

## **Desertification: A Global Threat with Localized Impacts in Africa and Cameroon**

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### **Introduction**

The relentless advance of desertification constitutes a silent socio-ecological crisis, degrading arid, semi-arid, and dry sub-humid lands across the globe. This process threatens food security, biodiversity, and the livelihoods of over **3.2 billion people** worldwide, representing a critical challenge to sustainable development (United Nations Convention to Combat Desertification [UNCCD], 2022). While the dramatic images of desertification often emerge from the African Sahel, its effects are felt from the grasslands of North America to the steppes of Central Asia. The drivers are a complex synergy of climate change, intensifying droughts and altering rainfall patterns and unsustainable human activities like deforestation, overgrazing, and poor agricultural practices. Africa, with its vast drylands and vulnerable economies, bears a disproportionate burden of this crisis. Within this continent, Cameroon's northern regions serve as a microcosm of the intense pressures and complex solutions required to combat land degradation, further complicated by humanitarian crises. Addressing desertification is not merely an environmental issue but an urgent imperative for global economic stability, climate mitigation, and human security.

### **Understanding Desertification: A Complex Global Phenomenon**

Desertification is not the natural expansion of existing deserts but rather the degradation of land in vulnerable drylands. It is driven by a synergistic interplay between climatic variations and unsustainable human activities (Intergovernmental Panel on Climate Change [IPCC], 2019). Natural stressors, particularly increased frequency and severity of droughts linked to climate change, are potent catalysts. However, these are critically exacerbated by anthropogenic pressures such as extensive deforestation, non-conservation agricultural practices, overgrazing, and poor water resource management (UNCCD, 2022).

Globally, drylands cover approximately 45% of the Earth's terrestrial land surface. The scale of degradation is staggering; the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2018) estimates that 23% of the global land area has reduced productivity due to degradation. Furthermore, the economic implications are profound, with the World Bank (2021) estimating annual losses in ecosystem services exceeding 10% of global GDP.

This issue is truly global. Beyond the Sahel, significant areas in China (e.g., the encroaching Gobi Desert), India, Spain, Australia, and the southwestern United States face severe desertification risks, demonstrating that this is a challenge that transcends national and continental boundaries (Food and Agriculture Organization [FAO], 2020).

### **The Acute Impact of Desertification in Africa and the Sahel**

Africa is disproportionately affected, with drylands constituting about 66% of its landmass (African Union [AU], 2022). The Sahelian belt remains the global epicenter of this crisis. This vast ecoclimatic region, stretching from Senegal to Eritrea, is characterized by high climatic variability and intense human dependency on rain-fed agriculture and pastoralism.

The region has experienced catastrophic climate-induced shocks, such as the major droughts of the 1970s-80s and the more recent crises in the Horn of Africa. These events have led to massive crop failure, livestock mortality, and consequent acute food insecurity for millions. The UN Office for the Coordination of Humanitarian Affairs (OCHA, 2023) reports that over 30 million people in the Sahel are facing severe food insecurity, a situation heavily compounded by land degradation.

The socio-economic fallout is severe. The African Union (2022) links desertification to an annual reduction in agricultural GDP across affected countries by up to 8%, perpetuating cycles of poverty. This environmental scarcity acts as a threat multiplier, intensifying competition for dwindling resources like water and arable land, thereby fueling social tensions and triggering both internal and cross-border migration. The World Bank (2021) estimates that by 2050, sub-Saharan Africa could see up to 86 million internal climate migrants if urgent action is not taken.

### **Desertification in Cameroon: Local Dynamics, National Implications**

In Cameroon, desertification is a mounting national emergency, most critically in the northern regions (Far North, North, and Adamawa) which fall within the Sudan-Saharan zone. Here, semi-arid conditions, characterized by a short rainy season and frequent droughts, are combined with high population growth and unsustainable land use practices.

The scale of degradation is alarming. The Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED, 2021) estimates that over 12 million hectares of land are degraded nationwide, representing a significant portion of the country's productive territory. This process is severely exacerbated by non-climatic factors. The Far North Region, for instance, hosts a large population of refugees and Internally Displaced Persons (IDPs) fleeing violence from the Lake Chad Basin crisis. This sudden population surge has placed immense strain on local resources, leading to accelerated deforestation for fuelwood, overgrazing, and the cultivation of fragile marginal lands (United States Agency for International Development [USAID], 2022).

A study published in the *Journal of Arid Environments* (Tchienkoua et al., 2020) documented a significant loss of woody vegetation cover in certain areas of the Far North over the past two decades, directly linked to these combined pressures. This loss threatens food security, degrades local microclimates, and erodes the foundation of traditional agro-pastoral livelihoods.

In response, Cameroon has aligned with regional initiatives like the African Union's Great Green Wall (GGW). National projects focus on large-scale reforestation (e.g., the Mount Bamboutos Initiative), promoting farmer-managed natural regeneration (FMNR), drought-resistant crops, and the adoption of alternative energy sources like liquefied petroleum gas (LPG) to reduce fuelwood dependency (Environmental Rehabilitation and Development Foundation [ERuDeF], 2023; MINEPDED, 2021). The success of these programs hinges on integrated strategies that combine ecological restoration with socio-economic development, ensuring community ownership and long-term resilience.

### **Why Desertification is a Paramount Global Concern**

The impacts of desertification, while localized in their origin, generate cascading global consequences. Firstly, healthy soils are the second-largest carbon sink after the oceans. Land degradation disrupts this function, releasing stored carbon into the atmosphere and significantly

contributing to greenhouse gas emissions. IPBES (2018) notes that land degradation is a major contributor to climate change.

Secondly, the humanitarian and political repercussions are inextricably linked to international stability. Food insecurity, water scarcity, and mass displacement are potent drivers of conflict and can destabilize entire regions, creating complex international security and aid challenges. The World Economic Forum (2023) consistently ranks biodiversity loss and ecosystem collapse as top global risks over the next decade, directly linked to issues of land degradation.

### **Pathways Forward: Integrated Strategies for Combating Desertification**

Addressing desertification requires a multi-faceted, coordinated approach:

- **Science-Based Land Restoration:** Implementing large-scale reforestation and agroforestry programs informed by soil science and ecology to rebuild organic matter and restore hydrological cycles.
- **Sustainable Land Management (SLM):** Widespread adoption of proven techniques such as conservation agriculture, contour bunding, and zai pits, to enhance soil fertility and water efficiency (World Overview of Conservation Approaches and Technologies [WOCAT], 2022).
- **Policy and Governance:** Strengthening land tenure security and integrating land degradation neutrality (LDN) targets into national climate policies and development plans, as advocated by the UNCCD.
- **Community-Led Adaptation:** Empowering local communities, particularly women and youth, through education, access to credit, and technology transfer to become stewards of sustainable practices.
- **International Cooperation:** Fulfilling global commitments for climate finance to support adaptation and mitigation projects in developing nations, which are most vulnerable despite contributing least to the problem.

### **Conclusion**

Desertification is not a remote environmental issue but a central development challenge of our time, intricately linked to climate change, economic stability, and human security. While Africa, and nations like Cameroon within it, bear a disproportionate burden, the responsibility for action is global. The staggering scale of land degradation, costing the world over 10% of GDP annually in lost ecosystem services, demands a response that matches the severity of the crisis. Halting and reversing land degradation through restorative economics, sustainable land use, and inclusive governance is not merely an ecological imperative but a fundamental prerequisite for achieving the Sustainable Development Goals. The success of this global endeavor hinges on the adoption of integrated, community-centered approaches that are both scientifically informed and locally adaptable, as seen in initiatives like the Great Green Wall. Therefore, investing in land restoration is not an expense but a vital investment in global food security, climate mitigation, and the prevention of future conflicts. Ultimately, the fight against desertification is a definitive test of our collective commitment to building a resilient and equitable future for the next generation.

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