Sustainable Land Management in Practice

Guidelines and Best Practices for Sub-Saharan Africa

This new TerrAfrica Partnership publication
- highlights the main principles of SLM
- describes criteria for adoption and upscaling of SLM
- provides a basis for informed decision-making
- offers a framework for investment in SLM on the ground
- identifies, analyses and disseminates best practices for improved productivity, livelihoods and ecosystem services
- addresses SLM planners and implementers
- is illustrated with 47 case studies from 18 countries
- is a practical guide for investment and operation design

Prepared by WOCAT
Coordinated by the FAO of the UN
A TerrAfrica Partnership Publication
**Increased land productivity:**
- increase water use efficiency and water productivity (reduce losses, increase storage, upgrade irrigation)
- increase soil fertility, improve nutrient and organic matter cycles
- improve plant material and plant management (incl. IPM)
- improve micro-climatic conditions
- key principle: improved soil cover

**Improved livelihoods and human well-being**
- support small-scale land users for initial investments (high costs, no short term benefits)
- ensure maintenance through land users’ self initiative
- consider cultural values and norms

**Improved ecosystems**
- prevent, mitigate and rehabilitate land degradation
- conserve/improve biodiversity
- mitigate/adapt to climate change (increase carbon stock above and below ground – e.g. through improved plant cover, soil organic matter)

**Principles for upscaling SLM**
- Create an enabling environment: institutional, policy and legal framework
- Ensure local participation combined with regional planning
- Build capacities, train people
- Monitor and assess SLM practices and their impacts
- Provide decision support at local and regional level to:
  - identify, document and assess SLM practices
  - select and adapt SLM practices
  - select priority areas for interventions
Best Practices – 13 groups
- Integrated Soil Fertility Management
- Conservation Agriculture
- Rainwater Harvesting
- Smallholder Irrigation Management
- Cross-Slope Barriers
- Agroforestry
- Integrated Crop-Livestock Management
- Pastoralism and Rangeland Management
- Sustainable Planted Forest Management
- Sustainable Forest Management in Drylands
- Sustainable Rainforest Management
- Trends and New Opportunities
- SLM Approaches

Each group is structured into 2 sections:

1) General principles of SLM practices with a focus on
- Spread and implementation conditions
- Economics (costs and benefits)
- Impacts on productivity and ecosystem services
- Conditions for adoption and upscaling

2) Case studies of SLM practices
- a total of 47 representative case studies (2-5 per group) from 18 countries; covering all major land use systems
- presented in a user-friendly and standardised format
- implementation steps, impacts, costs & benefits
  ➜ with detailed descriptions and concrete data
  ➜ illustrated by photos, maps, technical drawings, graphs

Best Practices
- increase production and are profitable
- are cost-efficient with primarily rapid, but also long-term payback
- are easy to learn
- are socially and culturally accepted
- are effectively adopted and taken up
- are environmentally friendly
- are appropriate for all stakeholders including socially marginalised groups
  ➜ are promising SLM technologies and approaches likely to be adopted in various Sub-Saharan African settings
### Runoff and floodwater farming, Ethiopia

**SLM group: Rainwater harvesting**

Traditional water harvesting system with hand-dug embankments and canals to capture and divert floodwater and runoff from ephemeral rivers, roads and hillsides. Water is conveyed to levelled plots to irrigate high-value crops, thus allowing extension of cropland in a hot and dry area.

### Chagga homegardens, Tanzania

**SLM group: Agroforestry**

A densely planted multi-storey agroforestry system evolved over several centuries on the humid and highly populated slopes of Mount Kilimanjaro. The homegardens – a classic example of a mixed land use system – integrate multi-purpose trees, bananas, coffee, food and fodder crops.

### Couloirs de passage, Niger

**SLM group: Pastoralism and rangeland management**

The ‘couloirs de passage’ are formally defined passageways which channel the movements of livestock herds in the dry agropastoral zones of Niger, they link pastures, water points and coralling areas. The couloirs stop cattle from entering cultivated fields and thus prevent conflicts between herders and farmers.

### Assisted Natural Regeneration of Degraded Land, Burkina Faso

**SLM group: Sustainable Forest Management in Drylands**

Degraded land is enclosed by installing a solid metal fence and life fences through community action. In the strongly protected core area the natural forest regenerates and is used for extraction of non woody forest products such as honey and fodder grass, while crops are cultivated at the periphery.

### Push-Pull Integrated Pest and Soil Fertility Management, Kenya

**SLM group: Trends and Opportunities**

This innovative technology involves intercropping maize with a repellent and nitrogen-fixing plant such as desmodium (push); and bordering plots with an attractant trap plant, such as napier grass (pull) to efficiently control weeds and insect pests while simultaneously improving soil fertility. Crop yield increase by up to 300%.

### Participatory Learning and Action Research Approach, Madagascar

**SLM Group: SLM Approaches**

A bottom-up, experiential social learning approach, leading to innovations and sustainable improvements in rice management: this is based on experimentation, mutual support and knowledge sharing among farmers and is complemented with capacity strengthening, value chain development and organisational change.

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