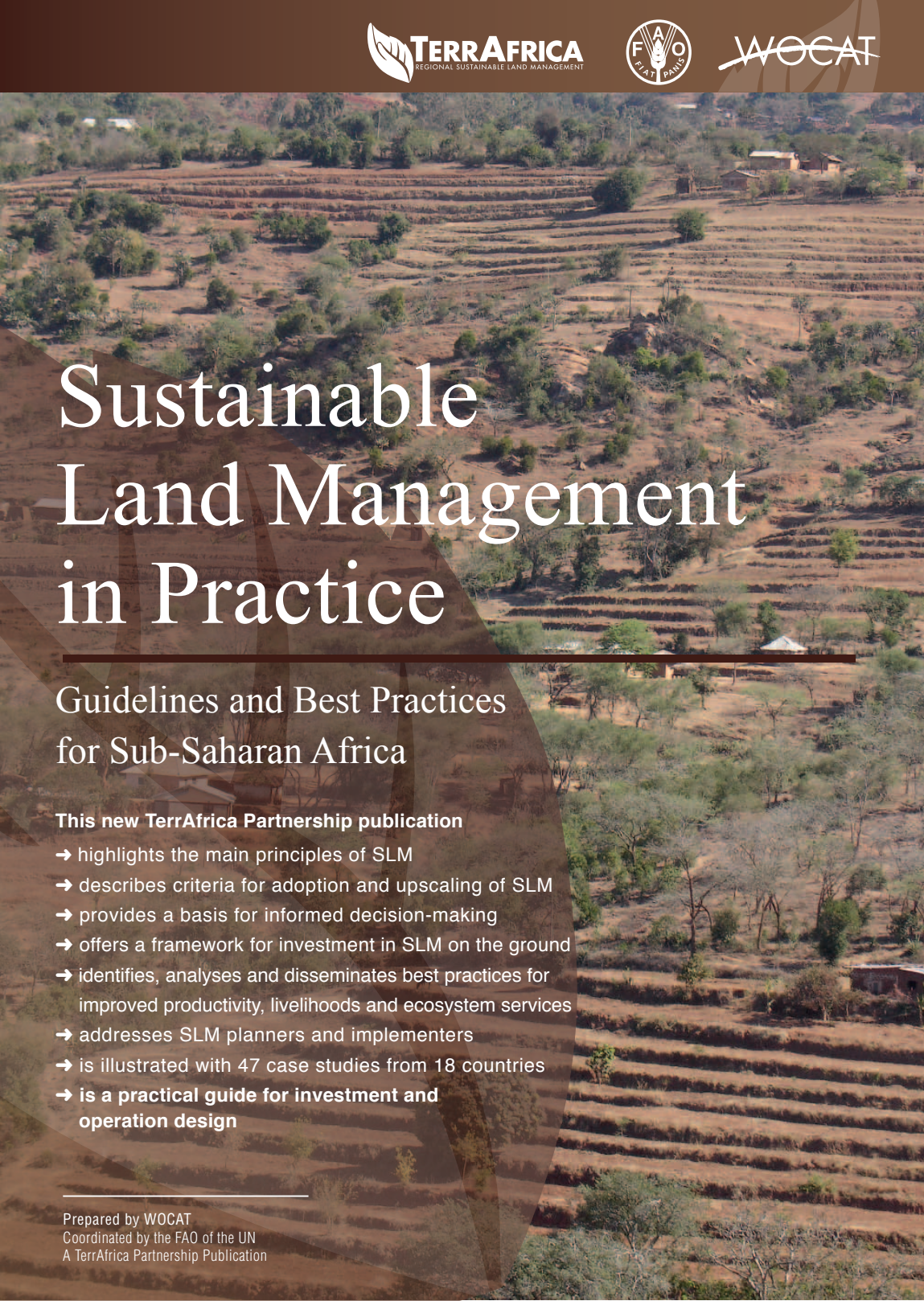


Sustainable Land Management in Practice

Guidelines and Best Practices for Sub-Saharan Africa

This new TerrAfrica Partnership publication

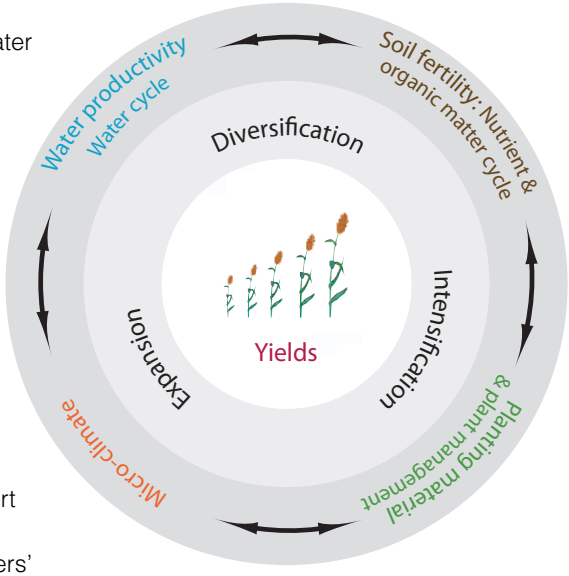
- ➜ highlights the main principles of SLM
- ➜ describes criteria for adoption and upscaling of SLM
- ➜ provides a basis for informed decision-making
- ➜ offers a framework for investment in SLM on the ground
- ➜ identifies, analyses and disseminates best practices for improved productivity, livelihoods 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

Principles of Sustainable Land Management (Part 1)

Increaed 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 for Sub-Saharan Africa (Part 2)

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 consists of:

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

Climate change mitigation	
Potential for C Sequestration (tonnes/ha/year)	0.26-0.46
C Sequestration: above ground	+
C Sequestration: below ground	+

Climate change adaptation	
Resilience to extreme dry conditions	+++
Resilience to variable rainfall	+++
Resilience to extreme rain and wind storms	+
Resilience to rising temperatures and evaporation rates	++
Reducing risk of production failure	+

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

Case studies – 6 Examples from SLM in Practice

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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