

# United Nations Development Programme

## Delivering Results in Degraded Lands for People and Planet

Empowered lives.  
Resilient nations.

### UNDP's Support to Developing Countries

UNDP's support to countries on sustainable land management and rehabilitation is designed to enhance livelihoods, secure food and water, build resilience and increase carbon storage and sequestration. Drawing on over 40 years of experience and expertise, UNDP assists countries to integrate land and related environmental concerns into national and sectoral development plans and strategies, secure resources, and implement programmes that advance inclusive, sustainable growth and development. This work supports governments to implement Multilateral Environmental Agreements and achieve their Sustainable Development Goals (SDGs).

Three key approaches underpin this work:

- Developing capacity at the individual, institutional and systemic levels for sustainable land management and rehabilitation;
- Undertaking applied policy research and analysis and providing evidence on policies and good practices in sustainable land management and rehabilitation that optimize livelihoods, jobs and food security;
- Assisting countries to identify, access, combine and sequence innovative environmental finance, including from the Global Environment Facility, Adaptation Fund, and Green Climate Fund, for sustainable land management and rehabilitation, and mobilize pro-poor markets for ecosystem goods and services.

### Land Degradation and Sustainable Development

Land degradation occurs across the globe, including in moist areas where it is accompanied by forest degradation and deforestation. In arid and semi-arid areas, known as drylands, land degradation is referred to as desertification. UNDP recognizes that land degradation is a barrier to sustainable development that destabilizes communities, particularly in dryland agro-ecosystems. Population growth, climate change, urban expansion, and unsustainable farming, mining, and grazing practices are increasing pressure on and degradation of productive land resources.

#### References

- 1 UN TST Briefs 2014
- 2 UNCCD. 2013. *The Economics of Desertification, Land Degradation and Drought*
- 3 UNCCD. 2014. *Land Degradation Neutrality*
- 4 UNCCD. 2014. *Desertification – The Invisible Frontier*

PHOTO: Midori Paxton

### Scale of the Problem

- One-quarter of the world's land area is either highly degraded or undergoing high rates of degradation.<sup>1</sup>
- During the last 40 years nearly one-third of the world's fertile topsoil has been lost to erosion and continues to be lost at a rate of more than 10 million hectares per year.<sup>1</sup>
- Two-thirds of land in Africa is already degraded to some degree and that affects at least 485 million people – 65% of the entire population of the continent.<sup>1</sup>
- The global community is losing up to 5% of potential agricultural gross domestic product (GDP) due to land degradation, costing some US\$490 billion per year in lost income.<sup>2</sup>

Degradation of agricultural lands is also accompanied by loss of grassland and forest resources. Many of the world's estimated 836 million people living in extreme poverty depend directly on land and its resources for food, water, fuel, shelter, and reduced vulnerability to climate change and natural disasters. Relying on nature for their livelihoods and subsistence, the poor stand to suffer disproportionately from land degradation in the coming decades.

### Impacts on People

- Some 40% of the world's degraded lands are found in areas with the highest incidence of poverty, which remains overwhelmingly rural.<sup>3</sup>
- Land degradation directly impacts the health and livelihoods of an estimated 1.5 billion, including people reliant on small-scale dryland agriculture, and harvesting products from nature.<sup>3</sup>
- Some 135 million people may be displaced by 2045 as a result of desertification.<sup>4</sup>

By 2030, the demand for food, energy, and water is expected to increase by at least 50%, 45% and 30% respectively. These needs will not be met sustainably unless we conserve and restore the productivity of our land. According to the Food Insecurity Report, about 800 million people lacked sufficient nutritious food between 2012 and 2014. If hunger and food insecurity are to be overcome, an estimated 60% increase

in agricultural productivity, including a 100% in developing countries, will be necessary by 2050.<sup>1</sup>

In this context, a concerted global effort is needed to halt and reverse land degradation. This has been acknowledged in the process to design the 2030 Agenda for Sustainable Development, with Sustainable Development Goal (SDG) 15 on “Protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, and halting and reversing land degradation and halting biodiversity loss”.

Support from UNDP and other UN organizations will help governments meet SDG Target 15.3: “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.” Land degradation neutrality is a positive aspirational goal that entails: adopting sustainable land management (SLM) policies and practices to minimize current, and avoid future, land degradation; and rehabilitating degraded and abandoned lands.<sup>3</sup>

Supporting the adoption of SLM policies and practices helps promote sustainable development in a number of ways, contributing to other related Goals, including food security (Goal 2), water (Goal 6), and climate change (Goal 13). The relationships among the land management, food security, water, and climate change Goals are of critical importance and options to simultaneously meet these Goals will prove cost effective and ecologically sound.

## UNDP’s Response to Land Degradation

UNDP’s overall mission is to help countries achieve the simultaneous eradication of poverty and significant reduction of inequalities and exclusion. UNDP is committed to supporting growth that is inclusive, resilient and sustainable, incorporating productive capacities that create employment and livelihoods for the poor. This involves developing solutions at national and sub-national levels for sustainable management of natural resources, biodiversity and ecosystem services.

UNDP’s *Biodiversity and Ecosystems Global Framework 2012-2020* articulates this approach, including the integration of SLM into development planning and production sectors to maintain goods and services that sustain human wellbeing, and the management and rehabilitation of land for adaptation to and mitigation of climate change. Moreover, through its Integrated Drylands Development Programme, UNDP provides policy formulation and capacity development support to build the resilience of the drylands poor through enhanced living conditions and improved management of natural resources.

UNDP delivers support for SLM through its global network of country offices by providing policy, capacity building and investment assistance to governments to implement the solutions at hand. It has a long history of supporting countries in implementing the UN Convention to Combat Desertification (UNCCD).

As an Implementing Agency for the Global Environment Facility (GEF), the financial mechanism for the UNCCD, UNDP is currently programming 30 percent of GEF Land Degradation resources. The UNDP-managed Equator Initiative and GEF Small Grants Programme (SGP) support local, community-level efforts towards sustainable land management and rehabilitation. The UNDP Global Policy Centre on Resilient



Ecosystems and Desertification (former Drylands Development Centre) leads the organization’s policy and advocacy work on sustainable development in drylands and fragile ecosystems; it is UNDP’s focal point for the UNCCD.

The UNDP-supported GEF-financed portfolio includes 34 active multi-partnership country-level projects that focus on SLM to reduce land degradation, and have a combined value of approximately US\$73 million in GEF resources and US\$370 million in co-financing from various partners. This portfolio supports another 12 multi-focal area initiatives that mobilize multiple global benefits alongside national and local benefits; such synergies are found among efforts that include reducing land and forest degradation and carbon emissions and improving biodiversity conservation. This cohort of projects represents an additional US\$67 million of GEF resources and more than triple that in partner resources.

UNDP is a key partner of the Global Land Outlook (GLO), an ambitious policy initiative led by the UNCCD Secretariat to determine the future course of land policies and land management across the globe. GLO consists of three interlinked modules including: 1) A comprehensive report on the status and trends in the use and management of land resources; 2) The preparation of “good practice” assessments in support of scaling-up efforts; and 3) The development of a global land index to rank countries in terms of their land management practices and outcomes. UNDP is also undertaking joint policy analysis and advocacy with the UNCCD Secretariat on the “Empowerment of Drylands Women” with particular focus on land rights, local governance and social-ecological resilience.

As a contributor to the UN Decade for Deserts and the Fight against Desertification (UNDDD), UNDP is an active member of the Inter-Agency Task Force implementing the Decade. UNDP participated in the elaboration of the Decade’s *Strategy and Action Plan* and is supporting the implementation of related activities. It is currently engaged in the project “Monitoring Changes at Community Level” to document good practices and mobilize international attention, partners and resources for drylands development.

Through this work, UNDP has contributed substantially over the past five years to the four objectives of the UNCCD 10-Year Strategy to: 1) Improve the living conditions of affected populations; 2) Improve the conditions of affected ecosystems; 3) Generate global benefits from the implementation of the UNCCD; and 4) Mobilize partners and resources to implement the Convention.

### Resilience: Building socio-economic (i.e. communities) and ecological (i.e. ecosystems) resilience

#### **Lebanon: Safeguarding and Restoring Lebanon's Woodland Resources**

Beyond the value of timber and other forest products, woodlands serve an important role in protecting soil resources and preserving sources of freshwater. The forest-covered mountains in the arid eastern Mediterranean serve as "water towers" that are crucial to the welfare of a large human population in Lebanon and beyond its boundaries. For more than a century, however, these important forests have suffered from over-exploitation for wood, fires, over-grazing in cut areas and agricultural expansion, leading to a high degree of soil erosion, siltation of rivers, lowered water table, and a loss of productivity of agricultural land.

UNDP is supporting the Government of Lebanon through a GEF-financed project to conserve Lebanon's woodlands in order to preserve aquifers and surface freshwaters, which are mostly used for irrigation and provision of drinking water. The project aims to trigger large-scale reforestation measures and other methods to improve forest cover. It has successfully implemented a series of innovative trials to find cost-effective models for large-scale land rehabilitation. The positive impacts of these efforts have been two-fold: more than 800 hectares of land were reforested, and approaches for reducing the cost of reforestation were identified. A cost-benefit analysis of the results showed that the project has decreased reforestation planting costs from US\$10 per sapling to US\$2-3 per sapling, while also demonstrating extremely high seedling survival rates and identifying low- and no-irrigation reforestation approaches in Lebanon.

The project also assisted several NGOs and other donor-funded projects with the mobilization of resources for the restoration of a further 600 hectares between 2010 and 2014. A recent socio-economic assessment found a positive impact of the reforestation activities on local communities of the neighboring areas; and the direct improvement of livelihoods through the continued and sustainable use of wood and non-wood forest products is anticipated.



#### **Sri Lanka: Minimizing land degradation to adapt to climate change impacts in Serupitiya village**

In Sri Lanka's central province of the Nuwara Elida District, the 1,100 villagers (200 families) of Serupitiya rely on vegetable farming for their livelihoods. Situated on steep slopes and much eroded lands with little access to potable and irrigation water, the villagers are extremely dependent on rainfall for agricultural yields. Their crop cultivating season is a 4-month window (November to February). The dry season sets in thereafter and lasts until mid-September. Climate change-induced rainfall variability and unpredictability during the harvest season has diminished agricultural reliability. The strong winds during the dry season along with prolonged droughts and floods exacerbate water scarcity and land degradation in the area. 98% of the village population are in debt from borrowing funds for cultivation purposes, with 60% relying on "Samurdhi" – the government welfare program which provides 3,000 LKR (USD22) a month for a family of four.



With support from the UNDP-implemented GEF Small Grants Programme (SGP), the villagers were trained in sustainable land management to restore their land and diversify their livelihoods options for year-round food/water security and income stability. With the linkages provided by SGP, technical experts from the Department of Agriculture worked with each household on a land management plan that captured the different terrains and soil types and recommended the appropriate practices and crop species conducive for land rehabilitation. Drought-tolerant perennial crops with high market value were planted in the farms for year-round yields, as well as in the project-introduced home gardens which enhanced women's livelihoods as they tended to their household obligations. The villagers rehabilitated a total of 437 acres of land and established over 200 home gardens. As a result, an average family income increased by 42% (from 3,000 LKR to 7,000 LKR). Livelihood options were further expanded by the newly-introduced milk farming which was strongly supported by the government's local veterinarians and MILCO, the country's biggest manufacturer of milk products. Earnings from milk sales (8,040 – 12,060 LKR per month) further supplemented the average family income by an additional 15%-72%. The increase from both livelihood sources was 300% to 435% to the baseline average family income of 3,000 LKR. Additionally, a savings-and-credit scheme now exists in the Serupitiya village.

## Morocco: Towards resilient inclusive development in the Southern Oases

A string of nearly 180 oases extends over a hundred thousand hectares in Southern Morocco. At the door of the desert, these agro-ecosystems have vital ecological, economic and social importance and act as natural barriers against the advancing desert. The cumulative effects of climate change and recurrent droughts aggravated by deep socio-economic and institutional changes make these oases today the site of various processes of land degradation leading to loss, abandonment and migration. In 2006, UNDP supported the Government of Morocco in the elaboration of "Programme Oasis Sud" (or POS) to help address these challenges. Since then, POS has contributed to improving the conditions of these ecosystems and the lives of their inhabitants. Designed initially as a modest program in a marginalized area, the POS has evolved into a sustainable territorial development program that supports local development planning, value chain development, sustainable natural resource management and women empowerment. Its budget exceeded USD34 million, with an estimate of more than 5,500 jobs created to date enhancing the living conditions of affected communities, men and women, and protecting the natural resource base. Highlights of POS achievements include: a) The support to the elaboration, financing and implementation of Communal Development Plans as strategic tools driving resilient, inclusive development at the local level; and b) the establishment of "Cluster des Oasis du Sahara" (COS) as a platform for value-adding, promotion and marketing of local products. COS is responsible for marketing local products from seventy cooperatives/associations at the national and international levels.



Agence du Sud (Morocco)

## Community-based Work on SLM

### The Equator Initiative

The Equator Initiative is a UNDP-led partnership that brings together the United Nations, governments, academia and civil society organizations ranging from international NGOs to grassroots and indigenous peoples' organizations to build capacity and raise the profile of local efforts to reduce poverty through sustainable natural resource management. The Equator Prize recognizes outstanding community work by shining a spotlight on successful initiatives on both national and international stages. To date, the prestigious international prize has been awarded to 187 local and indigenous communities, many of which are active in sustainable land management in dryland ecosystems.

The flagship publication, *The Power of Local Action: Lessons from 10 Years of the Equator Prize*, distills twelve key lessons from the case studies of winners, to inform policy that fosters an enabling environment for local action. Building networks between communities facing similar challenges has been another effective learning model and the Equator Initiative's WIN -World Network of Indigenous Peoples and Local Community Land and Sea Mangers- provides a platform for indigenous peoples and local communities to share their knowledge in managing ecosystems, protecting the environment and supporting sustainable livelihoods.

The **Equator Prize for Sustainable Land Management (SLM) in Sub-Saharan Africa** was awarded in Nairobi, Kenya, on 17 June 2014, to commemorate the *World Day to Combat Desertification*. The Equator Prize for SLM recognizes and celebrates local grassroots organizations that are improving the livelihoods of rural communities in dryland ecosystems in sub-Saharan Africa through sustainable land management. Twelve winning initiatives from 11 countries in sub-Saharan Africa were invited to Nairobi for a capacity development workshop and award ceremony. Three of the SLM winners- among them Niger's Gaskiya Federation of Maradi Farmers Unions and Kenya's Utooni Development Organization- were selected to participate in a series of related events held during the UN General Assembly, in September 2014 in New York.



Gaskiya Federation of Maradi Farmers Unions, Niger

**Gaskiya Federation of Maradi Farmers Unions, from Niger**, is a research-driven initiative that brings agro-ecological options to smallholder farmers. Composed of 17 unions, 325 self-help groups, and 12,742 members, the work includes promotion of high-yield crops, participatory planning, marketing of produce and organic certified seeds, and the diversification of agricultural production systems. Farmer incomes have improved significantly with a percentage of union revenues invested into a revolving fund for community projects.

**Utooni Development Organization, from Kenya**, uses the innovative, low-investment "sand dam" technology in the communities of southern Kenya. Over 80 self-help groups were formed and 2700 farmers trained in water management, food security, sustainable agriculture, tree planting, and alternative income generation. Over 1500 sand dams have been built - concrete walls built around seasonal rivers that store water in sand, raising the water table, and increasing the size of local aquifers and availability of clean water. This low-cost technology hedges against droughts so communities can manage water resources in harmony with local ecosystems. Tree cover, bird populations, fish stocks, and farmer incomes have all increased as a result.

The Equator Prize for Sustainable Land Management in Sub-Saharan Africa (SSA) is a Global Environment Facility (GEF)-financed project, implemented by the Open Society Initiative for Southern Africa (OSISA), ENDA Tiers Monde, UNDP's Equator Initiative, and UNDP Namibia. The project seeks to improve the socio-economic development of rural communities in sub-Saharan Africa through sustainable land management, and to empower local grassroots organizations in sub-Saharan Africa to participate and influence the implementation of the United Nations Convention to Combat Desertification (UNCCD), TerrAfrica, and other SLM processes, programs and policies.

As part of the SLM project, a set of 12 case studies documenting best practices from Equator Prize for SLM winners will be launched at COP12, highlighting local action, partnership development, and policy impact. The Equator Initiative and partners will also launch Stories of Resilience: Lessons from Sub-Saharan Drylands Communities; a document drawing from 15 case studies, selected through the Equator Initiative and ENDA Tiers Monde, which demonstrate local ingenuity, innovation and leadership in sustainable management of drylands.

The project also includes supporting **peer-to-peer learning exchanges** among Equator Prize for SLM winners to build their technical, organizational and personal capacity. Seed funding will be granted post-exchange for the implementation of the learned practices (once the participants return home). Furthermore, the participants will share their learning experiences at UNCCD COP12.

### **The GEF Small Grants Programme**

Funded by the GEF as a flagship programme, the GEF Small Grants Programme (SGP), implemented by UNDP, was launched in 1992. The SGP supports activities of non-governmental and community-based organizations in developing countries aimed at biodiversity conservation, climate change mitigation and adaptation, protection of international waters, reduction of the impact of chemicals and prevention of land degradation, while generating sustainable livelihoods. One of the areas of work of the SGP is SLM to combat desertification and deforestation. SGP is one of the programmes that helps developing countries implement and understand the UNCCD and its 10-year Strategic Plan the community level. To date, SGP has focused on supporting activities that create and demonstrate good practices of adaptive community-based land management, using indigenous knowledge and modern practices to address the degradation and destruction of agricultural lands, rangelands, and forests landscapes while also improving and enhancing the capacity of the civil society to implement integrated approaches for pastoral, agricultural and forestry management.

Over the last 20 years, the SGP has supported over 20,000 community-based projects in more than 125 countries. Within this extensive portfolio, SGP has supported more than 3,300 SLM projects with an investment of over USD 96 million in grants and USD 110 million in co-financing. The main objectives of the work of SGP in SLM are: i) maintaining or improving the flows of agro-ecosystems services to sustain livelihoods of local communities; and ii) reducing pressures on natural resources from competing land uses in the wider landscapes. These community-based practices benefit from indigenous knowledge and have generated lessons and best practices that can be replicated across all rangelands, ecosystems and landscapes.

#### ***Mauritius: Recovering the native forest cover of the Petite Montagne, around the Citadel***

Situated in the heart of Port-Louis, Fort Adelaide, commonly known as Citadel, was among the early areas to be deforested after the city was chosen as the capital city of Mauritius. Today, the landscape that surrounds the Citadel is degraded and the invasion of alien grass makes the place highly prone to bush fires that spread several times a year causing pollution as well as health and property hazards. In an effort to mitigate the risks of hillside fires, soil erosion, and consequently floods; as well as to restore native forest and all the associated benefits like increased crop pollination and pest control, Friends of the Environment, an SGP grantee, started a pilot project to restore the native forest cover on Petite Montagne. This initial pilot project, successfully restored 2.5 hectares of forest, for which most of the work was done by volunteers from the private sector, mainly youths, many of whom were contacted through Facebook. The technical expertise came from professional ecologists with decades of experience in conservation and restoration who were part of the Friends of the Environment, and whose knowledge was instrumental for choosing the appropriate plant species with high adaptive capacity to the harsh and dry climate. Now, this demonstration project has attracted other donors and partners and is extending the forest cover in the entire mountain. This SGP project has had many partners including the Ministry of Environment and the Ministry of Tourism and Leisure; the Tourism Authority, FORENA, Bioculture Mauritius Ltd, Rotary Club de Port Louis, Lions club of Curepipe and recently the private company KOLOS. Over 1000 volunteers have supported this project over the years.

#### ***Kazakhstan: Piloting rice irrigation technology with less water demands***

An innovative project in Kazakhstan is introducing rice irrigation technology without water release on the Akdala territory of Almaty oblast. Rice production is one of the most water consuming crops in the agricultural sector requiring between 3,000 to 5,000 liters of water to produce a kilo of rice. In addition, due to noncompliance of agricultural practices, destruction of engineered systems for irrigation, poor crop rotation, and improper irrigation the soil in the Akdala territory was severely degraded. Given this situation the Agro Union of Kazakhstan RAAC, with the support of SGP, demonstrated a water saving and erosion-preventive technology for rice irrigation that not only prevents land degradation but also decreases the use of water for irrigation by 20 to 25%, and increases rice yield by 12-18%.

To do so the technology regulates the water supply and release in the rice production cycle by setting a certain type of dampers. To date, the project has successfully decreased land degradation by 15%; brought 200 hectares under sustainable management due to rice irrigation technology without water release; achieved water savings of 20% and increased rice yields by 15%. Additionally, it also decreased load on drain dumping system, improved soil-reclamation conditions of irrigated lands and improved the farming practices of 60 families, including 27 woman and 40 children. In addition, to developing and testing the technology, a central component of the project was to raise awareness and familiarize the community with the technology. To this end the project held 1 demonstration seminar, 2 trainings and 4 field days with the aim to acquaint local community with new technology and project results which benefited 500 people.

## Mainstreaming SLM for SDGs: GEF Focal Areas and UNCCD Implementation at Country Level

### Tanzania: Reducing Land Degradation on the Highlands of Kilimanjaro Region

This UNDP-supported GEF-financed project is working to improve food security by enhancing the productivity of farmlands in the Kilimanjaro region and country-wide. This involves creating an enabling environment (policy, financial, institutional, capacity) for widespread adoption of Sustainable Land Management practices. Based on the findings of a comprehensive energy study for the region, the project has facilitated the adoption of a mix of clay and brick stoves by the communities in the project area that will avoid the emission of over 197 million tons of carbon over five years. Participating families will burn less wood for cooking and heating, and more land will remain under forest. To help expand livelihood options in the region, the project is supporting a shade coffee group in the marketing of this product. With project support, nearly 30% of farmers—or 39,823 land and resource users—have adopted improved practices, such as terracing, river bank protection, and use of organic fertilizers. As a result of the adoption of SLM practices, there have been significant increases in the yields of key crops like maize, beans and bananas. The maize yield, for example, increased by 100% across the region, from an average of 983 kg/ha to 1975 kg/ha. These increased yields are bringing improvements in household wellbeing, both in terms of income and food security.



### Cuba: SLM for Food Security

Intensifying use of land and water resources can in the short-term contribute to food and water availability, but will eventually degrade those resources if not well managed. In Cuba, extensive land degradation is jeopardizing ecosystem function, resilience and productivity, leading to negative impacts on the livelihoods of many local people and worsening unsustainable demographic trends. UNDP has partnered with the Government through a GEF-financed project to reduce land degradation, which will enable the country to achieve its goals for sustainable development and increased food security. Two demonstration sites have shown encouraging success in applying the sustainable management of land for development benefits: improved food security through increased food crop yields (vegetables, fruit, cereals) and reduced post-harvest losses; growth of the workforce by 74 workers, including 41 women; increased salaries (by approximately \$12 per month);

and improved water productivity and more efficient water use (with estimates of 70% water savings at one site). To expand the scale of these successful pilot interventions, information tools and systems have been established to replicate best practices and disseminate lessons learned across the country.

### Uzbekistan: Achieving Ecosystem Stability on Degraded Land in Karakalpakstan and the Kyzylkum Desert

Rain fed, non-irrigated farmlands in Uzbekistan are sensitive to climate variability, and inappropriate land use practices were severely affecting ecosystem stability and exacerbating land degradation. By addressing the underlying causes, such as overgrazing, wood harvesting



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