



United Nations
Convention to Combat
Desertification

WOCAT

RESTORING LIFE TO THE LAND

The Role of Sustainable Land Management in Ecosystem Restoration



The UN Decade on Ecosystem Restoration (UNDER) 2021–2030 aims to massively scale up the restoration of degraded ecosystems as a proven measure to fight climate change, enhance food security, water supply and biodiversity, and manage associated risks of conflict and migration. **Sustainable land management (SLM) is key to restoration of terrestrial ecosystems: it is at the core of maintaining, or re-establishing, life in the land.**

SLM has a central role to play in all the eight UNDER ecosystems – Farmlands, Grasslands, Forests, Mountains, Freshwaters, Urban Areas, Peatlands, Oceans & Coasts – through combatting land degradation at farm and landscape levels. It enhances production and improves livelihoods while simultaneously generating multiple environmental co-benefits.

This new WOCAT-UNCCD publication demonstrates in what ways SLM experience can help to provide solutions to problems that the UNDER seeks to address – and this is illustrated by presenting a series of on-the-ground “good practices” as evidence for each ecosystem.

Through SLM, land degradation can be avoided, reduced and/or reversed. It helps land degradation neutrality targets to be met. SLM can only have a significant impact on ecosystem restoration, however, when it spreads widely, covering a critical mass of land and people, and when maintained and adapted over time. A combination of SLM practices is required to benefit ecosystems as a whole.

People – young and old, women and men, rural and urban – have directly contributed to ecosystem degradation. But equally, they constitute the primary agents of restoration. Humankind suffers, and benefits, according to the state of ecosystems. Harnessing people’s efforts and arming them with knowledge and support is the way to upscale SLM to the ecosystem level.

The WOCAT Global SLM Database (<https://qcat.wocat.net>) contains, in standardized and consistent detail, a growing set of over 2,000 SLM good practices from more than 130 countries, and offers a wealth of knowledge for stakeholders from around the globe to learn from each other. It provides proven lessons that directly support the Generation Restoration global movement of the UNDER to put restoration into action.





FARMLANDS are served by the widest variety of SLM options. Some have their origins in tradition, but others are recent, innovative and constantly evolving to meet the needs of farmers. They protect this most vulnerable of ecosystems. However, all actors must work together to create impact at landscape scale: both on-site and off-site.



"Many people come to see our crops: when they see the dynamic agroforestry system they feel obliged to change."

Dynamic Agroforestry farmers Don Bernabé Ramos and his wife.

Dynamic Agroforestry, Bolivia

<https://qcat.wocat.net/en/summary/5502/?as=html>

Photo: Johanna Jacobi



GRASSLANDS, SHRUBLANDS AND SAVANNAHS span a broad diversity of situations. These are ecosystems, however, that are often overlooked despite their importance. SLM practices are developing rapidly for extensive semi-arid rangelands where, as well as degradation, tenure and invasive species are two specific challenges.



"We have removed hundreds of kilometers of fences and seen a big increase in wildlife. Before, there were just a few, and many would get stuck in the fences and die."

Mr. Jackie Vlees, NamibRand Nature Reserve.

Restoring Game Migration Routes, Namibia

<https://qcat.wocat.net/en/summary/4106/?as=html>

Photo: NamibRand Nature Reserve



FORESTS are in the public eye – with dramatic images of degradation stemming from deforestation. Protected areas are only a partial answer: there is growing experience of successful community management. Furthermore, productive agroforestry systems can effectively mimic forests and forest function.



"After I planted between big trees, I have found the coffee trees are healthier...production and income have increased because of the soil fertility and extra moisture."

Mr. Thong, Attapue Province.

Shade-Grown Coffee, Lao People's Democratic Republic

<https://qcat.wocat.net/en/summary/4819/?as=html>

Photo: NAFRI Lao PDR



MOUNTAINS comprise a mosaic of land uses. This means that SLM practices from virtually all the other ecosystems will find relevant niches – in the mountains' farmlands, grasslands, forests and peatlands. A broad range of interventions help protect these "water towers" with their special biodiversity habitats.



"Today we have a big jungle that supports us with water, fodder and wood."

Mrs. Saruli, Nakina Village, Uttarakhand.

Spring Revival in the Himalayan Foothills, India

<https://qcat.wocat.net/en/summary/5243/?as=html>

Photo: Jaclyn Bandy



FRESHWATERS can be protected by multiple SLM practices to ensure supplies for people, animals and farming. Degradation of both water quality and flow regimes are worries. Upstream-downstream linkages are key: what happens on-site has a very clear and direct impact off-site. Several SLM practices support both freshwaters as well as other ecosystems, especially those associated with catchment protection.



"I have been producing vegetables for two years. I have managed to generate an average monthly income of 500-600 Taka (US \$ 6-7)."

Mrs. Jaheda Begum, farmer.

Floating Garden, Bangladesh

<https://qcat.wocat.net/en/summary/4373/?as=html>

Photo: Helvetas Bangladesh



URBAN AREAS comprise a relatively new focus for SLM. However, there are many transferable technologies. Some relate to urban agriculture, whether vegetable growing or even dairy cow systems. Others focus on "green and blue corridors" of trees, parks and ponds for ecosystem repair and social wellbeing.



"I get a substantial amount of manure to fertilize the soil, enabling me to produce vegetables on a small piece of land."

Testimony from the urban farmer.

Zero-Grazing and Biogas, Uganda

<https://qcat.wocat.net/en/summary/5466/?as=html>

<https://qcat.wocat.net/en/summary/3371/?as=html>

Photo: William Critchley



PEATLANDS are the most uniform of the ecosystems, but despite their paramount carbon storage and hydrological significance, they are often ignored. The priority is clear: protection and restoration by keeping peatlands wet and undisturbed. In some locations, sustainable use – paludiculture – may be appropriate.



"The work done at Mar and other estates in restoring eroded peatland will hopefully be the forerunner of many larger projects."

Mark Nicolson, Mar Estate.

Peatland Restoration, United Kingdom

<https://www.iucn-uk-peatlandprogramme.org/>

Photo: William Critchley



OCEANS AND COASTS may at first appear outside the remit of SLM. However, there are practices that focus on crucial mangrove forests, and coastal dunes. A "Ridge to Reef" transect approach keeps rivers and their estuaries clean, requiring a raft of SLM practices that are applicable from mountains through to the sea.



"They protect us from winds and storms."

Local community talking about Banacon Island Mangrove Forest, Bohol Province.

Mangrove Planting, Philippines

<https://qcat.wocat.net/en/summary/5060/?as=html>

Photo: Djolly Ma. P. Dinmaling