putting ever-greater strain on land resources, fostering rivalry and conflict and leading to less-than-ideal resource utilization. It is feasible to reduce conflicts, make the best trade-offs, and connect social and economic development with environmental preservation and enhancement by looking at all uses of land holistically. All of these things contribute to the goals of sustainable development. Paragraph 10.1 of Agenda 21 Chapter 10 of Agenda 21 is under the task managership of the Food and Agriculture Organization of the United Nations (FAO).

### **Results**

Globally, land degradation is happening quickly. Healthy land resources and thriving ecosystems are necessary to guarantee food security for the world's expanding population. However, the way we now farm is degrading soils across the globe up to 100 times faster than the rate at which nature replenishes them.

Almost 3.2 billion people have already been impacted by the changes we have made to 70% of all ice-free land. By 2050, ninety percent of the land will be impacted by human activity. The majority of people on Earth will be impacted by land deterioration. In addition, land degradation intensifies extreme weather events like droughts and floods, modifies and disrupts rainfall patterns, and accelerates climate change. It leads to political and social instability, which fuels migration, poverty, and conflict.

This worrying forecast of the future can be stopped and then reversed by the UNCCD's land degradation neutrality (LDN) objective. Of the 196 nations in the world that have promised (or plan to) stop land degradation by 2030, we are already assisting 129 of them. The Changwon Initiative, which promotes national voluntary target-setting processes to attain land degradation neutrality (LDN), has more than 100 participating countries. According to our definition, LDN is "a state in

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which, within specific temporal and spatial scales and ecosystems, the amount and quality of land resources necessary to support ecosystem functions and services to enhance food security remain stable, or increase."

Three simultaneous actions are needed to achieve LDN:

- First, prevent further land degradation by preserving healthy land;
- Second, reduce current land degradation by implementing sustainable land management techniques that can slow degradation while boosting biodiversity, soil health, and food production;
- Third, intensify efforts to restore and return degraded lands to a more productive or natural state.

The following are among the goals that the UNCCD has for LDN:

- Preserving or enhancing the sustainable provision of ecosystem services
- Sustaining or increasing land productivity to boost food security worldwide
- Enhancing the adaptability of the land and the people who live on it
- Looking for ways to collaborate with other social, economic, and environmental goals
- Supporting and encouraging responsible and inclusive land governance

Numerous factors contribute to land deterioration, including harsh weather, especially drought. Human activities that contaminate or worsen the state of soils and land utility are another factor contributing to it. It has a detrimental impact on livelihoods, food production, and the creation and delivery of other ecosystem products and services. A type of soil deterioration known as "desertification" turns productive land into a desert.

Due to the increasing and mixed pressures on agricultural and livestock production (over-cultivation, overgrazing, and forest conversion), development, deforestation, and extreme weather events like droughts and coastal surges that salinate land, land degradation has accelerated during the 20th and 21st centuries. The world's arable lands and pastures, which are necessary for the provision of food, water, and clean air, are under stress as a result of these socioeconomic and environmental processes. There are several ways in which desertification and land degradation can have an impact on human health. Food production declines, water sources dry up, and inhabitants are forced to relocate to more hospitable areas as land is degraded and deserts spread in some areas.

The following are some possible effects of desertification on health:

- More water- and food-borne illnesses brought on by inadequate hygiene and a lack of clean water;
- Increased risks of malnutrition due to decreased food and water supplies;
- Respiratory illnesses brought on by atmospheric dust from wind erosion and other air pollutants;
- The spread of infectious diseases as populations migrate.

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### Conclusion

Since 1996, farmers and extension service providers have been able to exchange locally relevant information through regular meetings called Forums for Integrated Resource Management. This knowledge then influences decision-making for sustainable management of crops and livestock. The "local level monitoring" decision support tool, which helps farmers identify and track important factors including rainfall, animal health, and fodder supply, is essential to the forums' success. Via the forum, government agricultural extension personnel offered further details on livestock markets, animal nutrition and health, rotational grazing, and other rangeland management techniques. When combined, these data have given local farmers the ability to manage natural resources sustainably by helping them make the right decisions.

Generally speaking, the forums have been successful in fostering a sense of inclusivity and trust among remote rural communities and central government, in addition to increasing institutional power and social capital at the local level. Giving ownership to individuals engaged and enabling local solutions to land management problems is how the method has succeeded. Although the program has significantly increased communication between policymakers and regional farmers, it hasn't had a big enough influence on regulations at the federal level yet. Another problem is funding, since most forums rely on donations for operation, which makes them unstable when funding stops.

**\*Associate Professor  
Department of Geography  
Government College  
Jaipur (Raj.)**

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