Sustainable Land Management: Success Stories

Learning from each other

Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) has undergone drastic political, economic, and social changes during the past decades. Soviet policies led to a collapse and disintegration of collective irrigated networks, decrease of water supply, as well as damaging of the soil, land tenure insecurity, and insufficient market development. The resulting land fragmentation and abandonment on marginal lands made it very difficult for land users to adopt sustainable land management (SLM) practices. Hence, unsustainable agricultural practices, e.g., excessive irrigation without adequate drainage, man-cropping, liftings on steep slopes, inadequate replacement of soil fertility, overgrazing of pastures, and deforestation remain problematic in the region to date. Consequences of these factors contributed to severe pressure on the land resources that is expressed by different types of land degradation along the agro-ecological regions, widespread salinization in irrigated areas, soil erosion and nutrient depletion in rain-fed areas, decline in pasture quality in rangelands, and soil and vegetation erosion in mountainous areas. The consequent reduction in overall productivity threatens the livelihoods of millions of farmers and pastoralists in this region.

Successful prevention of and solutions to existing land degradation, including drought adaptation, require practical proven and scientifically approved technologies and approaches for sustainable land management that integrate ecological, economic, and social dimensions of land use. Many efforts have been made within the region of Central Asia to mitigate land degradation. Success stories are implementation of SLM practices, along with policy actions, have been documented and are ready to be upscaled.

Many efforts have been made to mitigate land degradation in Central Asia. Success stories on implementation of SLM practices, along with policy actions, have been documented and are ready to be upscaled.

Documented SLM practices in areas with different numbers of coincident issues (WOCAT Database 2017)

Most practices coincide with areas that are impacted by 4 to 7 issues related to land degradation. The share of cropland practices seems to increase with the number of overlapping issues. (WOCAT Database 2017) 

Documented SLM practices distribution in land-use types and coincident issues. (WOCAT Database 2017)

WOCAT case studies seem to increase with the number of overlapping issues. (WOCAT Database 2017)

Documented SLM practices per land-productivity dynamic and land-use type Most cases are situated in areas that are “stable, not stressed”. Documented SLM practices are documented and only in areas that are “stable, not stressed”. (WOCAT Database 2017)
Sustainable Land Management: Examples

Good land management practices

- **Wind farms in the Alicante area of Spain** show a profitable alternative land use that taps the potential for wind energy. These farms contribute to the success and sustainability of this complementary set of land uses.

- **In mountainous regions in Kyrgyzstan, Central Asia, hay harvesting provides a growing economic opportunity for land users.** It is a promising way to create sustainable land use management practices when intervention projects engage innovative land users in training and extension activities.

- **Maintaining soil fertility by applying manure while leaving crop residues and weeds (applied as a mulch) between crop rotations is a good practice to increase the attraction of and need for hay cultivation.** This practice is sustainable as it contributes to the success and sustainability of this complementary set of land uses.

- **Stone walls and forward-sloping terraces help prevent soil erosion and improve water retention on agricultural fields.** However, in the hot drylands of Rajasthan, India, this is not sufficient on its own to ensure a successful approach to sustainable land management. Other agronomic practices implemented on both gentle and steep slopes in Nepal contribute to the sustainable use of land. Source: WOCAT case studies; photo: Liniger, H.

- **A plantation of a leguminous tree species (Caragana microphylla Lam) used as fodder, biomass production and sand binding in the desert of Kharai area in Jordan.** This demonstrates successful sustainable land management practices when intervention projects engage innovative land users in training and extension activities. Source: WOCAT case studies; photo: Liniger, H.

- **Similar large-scale mechanised rehabilitation of degraded land has been achieved in China. In Inner Mongolia, the plough has been used for plantations of *Jojoba* (*Simmondsia chinensis*).** The use of a special plough, known as the Vallerani System, helps create micro-catchments at small regular intervals along the plough line. The plough breaks the surface crust and creates micro-catchments that help slow the runoff of water not only for livestock that sustain pastoral livelihoods but also for riparian forests. Protection of springs will continue to be a goal whenever water is available in the surrounding area. Source: WOCAT case studies; photo: Liniger, H.

- **Good land management in the humid lowlands along the Meta river, a main tributary in the Orinoco, protects the riparian forests.** Upstream land uses are critical because of their very large downstream effects. Source: WOCAT case studies; photo: Liniger, H.

- **In East Africa, semi-arid lowlands depend on water from adjacent riparian forests as a green line on the landscape.** This demonstrates successful sustainable land management practices when intervention projects engage innovative land users in training and extension activities. Source: WOCAT case studies; photo: Liniger, H.

- **It is the goal of WOCAT to inventory and document individual initiatives as showcases for other land users.** The few examples here show successful sustainable land management practices around the globe and their environmental, ecological and social benefits.
Sustainable Land Management: Examples (cont’d)

Good land-management practices (cont’d)

The National Observatory of Land Degradation and Desertification

The objective of the National Observatory

Promoting Solutions for Local Land Degradation

Successful partnership across political, scientific and technological sectors in Argentina

On 14 July 2015, the Observatory of Land Degradation and Desertification and its work were declared a matter of national interest by the Argentine Congress.