Strengthening the enabling environment for sustainable and climate-smart land management in Africa:

Country initiatives of the Resilient Food Systems programme

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Romy Chevallier
South African Institute of International Affairs
Constance Neely
SHARED Decision Hub
Sabrina Chesterman
SHARED Decision Hub
Amanda Gosling
SHARED Decision Hub
Joseph John Osena
The National Land Use Planning Commission, United Republic of Tanzania
Stephen Muwaya
Ministry of Agriculture, Animal Industry and Fisheries, Uganda

Contents

Abbreviations and acronyms

APROCUVI	Support for the Promotion of Food Crops
CA	conservation agriculture
CBO	community-based organization
CCRO	Certificate of customary right occupancy
CSA	climate-smart agriculture
EbA	ecosystem-based adaptation
EEA	Eswatini Environment Authority
FAO	Food and Agriculture Organization of the United Nations
FFS	farmer field school
FNGN	National Federation of Naam Groups
IFAD	International Fund for Agricultural Development
INRM	integrated natural resource management
ISFM	integrated soil fertility management
LADA	Land Degradation Assessment Tool
LDN	land degradation neutrality
LDSF	Land Degradation Surveillance Framework
MoA	Ministry of Agriculture
MSP	multistakeholder platform
NDC	Nationally Determined Contribution
NGO	non-governmental organization
NLO	National Land Observatory
RWH	rainwater harvesting
SLM	sustainable land management
SMLP/ CSARL	Smallholder Market-Led Project/Climate-Smart Agriculture for Resilient Livelihoods
UNCCD	United Nations Convention to Combat Desertification
VLUP	village land use plan
WOCAT	World Overview of Conservation Approaches and Technologies

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Key lessons

Implementation of sustainable land management (SLM) practices

- **Consistent and inclusive community engagement (bottom-up) from project inception** is important for successful SLM implementation and monitoring, as well as for securing long-term sustainability.

- **Project interventions need to be context specific**, focusing on the farmers and understanding their needs prior to implementation, including ways to increase and diversify incomes and reduce risks.

- **Identify local champions, use decision support tools, and offer a selection of SLM options.**

- **Scale SLM activities through modern technology and partnerships**.

- **Project budgeting** for SLM activities needs to be supported by the required **time, expertise, and funds**.

- **A minimum participation of 50 percent women** in all SLM/climate-smart agriculture (CSA) knowledge management activities is key to achieving project objectives.

- **Organizations such as farmer field schools (FFSs)** are critical to the implementation and scaling of practices.

Enhancing the enabling environment

- **Adopting a participatory and inclusive approach** that engages traditional, administrative and local authorities in SLM project planning and implementation is key to project ownership, knowledge transfer and informed policy development.

- **Mainstreaming SLM** into laws and regulations is important in countries where legislation is recognized and enforced at the local level, otherwise, mechanisms such as incentives can prove more effective.

- In the case of vulnerable communities, **financial resources** need to be paid directly to beneficiaries, in addition to strengthening their capacities.

- To enhance adhesion, SLM practices need to be clarified through **legal texts that are adapted to the local context**.

- A **sensitive approach** should be applied when **negotiating land-use planning** at the community level, this can be achieved by working with local authorities.

- **Involvement and commitment of administrative authorities at all levels** is key to the ownership and sustainability of SLM project interventions.

- The **project workplan** needs to be clear and include **policy-specific activity planning** that is aligned with policy development cycles and timelines.

- **Cross-sectoral and multiscale stakeholder engagement** is important for strengthening the institutional framework for improved land management and to secure customary rights.

- **Community-based organizations (CBOs)** often need their **capacity developed** to successfully engage in SLM and food security policy dialogue.

- **Increased investment in policy incentives** is required to support the development of sustainable value chains, enable livelihood diversification and promote payment for ecosystem services.

- The **alignment of SLM project interventions with government sector goals** is important for successful implementation.

- **Cross-sectoral and multiscale integration** ensures national and local level decision-making bodies are linked. This accelerates the achievement of project objectives and contributes to long-term sustainability.

- **Land evaluations/land suitability assessments** involving biophysical and socioeconomic assessments provide an important base for negotiating future land use and the SLM practices to be implemented.

- **SLM should be central to land-use planning processes at multiple scales** i.e. national to farm level.

Introduction to sustainable land management

Communities across Africa are heavily dependent on subsistence farming for their food, income and livelihoods. **Smallholder farmers are often caught in a low productivity cycle** whereby unsustainable agriculture and livestock rearing practices contribute to land degradation, which, in turn, compromises ecosystem services and results in low agricultural yields. Land degradation leads to increasing poverty and worsening inequality by adversely affecting the agricultural sector and by reducing access to environmental incomes. **This renders rural smallholder farmers extremely vulnerable to climate change and extreme weather events**. In addition, increasing temperatures, changes in rainfall patterns and pest outbreaks directly impact land health, further reducing agricultural productivity. When paired with rapidly growing populations, and an increasing demand on soils, forests, rivers, plants and animals, these climate impacts often drive the expansion and intensification of agricultural production on already degraded land.

In response to these challenges, SLM incorporates a variety of approaches, common practices and technologies that maintain and enhance the long-term productivity and protection of natural resources, whilst being economically viable and socially acceptable. As defined by the Food and Agriculture Organization of the United Nations (FAO), SLM is **"the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions"** (FAO. 2015). Numerous approaches

such as CSA, conservation agriculture (CA) and agroecological approaches, among others listed below, seek to improve agricultural yields, enable smallholder farmers to achieve food and nutritional security and improve their livelihoods. In addition, they promote ecosystem functioning and the protection of biodiversity, including nature's ability to buffer the impacts of climate change, sequester and store carbon dioxide, and reduce communities' vulnerability to extreme weather events. For example, by introducing crop cover and improving the water retention of soil, smallholder farmers can improve their yields whilst increasing resilience to increases in temperature, decreases in rainfall, and drought. Furthermore, by reducing deforestation, improving livestock management and promoting agroforestry approaches, SLM contributes to global climate change mitigation efforts.

The implementation of SLM practices is dependent upon the cooperation of diverse stakeholders such as land managers (farmers, residents, pastoralists, etc.), government administrators, the private sector and non-governmental organizations (NGOs). Land managers are more willing to invest in SLM measures if their livelihood assets and land tenure are secure as they are more likely to receive the long-term benefits of such investments.

There are numerous SLM best practices, which users can explore and adopt the best solutions for their needs. The most effective approaches combine implementation practices that address both soil and water conservation, the diversification of cropping systems, the integration of crop and livestock systems, and agroforestry.

Some examples of SLM best practices include (UNEP. 2020, WOCAT. 2017, WOCAT. 2022)**:**

In areas with low or rapidly declining soil fertility, **integrated soil fertility management (ISFM)** regenerates degraded soils and maintains soil fertility by using nutrient resources in an efficient and sustainable way. ISFM is based on the principles of increased nutrient replenishment and soil fertility maintenance to enhance crop yields. This will in turn increase food security, improve household income and improve livelihoods and well-being. ISFM aims at making use of techniques such as organic fertilizer, crop residues and nitrogen-fixing crops, in combination with seed priming and water harvesting.

Conservation agriculture is a farming system that conserves, improves, and makes more efficient use of natural resources through integrated management of soil, water and biological resources. Based on principles of minimum soil disturbance, permanent soil cover, and crop rotation, CA combines profitable agricultural production with environmental sustainability, improving the tolerance to rainfall and temperature variation. CA's potential to mitigate and to adapt to climate change is high.

Rainwater harvesting (RWH) refers to all technologies where rainwater is collected to make it available for agricultural production or domestic purposes during seasonal variations, thus enhancing the reliability of agricultural production. A RWH system usually consists of a catchment/collection area; a conveyance system through which the runoff is directed, and a storage system where water is held for use.

Agroforestry is a practice in which woody perennials are integrated with agricultural crops and/or livestock in a specific spatial arrangement (i.e. crops with trees) or temporal sequence (improved fallows/ rotation). Agroforestry systems can be simple and sparse or very complex and dense, embracing a range of practices such as farming with trees on contours, multistorey cropping, intercropping, multiple cropping, bush and tree fallows, parkland systems, home gardens etc.

Ecosystem-based adaptation (EbA) uses biodiversity and ecosystem services to help people adapt to climate change. Smallholder farmers benefit from EbA through the continued provision of key ecosystem services (i.e. water, food, nutrient regulation, pest control, pollination) on which their farming depends. In the context of SLM and agricultural systems, this entails the use of multifaceted agricultural practices to harness biodiversity, ecosystem services and/or ecological processes to boost adaptability of crop and livestock enterprises to climate variability. In addition, interventions may be directed to support farmers' capacity to manage climate risks, through new technologies and early warning systems; facilitating government support (subsidies, insurance, technical assistance, etc.); assisting farmers in accessing credit, capital and risk-insurance, and/or; adapting farm management practices. Often, EbA practices contrast with other non-EbA adaptation measures, such as the construction of dams for water irrigation or the increased use of agrochemicals, which also confer adaptation benefits but may negatively impact the provision of ecosystem services.

Crop diversification requires the simultaneous cultivation of two or multiple crop varieties in an area whilst at the same time applying crop rotation and/or intercropping.

Integration of crop and livestock systems is a form of sustainable intensification of agriculture where synergistic relationships between the plant and animal systems enhance agroecosystem processes. The practice increases nutrient circularity and soil productivity through the application of solid and liquid organic fertilizers prepared from cow manure.

Reduction of post-harvest losses builds incentives and techniques to minimize the loss of food, and its waste, across value chains. These losses, caused through premature harvesting, poor storage facilities, lack of infrastructure, limited processing facilities, and inadequate market facilities, drive up food prices, increase food insecurity and limit livelihood opportunities along the entire food supply chain. Reducing post-harvest losses can be done through increased/improved storage systems, processing and marketing.

KEY RESOURCES ON SLM BEST PRACTICES

FAO - **Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security**, eLearning courses on **Climate-smart Soil and Land Management** and **Sustainable Land Management and Restoration**, and **Land Resources Planning Toolbox**

FAO and United Nations Convention to Combat Desertification (UNCCD) - **Technical Guide on the Integration of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security into the Implementation of the United Nations Convention to Combat Desertification and Land Degradation Neutrality**

TerrAfrica, World Overview of Conservation Approaches and Technologies (WOCAT) and FAO - **Sustainable Land Management in Practice – Guidelines and Best Practices for Sub-Saharan Africa**

United Nations Environment Programme - **Voluntary Guidelines for Sustainable Soil Management** and **Food Security Integrated Approach: Best Practices and Guidelines for Policy Action**

WOCAT – **Global Database on Sustainable Land Management**, **About DS-SLM, DS Framework** and **DS-SLM Country reports**

World Bank - **Sustainable Land Management Sourcebook**

Importance of a strong enabling environment

Sustainable land management practices are increasingly well known, yet barriers to implementation limit their contribution to addressing land degradation challenges. **Weak governance and institutions are commonly recognized as hinderances to the adoption of SLM practices**. Such weaknesses may include governance structures that limit decision making at different scales, operate in silos, and/or do not address land tenure and land use issues.

Responsible governance of land tenure is a fundamental component of SLM, and is key to addressing desertification, land degradation and drought. Verburg et al. (2019) defines land governance as **"the process by which decisions are made regarding the access to, and control and use of land, the manner in which those decisions are implemented and the way that conflicting interests in land are reconciled"** (Verburg, P.H., Metternicht, G. Allen, C., Debonne, N., Akhtar-Schuster, M. Inácio da Cunha, M., Karim, Z., Pilon, A., Raja, O., Sánchez Santivañez, M. and Şenyaz, A. 2019). Insecure land tenure comprising a lack of land use plans, lack of legitimate tenure rights, lack of authoritative data for planning, informal land transactions, conflict and corruption, leads to inequitable land distribution and encourages the unsustainable use of natural resources leading to land degradation (FAO.2022).

Land-use planning involving biophysical and socioeconomic assessments enables decision makers to allocate appropriate land and water resource use activities based on natural potential, thereby avoiding overexploitation and further degradation. Effective planning assists land users in choosing and implementing appropriate SLM options which support land/soil restoration in degraded areas and sustain natural resources and ecosystem services. **Successful land-use planning requires an integrated approach** involving a number of legal frameworks, land-use planning laws, zoning laws and planning provisions within relevant sectoral legislation and at national and landscape levels (FAO. 2022).

The successful **scaling and implementation of SLM practices requires considerable, long-term and targeted incentives**. The high economic value of ecosystems rarely translates into financial benefits for land users, and thus encourages resource degradation or destruction. Payment for ecosystem services and other regulatory incentives can be adopted to distribute benefits fairly and compensate for trade-offs.

Furthermore, to foster large-scale implementation of SLM practices stakeholders need to be engaged from programme design up to implementation and monitoring. **The engagement of stakeholders at all levels links grassroots experience with science-based data and knowledge**, thereby improving knowledge sharing and enhancing decision making on SLM technologies and practices (Sanz, M.J., de Vente, J., Chotte, J.-L., Bernoux, M., Kust, G., Ruiz, I., Almagro, M., Alloza, J.-A., Vallejo, R., Castillo, V., Hebel, A. and Akhtar-Schuster, M. 2017).

Lack of awareness and understanding of SLM and insufficient technical capacity to implement practices

Weak land tenure affecting land managers willingness to invest in SLM

Regulatory policy

Science-policy

Finance

Gaps in institutional capacity for vertical coordination and enforcement. Weak horizontal coordination for robust policy development and implementation and integrated approaches

Institutions

Inadequate funds for implementation of SLM practices

Figure 1: Example of a poor enabling environment for SLM implementation
Source: Authors

It is therefore important to design and implement interventions that actively mainstream SLM into key decision making and policy processes to (Bastidas, S. 2021):

- create an enabling environment that supports SLM implementation;

- encourage decision makers to prioritize SLM practices; and

- ensure sustainability beyond the end of a project.

Successful approaches for mainstreaming and upscaling SLM practices are (FAO. 2021):

- **context specific** – tailored to the needs and contexts of different countries and landscapes;

- **multiscale** – are applicable at multiple scales and allow for cross-linkages;

- **multisectoral** – are multidisciplinary and break down silos;

- **network based** – promote and facilitate dialogue and partnerships; and

- **evidence based** – are informed by evidence and knowledge systems.

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Country case examples and best practice

Within the **Regional Hub of the Resilient Food Systems (RFS) programme**, there is a component on **institutional frameworks**, led by the FAO, whose objective is to create and strengthen integrated institutional frameworks and mechanisms for scaling up proven approaches, such as SLM. The RFS country project teams have worked with government bodies and institutions, land managers, and other partners, to improve enabling environments and implement SLM practices to counter degraded land, increase agricultural productivity and food security, and improve rural livelihoods.

While **'no one-size-fits all'**, the RFS country projects, discussed below, provide best practice insights into the creation of enabling environments for the adoption and application of robust and effective SLM approaches. The country cases highlight some of the successful SLM project activities undertaken and the policy and institutional strengthening methods key to enabling them. These innovative project policy, institutional and landscape approaches demonstrate positive impacts, both for the environment and the livelihoods of communities.

Burkina Faso

The challenge

Land degradation and desertification in Burkina Faso is widespread. Climate change hazards such as drought and flooding are becoming more frequent, and when combined with unsustainable agricultural practices and a growing human population, have resulted in severe pressure on arable land. Unsustainable agricultural practices have reduced arable land to desert-like landscapes and monoculture cropping has depleted soil nutrients and caused erosion. Furthermore, the expansion of agricultural land between 1992 and 2009, resulted in alarming rates of deforestation. Consequently, **only 18 percent of available land is suitable for farming**. This has serious implications for the country's food security and the livelihoods of smallholder farmers who comprise 80 percent of the agricultural community.

Major institutional barriers to addressing the land degradation challenges included inadequate organizational and institutional arrangements due to a lack of citizen feedback mechanisms and low technical capacity of rural communities to implement SLM practices. Additionally, a high dependence on agricultural livelihoods and lack of awareness of national strategic guidelines have exacerbated the challenge of preventing land degradation.

The approach

In response to the land degradation and desertification challenges, the Government of Burkina Faso set voluntary targets to achieve land degradation neutrality (LDN) by 2030 through the restoration of five million hectares of land and initiated several projects. One such project was the **Participatory Natural Resource Management and Rural Development Project (Neer-Tamba Project)**, a collaborative effort with the International Fund for Agricultural Development (IFAD).

The Neer-Tamba Project specifically targets rural households affected by poverty and food insecurity in the Eastern, North Central, and North regions of Burkina Faso. The aim of the project is to build the capacity of smallholder farmers to achieve long-term economic independence.

Land tenure security was recognized as fundamental to ensuring the sustainability of improved land management interventions. In March 2016, a formal collaboration agreement was signed between the Neer-Tamba Project and the **National Land Observatory (NLO)** (USAID. 2016). The NLO is to develop strategies to achieve land-related project objectives such as:

- increased awareness and education of local populations regarding rural land policies;

- targeted land tenure studies to fill existing information gaps; and

- expanded implementation of the 2009 Rural Land Tenure Law by building upon the results of the MCA Rural Land Governance Project (implemented 2009-2014).

Subsequently, the Neer-Tamba Project has worked with stakeholders to **improve awareness on land tenure processes and to build ownership of the policy and legal framework**. This was achieved through a multistakeholder engagement approach involving national, subnational and local levels.

SUCCESSFUL SUSTAINABLE LAND MANAGEMENT (SLM) ACTIVITIES

IFAD partnered with the **National Federation of Naam Groups (FNGN)**, a large farmer organization in West Africa, to implement a **capacity building approach** to provide smallholder farmers with simple resource management tools and to train them on water and soil conservation/ soil defence and restoration and assisted natural regeneration practices to improve their productivity of timber and nontimber products. Additionally, FNGN trained farmers to become technical experts to transfer their knowledge to other farmers and community members.

The capacity building approach involved **knowledge exchange** through multistakeholder dialogues and consultations, workshops, expert visits and communities of practice. The dialogues were important for strengthening the farmers' influence and involvement in municipal development plans. Workshops were conducted by personnel from the Ministry of Agriculture, Ministry of Animal Resources and Ministry of Environment.

The FNGN formed **'communities of practice'** to scale up the adoption of new sustainable farming methods and to provide important vehicles for citizen feedback and collective action. Formalizing the groups enhanced their decision-making power and fostered social cohesion. As the communities were included in the planning and implementation processes, the project is more likely to be sustained in the long term.

Furthermore, by collaborating with the National Observatory for Sustainable Development, project beneficiaries are now able to **assess their carbon footprints** and thus their contributions to the Nationally Determined Contribution (NDC) targets in Burkina Faso.

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Project results

SCIENCE-POLICY COMPONENT

- **Increased community-level awareness** of land degradation and its livelihood implications.

- **Scaled up sustainable agricultural practices** through ongoing technical support provided by facilitators embedded in the communities. The implementation of adaptation measures is far beyond the original target (now at 164 percent).

- As of 30 June 2021, it is estimated that **project activities have resulted in a reduction of -1 495 873 TCO2eq, contributing to 11 percent of the NDC target** (137 663 000 TCO2eq by 2030).

REGULATORY POLICY

- Secured **478 formalized land agreements** covering **6 775 hectares** (ha) of land under sustainable practices.

SLM IMPLEMENTATION

- **Enhanced smallholder farmers'** capacity to implement new and sustainable agricultural practices.

- **Soil and water conservation and soil restoration practices** have been implemented on **9 794.75 ha** of land (150 percent of the target).

- **Assisted natural regeneration** has been implemented on **6 120.50 ha** of land in the northern region of the country.

Lessons learned

IMPLEMENTATION

- **Robust local networks** ensure continuity and successful project implementation in fragile, and conflict affected areas.

- **Adopting a participatory and inclusive approach** that engages traditional, administrative and local authorities in project planning and implementation is key to project ownership and knowledge transfer.

ENABLING ENVIRONMENT

- In the case of **vulnerable communities**, financial resources need to be provided directly to the beneficiaries, in addition to strengthening their capacities.

- To enhance adhesion, SLM practices need to be clarified through **legal texts that are adapted to the local context**.

- **Adopt a sensitive approach** when negotiating land agreements at the community level by working through local authorities.

- Ensure the **inclusion of vulnerable persons** in land tenure strategies.

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Burundi

The challenge

The Burundian economy is **dominated by small-scale, rainfed agriculture** with over 90 percent of the population reliant on subsistence agriculture. Continued population growth in a small country such as Burundi exacerbates a process of fragmentation of arable land that poses unsustainable challenges to food security. **Environmental degradation due to unsustainable farming practices** is adversely affecting agricultural productivity, rendering more than 50 percent of the population chronically food insecure. Declining agricultural productivity contributes to poverty, social conflict, rural-urban migration and vulnerability to climate change. A **lack of technical know-how** has prevented farmers from reversing the deterioration.

The Government of Burundi is promoting **"centres de rayonnement"** comprising hillside cooperatives and agricultural and livestock outreach centres which use local expertise, where available, to improve the supply of agricultural services and modern agricultural practices and inputs. Understanding and strengthening the enabling environment required to support the successful implementation of the centres will be key, particularly with regards to land tenure and safeguarding of smallholder farmers.

The approach

Through RFS, with support from the Burundian Ministry of Environment, Agriculture and Livestock, the FAO supports communities in areas where deforestation and soil erosion are rife by providing essential skills and technical knowledge on soil and water conservation. The project, known as **Support for Sustainable Food Production and Enhancement of Food Security and Climate Resilience in Burundi's Highlands**, uses an innovative, multisectoral approach, involving coordination at national, provincial, and local levels to ensure support for SLM.

The approach focuses on:

- multistakeholder and multiscale platforms to support policy and institutional reform, and a knowledge-sharing mechanism for scaling up SLM practices;

- increasing land area and agroecosystems under SLM best practices; and

- building the capacity of relevant institutions to undertake monitoring activities and communicate results.

To enhance adoption of SLM practices, the project implemented a **participatory community engagement process** which enabled key stakeholders to develop a long-term vision for conserving natural resources and improving rural livelihoods. **Farmer field schools** were the primary platform for introducing communities to new SLM techniques and practices, including contour planting with fruit trees, stabilising riverbanks with bamboo and planting market gardens in household yards. The FFSs also captured the lessons learned, which supports the scaling up of project results in the country and across the region.

SUCCESSFUL SLM ACTIVITIES

BAMBOO CULTIVATION

Communities along the banks of the Kayokwe, Mubarazi and Ruvyironza rivers have planted bamboo to prevent soil erosion and landslides. Bamboo has a rapid growth rate and a strong root system for penetrating and stabilising topsoil and thereby reducing sedimentation. As bamboo is a high yielding plant, it contributes to climate change mitigation by rapidly absorbing CO_2 emissions and can be used as biofuel, thus reducing pressure on the country's remaining forested areas.

To incorporate local knowledge, participatory approaches such as community mapping were used for SLM intervention design, implementation and monitoring. Communities were taught innovative ways of growing bamboo by the FFSs. The project worked closely with the Provincial Office for Environment, Agriculture and Livestock to cultivate bamboo seedlings.

As of August 2021, 49 063 bamboo seedlings had been produced in nurseries and planted along riverbanks, protecting roughly 150 km of land across three provinces. Along the banks of the Kayokwe River, fish species that were previously thought to have disappeared have begun to re-emerge.

The cultivation of bamboo also contributed to **job creation and income generation** for community members. For example, in Gitega province, women are using the bamboo to create artisanal craft products which are sold at local markets to generate additional household income. Bamboo stems are used for constructing enclosures, building houses and stables and making beehives. This contributes to national and local-level policy structures around **gender equitable and gender transformative approaches**.

WATERSHED MANAGEMENT

The RFS Burundi project also **engaged with communities** in the country's highlands to scale up integrated watershed management around the Gituku River. Meetings to raise awareness were organized for the communities of Nyamugari, Rweru and Kibimba Hills and were attended by over 200 people. The engagement focused on providing community members, locally elected officials and service providers with an overview of the causes of land degradation in the Gituku watershed, the associated socioeconomic and ecological impacts and the need for community participation in effective watershed management.

With the support of a local NGO, Support for the **Promotion of Food Crops (APROCUVI)**, soil and water conservation activities are to be implemented on 700 ha of land. Together, with APROCUVI, the communities are to construct and vegetate 1 400 km of contour lines and plant fruit trees, to reduce run-off and soil erosion. To ensure alignment with national conservation initiatives and government standards, the contour construction is overseen by the Department of Rural Engineering, the government structure responsible for the implementation of national policy on SLM.

The Ministry of Water, Environment, Land Use Planning and Urbanisation and the Ministry of Agriculture and Livestock, in collaboration with TerrAfrica, developed the **Sustainable Land Management and Best Practices Guideline in 2016**. The guideline provides erosion control techniques, farming and agroforestry practices suited to specific ecological zones, basin development techniques for slopes and marshes and efficient water resource management options. The guideline attempts to identify the root causes of resource degradation and associated best practices for managing them. Users are encouraged to adapt and **modify the practices to their local context and integrate their local knowledge**.

Project results

SCIENCE-POLICY

- **Functioning multistakeholder knowledge sharing mechanisms** have been put in place at the national, provincial and local levels to promote the exchange of experiences and lessons learned in scaling up integrated natural resource management (INRM)/SLM at the landscape level.

- The project team engaged **1 260 farmers** in using the **participatory impact monitoring tool, Land Degradation Assessment (LADA)**, to monitor SLM indicators in the project area.

- **Farmer field schools (n=108)** were established to encourage the adoption of good agricultural and SLM practices through the dissemination of technological innovations from research centres to communities. Through the technical skills acquired in the FFS training sessions, FFS members have promoted the involvement of communities to organize collective action for watershed management. The FFSs also form part of the watershed management committees to restore degraded landscapes, are linked to relevant authorities and are advocating for the approach in the national extension system.

- **National FFS curricula have been updated and master trainers (25) and facilitators (100)** have been trained and are supporting 318 FFS groups on SLM/INRM at the farm and watershed scale.

REGULATORY POLICY

- **Nine micro-watershed management plans** have been developed and implemented, incorporating SLM technologies and a harmonized INRM approach.

- **A road map for the institutionalisation of FFSs has been developed** in accordance with the Government's approach to environmental, agricultural and livestock policy.

- **The Country Strategic Framework has been applied in nine community action plans** to address erosion control, agroforestry and forestry and riverbank protection.

SLM IMPLEMENTATION

- **Production and planting of 3 200 000 forest and agroforestry trees** has taken place to restore 8 500 ha of degraded land.

INSTITUTIONAL

- An **SLM National Group** (with 24 multidisciplinary technical governmental staff) was established, and their capacities reinforced.

- A total of **178 government staff (156 men and 22 women) were trained** on different SLM monitoring and evaluation tools (LADA-WOCAT, EX-ACT, Collect Earth and Diversity Assessment Tool for Agrobiodiversity and Resilience).

- **The project is working with stakeholders** (government officials, technical and financial partners, territorial administration and community representatives) to strengthen Agriculture and Rural Development Sector Working Groups at the national and provincial levels.

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Lessons learned

IMPLEMENTATION

- **Consistent and inclusive community engagement** (bottom-up) from project inception is key for the successful implementation and monitoring of the project, as well as for securing the long-term sustainability of project outcomes.

- **Transforming FFS groups into cooperatives enhances ownership** and sustainability of SLM practices at the community level.

- **Long-term visioning work conducted with communities** under the FFS structure enabled a change in behaviour towards increasing self-reliance and problem solving.

ENABLING ENVIRONMENT

- **Involvement and commitment of administrative authorities** at all levels is key to the ownership and sustainability of project interventions.

- **Strategic partnerships** such as those between RFS agencies, government departments, local NGOs and local communities improve project outcomes by ensuring project interventions are aligned with government and community priorities.

- **Adherence of the territorial administration to the learning principles of the FFSs**, and the involvement of permanent government structures in the supervision and support of the project's beneficiary communities was key to successful implementation.
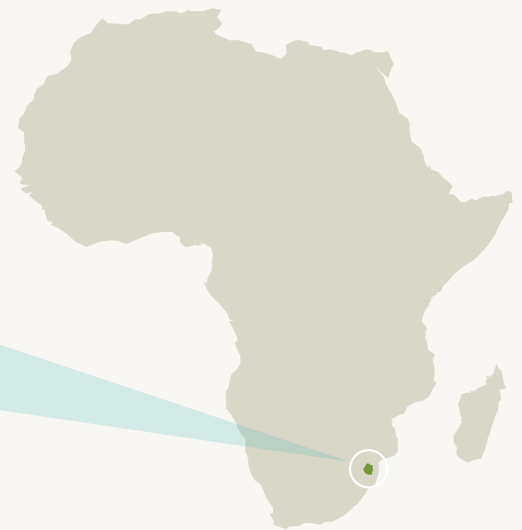
Eswatini

The challenge

Eswatini faces the interconnected challenges of rural poverty, food insecurity and land degradation. The main drivers of land degradation in Eswatini are population growth, unsustainable agricultural practices, weak land tenure, deforestation and climate change. This has led to accelerated rates of soil erosion, a deterioration of the natural resource base, a loss of biodiversity and a reduction in ecosystem services that are fundamental to agricultural productivity and therefore food security.

The approach

To address the interconnected challenges, the Government of Eswatini through the RFS Eswatini project (**Smallholder Market-Led Project/ Climate-Smart Agriculture for Resilient Livelihoods (SMLP/CSARL)**, introduced integrated, multistakeholder development planning at the local level to ensure land, water and other natural resources are sustainably managed. The project is focused on **scaling up sustainable land and water management practices**; and **strengthening capacities at the national and subnational levels** to monitor ecosystem services and to carry out associated knowledge sharing and reporting activities.

The project's goal was **to enhance food and nutrition security, as well as promote the livelihoods of smallholder farmers** through diversified, climate resilient agricultural production practices and associated market linkages. Furthermore, significant investments in the direct implementation of sustainable land and water management and the monitoring of ecosystem services and resilience in agricultural production systems ensured the project's contribution towards increased agricultural production and improved sustainable livelihood options whilst conserving land and water resources for future generations.

Environmental management interventions, such as afforestation, have been carried out in collaboration with the Ministry of Tourism and Environmental Affairs. The project has also partnered with the Eswatini Environment Authority (EEA) to implement SLM practices in chiefdoms that have applied for the National Environment Fund administered by the authority.

SUCCESSFUL SLM ACTIVITIES

LAND DEGRADATION SURVEILLANCE FRAMEWORK

The Land Degradation Surveillance Framework (LDSF) is a national land degradation and ecosystem health surveillance system developed by the International Centre for Research on Agroforestry to improve monitoring of agricultural land and rangelands. The national surveillance framework informs a dashboard that is tailored to stakeholders' needs. The dashboard generates reports for the United Nations Framework Convention on Climate Change, the United Nations Convention on Biological Diversity and the UNCCD. The LDSF was implemented as follows:

- Curricula and training materials for training of trainers were developed focusing on in-service training for the sustainable management of agricultural land and rangelands. This involved the Ministry of Agriculture (MoA) and the University of Eswatini. The curricula covered topics related to the assessment and monitoring of indicators of agricultural land and rangeland health using the LDSF.

- A national agricultural land and rangeland monitoring and evaluation system was established based on the LDSF. It focuses on the assessment of land degradation, soil carbon dynamics, vegetation changes, soil fertility and soil hydrological properties.

- Development of remote sensing and GIS capacity to assess and monitor agricultural land and rangeland health. Advanced remote sensing analytical capacity was developed among agricultural and rangeland experts from SMLP and MoA.

- A national assessment of agricultural land and rangeland health was developed to spatially target interventions such as restoration. A system for monitoring rangeland health was developed using remote sensing based predictive models.

Sustainability of the LDSF will be ensured through:

- lobbying for an LDSF budget line within the MoA budget;

- collaborating with the Ministry of Information Communication and Technology to establish a portal to host the LDSF; and

- training government officials to ensure that the LDSF approach is replicated in different chiefdoms throughout the country.

GABIONS TO PREVENT SOIL EROSION

Erosion in Eswatini is a serious challenge that has worsened over the past 20 years. In a country where almost 75 percent of the population depends on subsistence farming for a living, erosion impacts local communities in a very direct way.

In Nceka, soil erosion and heavy rainfall has created deep gullies which obstruct access to roads and cause sedimentation in the Lubovanne Reservoir, an important water source for 12 000 households. The Government of Eswatini, in partnership with the RFS project team, approached community members on the issue of soil erosion and the community collectively identified gulley erosion as a key priority. They realized that if the gullies were not addressed, and the land restored, the area would eventually become uninhabitable. Facilitators from the community received training on how to make gabions to protect the gullies from further erosion by rainwater.

A *dedicated erosion control group* was established, consisting of nine women and five men, to oversee and implement the groundwork. Once an assessment of the soil erosion has taken place, the erosion control group plants vegetables and indigenous trees, which in turn enhances nutrition, prevents further erosion, contributes to carbon sequestration and promotes biodiversity.

WETLAND RESTORATION

Wetlands regulate changes in climate and provide a crucial source of water for livestock and communities. **Natural wetlands and their associated resources are in decline in Eswatini**. This affects rural women in particular, who use wetland grasses to make craft products such as baskets and mats. A loss in natural resources translates as **reduced income for women**, and ultimately a **loss of independence**.

The RFS Eswatini project is working with communities to protect and rehabilitate the country's wetlands. In Ngololweni, the project fenced off 30 ha of a wetland to keep livestock out and allow for vegetation regrowth. Local natural resource committees have been established to regulate the harvesting of wetland grasses. Subsequently, populations of indigenous fauna and flora are re-establishing, providing local artisans with an abundance of materials for weaving, which means more products to sell, and greater incomes generated.

The RFS Eswatini project won the **Temvelo Award** in biodiversity, an annual prize that goes to a deserving organization working in biodiversity protection, land restoration and ecosystem rehabilitation. The award recognizes the significant achievements the project has made in wetland, forest and agricultural land restoration. The award is issued by the Ministry of Tourism and Environmental Affairs.

PERMACULTURE

The RFS Eswatini project equips small-scale farmers with agricultural skills to improve their food and nutrition security. This is done by **training farmers on CA, CSA practices and permaculture techniques.**

Permaculture is a regenerative farming practice that creates food-producing gardens that are also self-maintained habitats. By **modelling agricultural plots after natural ecosystems** it is possible to enhance productivity with fewer inputs. Mulching is used to maintain soil temperature, prevent erosion, reduce evaporation, and enrich fertility as well as contributes to weed control and water conservation. Pesticides are replaced with plant-based sprays and ash is used to deter ants and cutworms.

CA and permaculture practices work to restore biodiversity both above and below the soil. Farmers have already noted the benefits of adopting the new sustainable farming methods that facilitate the growth of micro-organisms. Micro-organisms not only improve soil fertility but warm the soil during colder months, thereby protecting crops from frost.

Furthermore, in collaboration with the Home Economics Department of the Ministry of Agriculture and the Food and Nutrition Council of the Ministry of Health, the RFS Eswatini project is **building the capacity of small-scale farmers in food preparation and preservation**.

Project results

SCIENCE-POLICY

- **The project engaged with the Land Use Planning Unit** of the MoA and the Ministry of Information and Communications Technology to ensure ecosystem and land management technologies and tools, such as the LDSF, are hosted at the national level.

REGULATORY POLICY

- **Land tenure has been improved**, as agricultural commercial areas are officially given to community members by Chiefs through the issuance of letters of consent.

INSTITUTIONAL

- **Environmental management interventions** such as afforestation have been conducted in partnership with the Ministry of Tourism and Environmental Affairs.

- **Land rehabilitation activities** have been carried out with the Land Use Planning Department under the MoA.

- The project has also **partnered with the EEA in Chiefdoms** that have applied for the national environment fund administered by the authority to implement SLM practices.

- **The representation of women on National Resource Management Committees**, Regional Management Committees, Community Development Councils and Inner Councils has been prioritized.

- **The project has collaborated with the Ministry of Tinkhundla and Administration on training** of Chiefdom groups on social cohesion and establishing Chiefdom Development Plans.

SLM IMPLEMENTATION

- **Sustainable land and water management approaches** applied to smallholder cropping areas have contributed to an increase in productivity and reliability of crop yields. The project ensures effectiveness of sustainable land and water management activities through community-led interactive planning processes.

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# Lessons learned

IMPLEMENTATION

- For sustainability, it is imperative to **transfer skills and knowledge to communities** through the engagement of community-based facilitators throughout the life of the project.

ENABLING ENVIRONMENT

- It is critical that projects **foster strong political support from traditional authorities** and the Government throughout the lifecycle of the project.
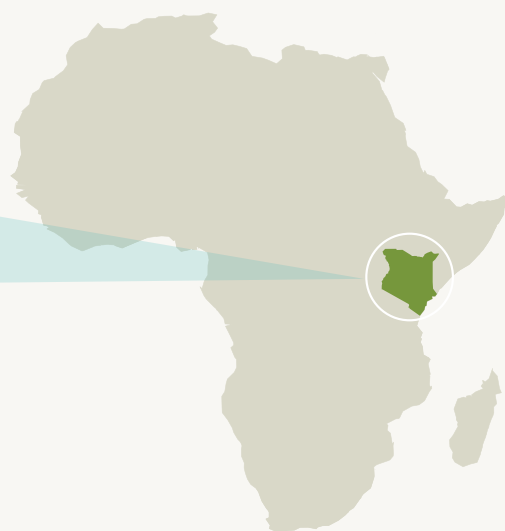
Kenya

The challenge

The Tana River Basin supplies 95 percent of fresh drinking water to the people of Nairobi. Water quality in the Upper Tana River Basin is maintained by healthy forest and wetland ecosystems which store and filter runoff water. These ecosystems have been degraded by the expansion of agricultural land and **poor land management** practices, leading to **soil erosion, sedimentation and contamination**, and ultimately an increased cost in water treatment. Furthermore, **water security** is expected to decrease as climate change brings increasingly erratic rainfall, thereby threatening the resilience and food security of upstream smallholder farming systems.

The approach

The RFS Kenya project namely, **Upper Tana Nairobi Water Fund**, through a network of public agencies, NGOs, CBOs, and private sector actors, has supported smallholder farmers in RWH, drip irrigation, and the adoption of climate-smart farming practices. A key component of the project was also enabling the adoption of SLM practices in the Upper Tana catchment area. The project is improving **rules and regulations** around water management, to ensure they are **sensitive and tailored to the local socioecological contexts**.

The project uses an integrated approach deployed through **multistakeholder platforms (MSPs)** that include Counties Advisory Committees and Focal Area Teams where roles and responsibilities to achieve the goals are agreed upon. The Upper Tana Nairobi Water Fund MSP involves key stakeholders from government including the Ministry of Environment and Natural Resources, National Museums of Kenya, Water Resources Management Authority, and Kenya Forest Services. The Nature Conservancy is a technical partner, while private sector entities include the Nairobi Water and Sewerage Company. The project also works closely with **county governments and research institutions**, including Jomo Kenyatta University of Agriculture and Technology and National Museums of Kenya. The cross-sectoral collaboration provides support for legal preparations and enforcement. The project operates at **multiple scales**, from the national level to the county level, where activities are under devolved functions, to the watershed level which crosses political and administrative boundaries.

SUCCESSFUL SLM ACTIVITIES

SOIL AND WATER CONSERVATION

Water is the most limiting factor for agricultural production and low annual rainfall is a key cause of food insecurity. Climatic conditions in Kenya are increasing the pressure on agricultural water use, underscoring the need for improved water management practices at the farm level. The Farm Level Applied Research Methods Programme for East and Southern Africa, in collaboration with the FAO, developed a **soil and water conservation study guide** to be used by FFSs, community-based farmer groups and agricultural extension staff.

The study guide includes information on:

- how to set up and run an FFS;

- water harvesting and soil moisture retention approaches;

- the basic science of soil and water interconnectivity and examples of hands-on experiments;

- setting up on-farm trials; and

- results from season-long farm trials.

SUSTAINABLE FARMING PRACTICES TO ENHANCE COFFEE PRODUCTION

The RFS Kenya project is helping smallholder coffee farmers in the Upper Tana River Basin to adopt SLM practices by providing **capacity development and extension service support**. The project activities not only increase yields but also contribute to the rehabilitation and conservation of the Upper Tana River Basin, safeguarding freshwater resources for downstream users and surrounding agricultural communities.

With the assistance of RFS-supported extension officers, farmers have learned how to terrace their land and plant soil-stabilising crops to prevent soil erosion. As the number of farmers adopting these practices has increased, there has been a reduction in soil erosion in the watershed, **improving soil fertility and water retention, thus contributing to higher coffee yields** and increased revenues for smallholder farmers.

Over the past two years, there has been a noticeable improvement in both the production and the quality of the coffee produced in the Upper Tana River Basin. For example, on one farm the annual coffee tree yields increased from 3 kg to 6-10 kg per plant. The scaling up of sustainable farming practices has assisted more than 8 500 farmers (on 3 500 ha) receive a **Rainforest Alliance Certification** for their coffee. Furthermore, since the project pilot phase, 298 km of riparian land has been conserved.

Project results

REGULATORY POLICY

- **Four priority county policies and regulations were developed** for wetland and riparian areas, invasive and alien species, mining and quarries management, and rural roads and storm water management.

- **Simplified and context-specific watershed regulations** were developed.

- **Resource allocations were developed for watershed management regulation** and implementation and inclusion of these efforts in budgets and workplans.

- **Participatory local enforcement mechanisms** combined with incentive mechanisms were established.

- **Water use monitoring** and non-compliance management were implemented.

INSTITUTIONAL

- **Official and structured partnerships** were established with four counties to enable the water fund to leverage on staff, align investments, implement shared workplans, and undertake participatory monitoring, reporting and learning.

SLM IMPLEMENTATION

- In total, the project has implemented **SLM practices on 72 890 ha** of land reaching **38 923 smallholder farmers**.

- **Water pans (14 584), drip kits (4 500) and SLM practices** have contributed to improved food security for households in the watershed. In addition, crop diversification and off-season cropping through irrigation and improved water harvesting has enhanced the resilience of smallholder farmers.

- During October-December 2020, **826 580 trees were planted**. An additional 418 636 trees were planted during the period March-May 2021. Cumulatively, 3.4 million seedlings have been planted across the watershed.

- The project has achieved **40 percent participation of women in SLM practices**, equivalent to over 15 207 women farmers who have adopted climate-smart technologies.

- Of the project beneficiaries, **65 percent have more than 25 percent of their land under SLM**, compared to 46 percent in the baseline study.

- There is evidence of **reduced sedimentation and increased river flows** in the water flowing into Nairobi city treatment plants at Ng'ethu and Sasumua. These improvements have reduced water treatment costs.

Lessons learned

IMPLEMENTATION

- **Focus on the farmers**, understand their needs prior to implementation, including ways to increase and diversify incomes and reduce risks.

- **Identify local champions** to increase the adoption of SLM practices.

- **Use decision support tools** such as farm-specific action plans, and offer a selection of options for soil and water conservation.

- **Scale outreach** through technology and partnerships.

- **Project budgeting needs** to be supported by the required time, expertise, and funds.

ENABLING ENVIRONMENT

- The **project workplan** needs to be clear and **include policy-specific activity planning** that is aligned with the policy development cycle and timeline.

- **Strong partnerships at multiple scales** are key to active project participation and ownership.

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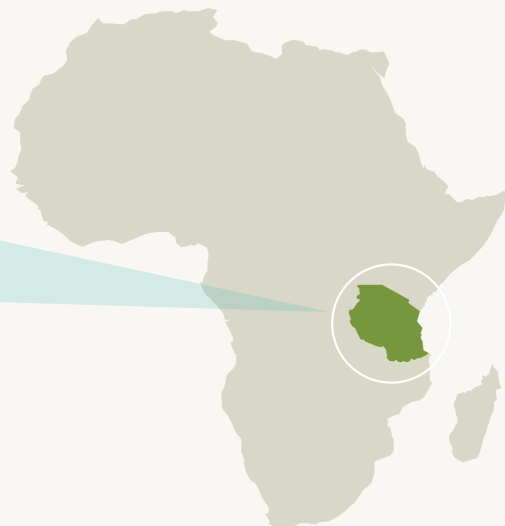
United Republic of Tanzania

The challenge

Land degradation is a serious challenge in Tanzania and is mainly caused by **agricultural expansion, wildfires and unsustainable land use** practices. Agricultural productivity has declined, and arable land is becoming increasingly scarce. Furthermore, **climate change** has resulted in prolonged dry spells, increasing average temperatures and decreasing total annual rainfall. There are delays in the onset of the rainfall season and an increase in extreme rainfall events which have increased crop failure due to poor seed germination and seeds and crops being washed away. Livestock production is also affected as pastures are decreasing in size and the occurrence of parasites and diseases is rising. This is particularly concerning as **agriculture is the mainstay livelihood for around 80 percent of the country's population**. The productivity of smallholder farmers is further restricted by **institutional barriers** such as a lack of secure access to land, credit, high quality agricultural inputs and markets.

The approach

In response to the challenges surrounding land degradation, the RFS Tanzania project (**Reversing Land Degradation Trends and Increasing Food Security in Degraded Ecosystems**) supports farmers in mainland Tanzania and Zanzibar (Pemba Island) with the adoption of sustainable land and water management practices and EbA. The drivers of land degradation and over-exploitation of natural resources have been addressed, and smallholder farmers have been provided with the skills and tools needed to adopt sustainable agricultural practices. The chosen project sites were in two of the country's main biomes, the humid Miombo ecosystem and the Rift Valley Highland ecosystem, characterized with unique natural resources and biodiversity.

Of the estimated 30 000 ha of arable, pasture and woodland in the project focal areas, 16 500 ha (55 percent) are approximately highly degraded. The project is **targeting 9 000 ha of the degraded land for the implementation of SLM practices** including:

- 3 000 ha dedicated to conservation, CSA practices and agroforestry;

- 4 000 ha for improved natural resource management and biodiversity conservation in pastureland; and

- 2 000 ha dedicated to biodiversity conservation and sustainable woodland management.

The total forest cover in the project focal areas is estimated at 4 200 ha, of which an estimated 2 500 ha are degraded. Annual deforestation rates are estimated at 1-2 percent. The project is to restore 500 ha in addition to the areas dedicated to sustainable woodland management.

While the project's main strategy is to invest in farmers' capacities to produce more sustainably, **institutional barriers surrounding land-use planning and natural resources governance** also need to be addressed. Sustainable land management requires effective land use and ownership laws, regulations and guidelines. The Tanzania National Land Use Planning Commission was established to coordinate relevant institutions for sustainable land use and management. **Village land use plans (VLUPs) were prepared using a gender-sensitive participatory approach**. The VLUPs are legally binding and integrated into state institutions with official mandates for intersectoral planning. The VLUPs contribute towards SLM through:

- demarcating village boundaries and land use areas;

- protecting natural resource areas such as village forests, wildlife management areas, water sources and wetlands;

- protecting the land use and ownership rights of vulnerable people; and

- protecting communal land.

Certificates of customary right occupancy (CCROs) are issued to individuals or communities for legal ownership of land, catchment or forested areas and have served as an incentive for good land management in collaboration with the National Land Use Planning Commission.

Project activities are planned and implemented in partnership with implementing institutions and other stakeholders. For example, the Tanzania Forest Agency is a key partner for implementing the Participatory Forest Resource Assessment and establishing tree nurseries for FFS groups and the Tanzania Agriculture Institute (TARI-Tumbi Tabora) supports free training for farmers from the Mkalama district on CSA, CA, agroforestry, improved varieties and fruit tree nurseries.

SUCCESSFUL SLM ACTIVITIES

SURVEY INDICATES THE NEED TO SCALE UP CSA PRACTICES

The RFS project team conducted a survey using the **Multidimensional Poverty Assessment Tool** to provide baseline measurements on human well-being, land and water practices at the household level. The resulting data was used to inform decision making and strengthen the project's approach. The survey was conducted in 28 villages in the Nzega, Magu, Mkalama, Kondoa and Micheweni districts with a total of 850 households interviewed. Data was collected in the areas of food and nutrition security, education, farming practices, occupations, access to clean water, and farm and non-farm assets.

The findings from the survey **highlight issues with land tenure and access**. Although, 84 percent of households have access to land, most do not have legal ownership, and 79 percent rely on traditional law. Households also have very **low access to finance** with only six percent able to receive loans from financial institutions. Furthermore, the vulnerability of households was found to be high as the vast majority (95 percent) of households involved in agricultural production only harvest once a year.

Although half of the surveyed households identified drought as the most concerning climate change hazard likely to occur in the next 12 months, only six percent have adopted CSA practices, with most farmers still **dependent on rainfed agriculture**. Most households (96 percent) do not have access to water in the dry season and more than half (58 percent) have insufficient water for the remainder of the year.

The survey results highlighted the need to scale up CSA practices. Project actions include smallholder farmers receiving **training on good agricultural practices through FFSs** as well as the provision of quality inputs and tools. Master Trainers have also been established by the project to provide guidance on CSA practices within smallholder communities.

Project results

REGULATORY POLICY

- The project has conducted the **land-use planning process in all 23 project villages/shehia** targeted by the project.

- **A total of 1 730 CCROs have been prepared** and 1 350 CCROs have been issued to communities.

- **Bylaws have been prepared to guide committees** on land management with clear boundaries drawn up for land uses.

SLM IMPLEMENTATION

- **Training on gender sensitive approaches in land-use planning and agropastoral development** has been conducted in all project districts and attended by 575 participants of which 23 percent were youths and 35.5 percent were female.

- **To scale up sustainable land, water and pastoral management systems** and the adoption of CSA practices, training has been conducted for 603 participants (366 men and 237 females).

INSTITUTIONAL

- **The project has built the capacity of institutions** such as committees on natural resource and environmental management, gender, and land-use planning at the village level.

- **A community water station** was established at the district level to supervise water use and issue water use fees.

Lessons learned

IMPLEMENTATION

- **Engaging national and local-level institutions** in the planning and implementation of project activities encourages project ownership and sustainability.

ENABLING ENVIRONMENT

- **Stakeholder engagement has strengthened** the institutional framework and setting which is expected to improve land management, secure customary rights and resolve land use conflicts.

- **A variety of natural resource users** have been actively involved in the development of the Community Action Plans during the village land-use planning process. This has enhanced community ownership of project activities.
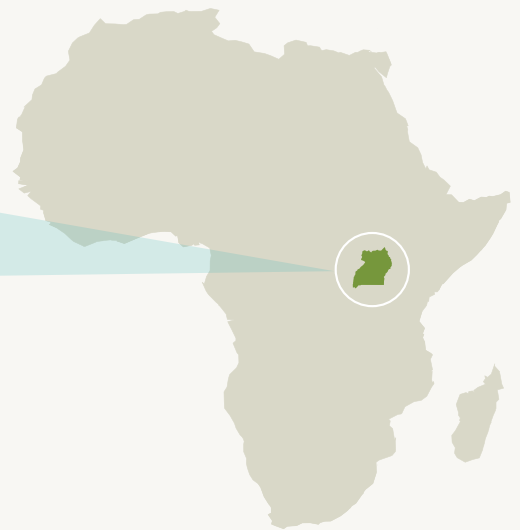
Uganda

The challenge

Climate change is adversely affecting the Karamoja subregion of Uganda with increasing and unpredictable periods of drought and rising levels of environmental degradation. This in turn has **decreased agricultural productivity** which is further limited by poor access to capital and markets, and a lack of policy concerning natural resource management. These environmental, climate, institutional and governance-related challenges have rendered the majority of people in Karamoja poverty stricken and chronically food insecure, with **women and female-headed households being especially affected**.

Key barriers to SLM implementation include:

- Insufficient policy and legal guidance on the management of natural resources.

- Fragmented technical capacity (SLM/INRM/CSA) at district and household levels.

- Lack of coordination between stakeholders (Karamoja Development Partner Group, NGOs, civil society organizations) and projects (NUSAF III, Regional Resilience project).

- A weak evidence base to support decision making.

The approach

The RFS Uganda project, **Fostering Sustainability and Resilience for Food Security in Karamoja**, is building upon successful practices, systems and mechanisms for scaling up INRM and SLM practices. New INRM and SLM technologies have been piloted in the Karamoja subregion, such as RWH and rangeland rehabilitation techniques in addition to sustainable and climate-smart land management practices. The **FFSs have provided a mechanism for enhancing the application of INRM and SLM practices**, particularly in rangeland restoration initiatives. Furthermore, alternative livelihoods have been promoted within existing value chains transitioning communities from subsistence to more market-oriented practices.

The project recognized the need for an **integrated and multisectoral approach** to address the environmental, socioeconomic, and institutional barriers to sustainable natural resource use. Subsequently, a **multistakeholder and cross-sectoral platform** comprising government ministries, departments and agencies from relevant sectors was established to create the enabling environment necessary for SLM implementation.

Strengthening the enabling environment for sustainable and climate-smart land management in Africa:
Country initiatives of the Resilient Food Systems programme

Some of the key government institutions included the Ministry of Agriculture Animal Industry and Fisheries, the Ministry of Water and Environment, the Ministry of Trade Industry and Cooperatives, the Ministry for Karamoja Affairs, the Ministry of Energy and Mineral Development, the National Environmental Management Authority, the National Agricultural Research Organization, the National Meteorological Authority and Busitema University and District Local Governments, among others. Civil society organizations, farmer organizations and the private sector were also engaged. Through the national cross-sectoral collaboration and by building capacity at the district level, the project **supported integrated subregional planning and land-use planning**.

The project also collaborated with the National Environment Management Authority and the Ministry of Justice to review and **update INRM/ SLM legal frameworks** at the district level. The review included understanding the influence of culture on natural resource use, access and ownership. Legal frameworks on INRM/SLM were subsequently drafted for the six project districts.

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SUCCESSFUL SLM ACTIVITIES

SUPPORTING WOMEN-LED CBOS ON LAND DEGRADATION

The RFS Uganda project found that **women are less able to address land degradation** due to low levels of inclusion in decision making, poor land rights, inadequate financial resources and low access to knowledge and modern technology. This was addressed using the following approach:

- Establishing community groups with both men and women to ensure equal access to programme benefits such as oxen and ploughs.

- Including equal numbers of women and men in learning activities, such as training of trainers, training participants, exposure visits and hosting demonstrations.

- Promoting gender inclusive technologies and practices that reduce women's workloads as well as increase their productivity contributing to additional income.

- Strengthening gender inclusive farmer cooperatives that install women leaders and provide them with equal opportunities to men.

Project results

REGULATORY POLICY

- **Thirty-five land use plans at the Parish level and eight Sub County Environment Action Plans** have been developed to guide restoration activities.

- **The Uganda Climate-Smart Agriculture Programme** (2015-2025) has been used as a mechanism to enhance implementation of INRM/SLM approaches and the development of food value-chains.

- **The National Environment Management Authority and the Ministry of Justice** are reviewing legislation guiding INRM/SLM implementation at subnational levels as well as the development of bylaws to be approved by the district councils.

- **Dialogue was initiated with the Ministry of Agriculture Animal Industry and Fisheries** to identify political, cultural, economic and social barriers underlying ineffective implementation of national legislation promoting INRM and SLM in the project districts. The dialogues are to inform the implementation/enforcement of ordinances, bylaws, interim executive orders, council resolutions and cultural protocols on natural resource and food security management in the region.

SLM IMPLEMENTATION

- A total of **173.4 ha of cropland has been put under SLM**, comprising 78.4 ha as demonstration plots and 95 ha on individual farms.

- A total of **26 ha of woodlots, 4.05 ha of which are demonstration plots**, were planted around homesteads to restore forest areas but also to provide wood fuel for cooking.

- An area of **260 ha of rangeland was put under INRM for demonstration purposes**, which famers complemented by planting pastures on up to 62 ha on their farms.

- **Twenty-eight people (53 percent women) from each of the six districts have been trained as INRM trainers** of trainers to disseminate knowledge on SLM practices, soil and water conservation, farmer managed regeneration and seed multiplication to other community members.

- A total of **8 886 community members (64 percent women), have been trained on CSA/INRM**.

INSTITUTIONAL

- **Executive committees were established** and MSPs have been set up in the six participating project districts.

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Lessons learned

IMPLEMENTATION

- **Documenting project progress** is important for shared learning and improvement.

- **A minimum 50 percent women participation in all SLM/CSA/INRM knowledge management activitie**s is key to achieving project objectives.

- **Placing emphasis on farmer-to-farmer learning initiatives** is imperative for including women in the uptake of SLM /CSA/INRM practices.

- **Schools are important vehicles for reaching the youth** and wider community.

- **Farmer organizations need to be linked to the private sector** (input, services and marketing).

- **The transformation of gender inclusive farmers groups** into viable economic organizations (producer cooperatives) is key.

ENABLING ENVIRONMENT

- **Local government planning and monitoring** needs to be strengthened to mainstream land-use planning and environmental and social impact assessments.

- **Community-based organizations** need their capacity developed to successfully **engage in SLM and food security policy dialogue**.

- **Increased investment in policy incentives** is required to support the development of sustainable value chains, enable livelihood diversification and promote payment for ecosystem services.

- **The alignment of project interventions with government sector goals** such as catchment-based integrated water resources management is important for successful implementation.

- **Mobilizing local communities** (e.g. FFSs, micro-watershed resource users) and non-state actors (e.g. civil society organizations, private sector) in catchment-based integrated water resources management generates support for problem solving and builds ownership.

- **Cross-sectoral and multiscale integration ensures national and local level decision-making bodies are linked**. This accelerates the achievement of project objectives and contributes to long-term sustainability.

Conclusion

Although global agendas and goals that promote SLM practices such as the UNCCD's LDN target (Sustainable Development Goal target 15.3) provide important guidelines for reversing land degradation, **successful and sustainable local-level implementation that improves rural livelihoods, food security and ecosystem integrity** presents the crux of the challenge. Progress towards LDN requires an enabling environment with appropriate and **inclusive policies and regulations, efficient institutions, adequate access to finance, and an effective science-policy interface**. Furthermore, achieving LDN through interventions such as SLM requires addressing land governance challenges to **ensure land tenure security** that is specific to the local context.

In this light, the RFS country projects have not only endeavoured to **build the capacities** of land managers to undertake SLM practices but have also worked with national and subnational governing bodies and institutions to **improve the enabling environments** for their respective project activities. Platforms have been established to allow for dialogue between decision makers (at different scales and across multiple sectors) and land users allowing **local actors to be actively engaged** in policy development cycles. Project activities are aligned with, and build upon, the goals represented in national policy and strategies, such as the promotion of landscape and nature-based solutions, with a focus on restoration and rehabilitation. Furthermore, advocacy skills have been developed among local actors to ensure that **vulnerable groups**, particularly women and young farmers, are adequately represented in policy development processes and that their specific needs, contexts and priorities are accounted for and supported.

Through capacity building initiatives and improved enabling environments with appropriate land-use planning and tenure, SLM practices and technologies can be sustainably implemented and scaled. The RFS country project results provide evidence of such achievements and the lessons learned give valuable insights for similar interventions to successfully mainstream and scale up SLM practices.

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