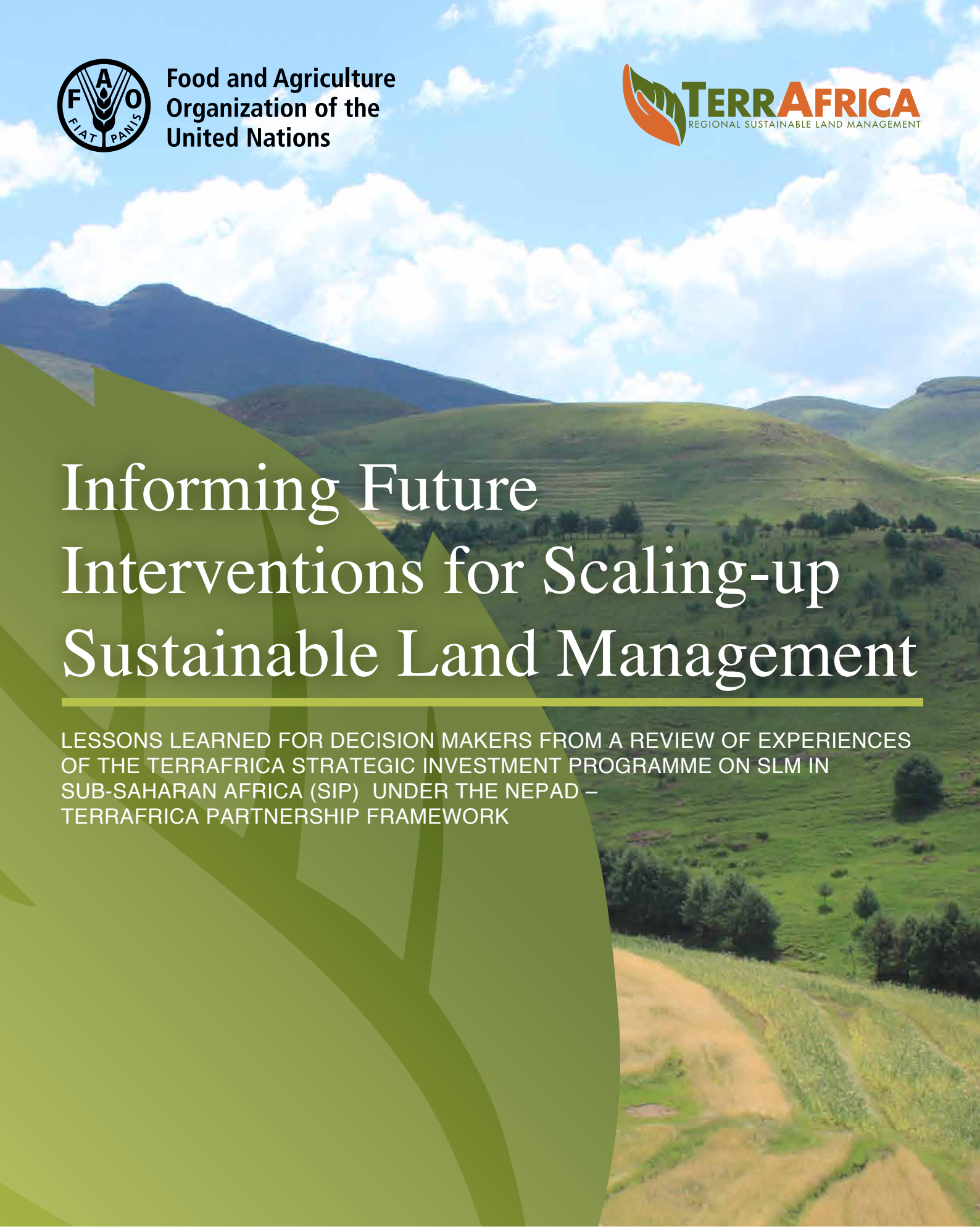

Food and Agriculture Organization of the United Nations

TERRAFRICA
REGIONAL SUSTAINABLE LAND MANAGEMENT

Informing Future Interventions for Scaling-up Sustainable Land Management

LESSONS LEARNED FOR DECISION MAKERS FROM A REVIEW OF EXPERIENCES OF THE TERRAFRICA STRATEGIC INVESTMENT PROGRAMME ON SLM IN SUB-SAHARAN AFRICA (SIP) UNDER THE NEPAD – TERRAFRICA PARTNERSHIP FRAMEWORK

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Cover photo: Crop and fodder terraces in previously pasture-only montane grassland, Lesotho. ©Anne Woodfine

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APRIL 2016

Summary report prepared by FAO -
Sally Bunning, Senior Land resources officer,
with consultants Anne C. Woodfine and Domitille Vallée

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[1] *Steering committee members:*
- *Philippe Dardel and Paola Agostini (Ms), World Bank, supported by Gayatri Kanungo (Ms), Magda Lovei (Ms), Stephen Danyo and Esther Bea;*
- *Jean-Marc Sinnassamy and Mohamed Bakarr, GEF Secretariat;*
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INTRODUCTION

The review was conducted with the aim to provide guidance for future engagement / investments, in particular in the context of recent AU declarations on agriculture and on land restoration by NEPAD, GEF, TerrAfrica, the Great Green Wall Initiative for the Sahel and Sahara (GGWISS), UN agencies and other donors.

The review of lessons learned was conducted by FAO, under the supervision of the World Bank and GEF Secretariat and the guidance of an ad hoc Steering Committee comprising the TerrAfrica implementing agencies – the World Bank group, GEF, UNDP, UNEP, IFAD, NEPAD Agency and FAO. and with financial support from the European Union, Norway and the Netherlands Ministry of Foreign Affairs. The stocktake was conducted in 2015 through on-line surveys in English and French, desk reviews and interviews and 5 detailed "country" studies in Ethiopia, Kenya and Uganda, Niger and Senegal. These countries were selected by the agencies as reflecting a balanced portfolio of projects and substantive lessons. The outputs of the stocktake consist of an in-depth Master report (85 pages), supported by 5 country reports and case studies.

This paper provides an abridged summary of the findings for easier access by country policy / decision makers, agencies, development partners and donors, as a basis for informing future interventions for scaling-up sustainable land management (SLM).

The exercise was not an attempt to evaluate the SIP portfolio and its impact, but rather to synthesize achievements and lessons on key aspects of SLM implementation as was originally envisioned for the overall program under TerrAfrica.

The TerrAfrica vision for Sustainable Land Management in Sub-Saharan Africa was developed in 2007, see Box 1. As an alternative to continued and accelerated land degradation[2], the promotion of sustainable land management (SLM)[3] promised the rebuilding of the natural capital assets, a prerequisite and underpinning solution for enhancing and sustaining the social and economic well-being of the continent's inhabitants. (Box 2)

TerrAfrica built on the convergence of global and regional efforts (inter alia UNCCD, GEF, the NEPAD Action Plan for the Environment and CAADP, and the Paris Declaration) coupled with a growing body of locally successful SLM efforts to build a collective business model for SSA. Hence, the TerrAfrica multi-stakeholder partnership was designed to achieve economies of scale across the region and to strategically work towards

[2] *Land degradation is defined within the FAO-LADA approach as "a decline in ecosystem goods and services from the land. Land degradation negatively affects the state of the natural resources –water, soil, plants and animals – and hence reduces agricultural production." (TerrAfrica, 2011)*

[3] *Sustainable Land Management (SLM) has been defined by TerrAfrica as "the adoption of land use systems that through appropriate management practices, enables land users to maximize the economic and social benefits from the land while maintaining or enhancing the ecological functions of the land resources." SLM includes the management of soil, water, vegetation and animal resources. (TerrAfrica, 2011)*

unlocking critical barriers and bottlenecks – knowledge, technology, policy, institutional, financial, socio-economic and cultural, that had hindered adoption and significant "scaling-up" and "mainstreaming" of sustainable land management (SLM) in national and regional development programs in Sub-Saharan Africa (SSA). Appropriate SLM technologies and approaches need to be combined for optimal results within the landscape through linking multiple sectors and actors and scales, and providing an enabling environment for wide adoption in order to obtain multiple ecological and socio-economic benefits (e.g. farm, landscape, national, transboundary and global).

A Joint Partner Declaration of Collaboration in support of the Implementation of the Strategic Investment Program for Sustainable Land Management in Sub-Saharan Africa (SIP) was made in Ouagadougou, Burkina Faso, 24-25 April 2007 at a Special Session of the African Ministerial Conference on the Environment (AMCEN). Also through an African Ministerial Declaration in support of the SIP, Ministers committed to advance the sustainable land management (SLM) agenda at local, national and regional levels and called on donors and development partners to align and harmonize their activities to build and share knowledge and develop investment to support African countries, the Regional Economic Communities (RECs), NEPAD and the AU in their efforts to scale-up SLM in sub-Saharan Africa.

Box 1: The TerrAfrica Vision

The "TerrAfrica Vision" is laid out in the publication "A Vision paper for Sustainable Land Management in Sub-Saharan Africa" (FAO, 2007) which aimed to :

"Engage with and within countries in sub-Saharan Africa and build programmatic approaches for the implementation of SLM. Most importantly, this vision paper will serve as a basis upon which to build stakeholder consensus and a coalition for action to make a difference for the future of SSA."

This was in recognition in 2007 that:

"Sub-Saharan Africa is clearly not on track to meet the Millennium Development Goals or meet the challenges outlined in international conventions to reverse desertification or biodiversity loss, much less is it prepared to adapt to increasing climate change disruptions - predicted to impact the region disproportionately harder than any other in the world."

also

"The course of action is in our hands. Inaction will result in SSA's underdevelopment and acceleration in the degradation of the region's agricultural and environmental resource base leading to severe food insecurity, a dramatic increase in malnourished and poor people in both rural and urban areas, increased conflict and in essence national bankruptcy in most of the countries in SSA. Land degradation is standing in the way of a sustainable future for sub- Saharan Africa and the opportunity to participate in, what has come to be termed, a virtuous cycle of development."

Box 2: Core elements identified as important for successful SLM

The multi- dimensions of the SLM approach

- multi-stakeholder partnerships;
- multi-sectoral and inter-disciplinary;
- multi-scale efforts (ecological, administrative and decision-making units);
- multi-dimensional /levels of management (with identified responsibility and accountability).

Specific development approaches available on the shelves and of relevance to SLM

- NO UNIVERSAL BLUEPRINT

Social-People Centred Management/Approaches

- Community-based participatory planning and technology development;
- Adaptive management/ learning-by-doing;
- Cultural and gender sensitivity.

Landscape and Ecosystem Management Approaches

KEY MESSAGES

The TerrAfrica Strategic Investment Programme (SIP) provided $150 million of land degradation funding from the Global Environment Facility (GEF) to Sub-Saharan Africa. It attracted co-financing of about $800 million (estimates from project PIF) through its portfolio of 36 projects in 26 countries: 28 national projects, 4 transboundary river basin / watershed projects and 5 regional projects addressing specific themes.

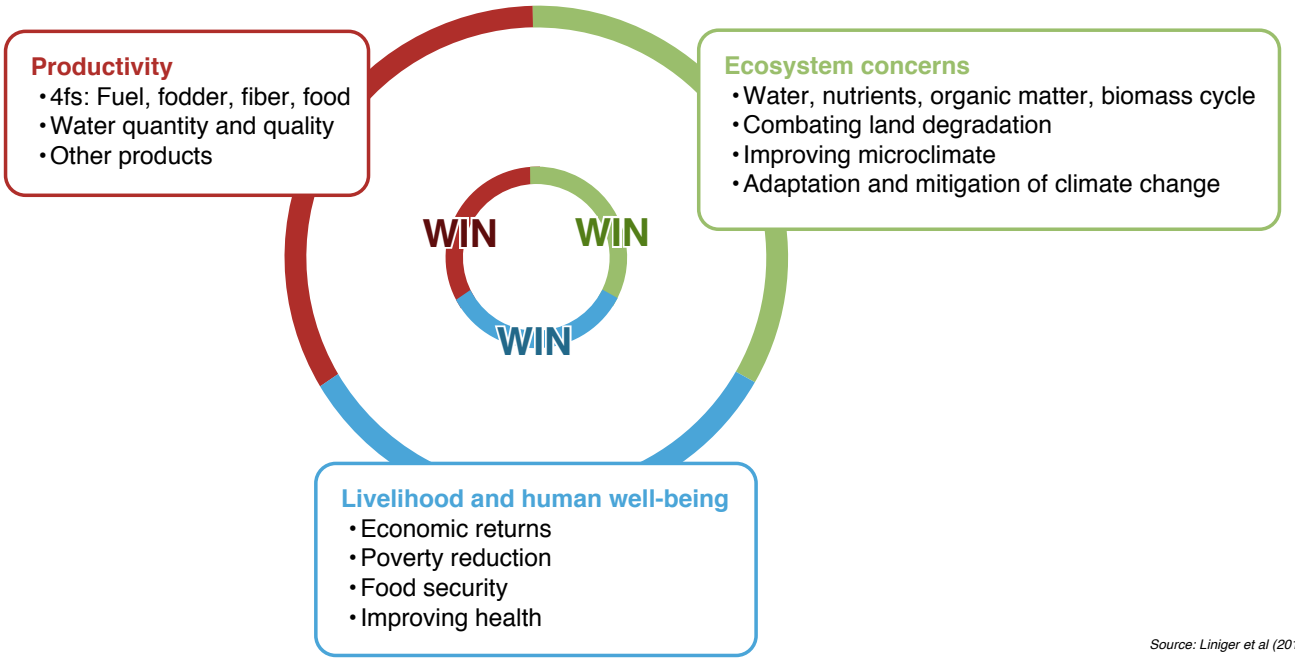
The portfolio was implemented during the period 2010 and 2015, by the World Bank, UNDP, UNEP, IFAD, AfDB and FAO, in close coordination with NEPAD, Regional Economic Commissions RECs) and countries, and executed with the Governments and in collaboration with many other development partners. Following the inclusion of land degradation as being eligible for GEF financing in 2002, the SIP was the first opportunity to give a high profile and visibility to the importance of promoting **Sustainable land management** (SLM) in Africa. The menu of activities were developed to:

1. Support on the range of activities for SLM scaling-up;
2. Create an enabling environment for SLM at all levels (i.e. supporting an intersectoral approach – including policy development);
3. Strengthen advisory services for SLM; and
4. Support knowledge generation, management, sharing and M&E.

Overall achievement to-date for this Sub-Saharan Africa SLM programme include the implementation of SLM practices on 2.7 million hectares with some 4.8 million beneficiaries engaged. Through enhanced capacities and knowledge generation, many of the 36 projects are likely to have sustained impact. The portfolio also demonstrates that adapted SLM technologies and intervention approaches can bring “win-win-win” benefits across a wide range of farming systems, contributing to local, national and global goals of increased productivity, improved livelihoods and restored ecosystem services, thereby enhancing food security and human wellbeing (Figure 1).

- The SIP has improved understanding of land degradation issues and the serious implications and urgency to halt land degradation in sub-Saharan Africa
- It highlights the importance and huge opportunities to invest in scaling up adapted SLM interventions across the continent.
- SIP lessons demonstrate that landscapes may be the most appropriate geographic areas or territorial units for which SLM projects should be designed for on-the-ground implementation. However, local circumstances should determine the most appropriate scale, approach and required support mechanisms.

Figure 1: Win-win-win solutions for livelihoods, ecosystems and productivity



Source: Liniger et al (2011)

- Moreover, many (if not all) SLM technologies in crop and grazing lands contribute to climate smart agriculture (CSA) – generating productivity, adaptation and mitigation benefits, and contributing to the achievement of many of the recently adopted Sustainable Development Goals.
- The SIP portfolio highlights the importance of mainstreaming the SLM agenda / interventions in the food security, poverty reduction and climate change agendas for wider implementation and synergies, including human and ecosystem resilience.
- Rather than advocating one technology alone, or a small number of structural technologies, the SIP portfolio demonstrates that more success is achieved by using combinations of agronomic, structural and biological technologies; ideally blending technologies with both rapid and long-term paybacks, bringing "quick-wins" and also sustained benefits.
- The lessons also show that blanket approaches and top down processes should be avoided; and local actors need to be empowered in decision making over their resources and territories through management plans and decentralized governance mechanisms.

There are no silver-bullets - but there are valuable lessons

Where projects have been successful in including pro-SLM measures in national level policies (and laws), the chance of post-project sustainability is much higher. The prospects for sustainability at local levels are also favoured when projects have ensured that pro-SLM by-laws and other local regulations have been enacted and are enforceable.

Projects and programmes to scale-up SLM need to remain flexible, able to react to changes in context and priorities, from local to global level, and from the design stage and throughout implementation. For example, through promoting farmer innovation, availability of multi-purpose agro-environment funds, and mid-term reviews to validate and adapt the project work plan and budget.

People and their actions are central factors in land degradation and thus they need to be at the center of SLM projects and programmes - genuinely involved from the design phase onwards.

Women represent a large share of the beneficiaries of the SIP projects, directly or indirectly benefitting from improved natural resources management. They also are major actors in the restoration work on common lands, but too often their roles in restoring and creating added value is not acknowledged formally to enable equitable access rights and benefits from the restored resources.

Positive experiences from SIP projects have enabled countries to programme GEF and other resources for new and additional SLM related investments, notably in Ethiopia, Niger, Burkina Faso, and Senegal.

The SIP established the foundation for other significant programmatic approaches financed by the GEF, notably the World Bank led Sahel and West Africa Programme (SAWAP)[4] in GEF 5 ($100 million for twelve countries) and the multi-agency Integrated Approaches Pilot on Fostering sustainability and resilience for Food Security in GEF 6 ($106 million for twelve countries).

The catalyzing role of the SIP projects for co-financing would have been greater if country-driven inter-sectoral investment frameworks (Country Strategic Investment Frameworks - CSIFs) had been developed prior to, or in the early stages of, implementation of all projects.
Key lessons are detailed below on:

1. SLM technologies, integrated climate-smart production systems and implementation approaches;
2. Capacity building and targeting marginalized groups;
3. Policy and institutional issues and supporting conditions for SLM;
4. Monitoring and evaluation and achieving impact;
5. Management and sharing of knowledge and information across the programme;
6. Sustainability and scaling-up.

[4] *SAWAP is the World Bank and GEF's contribution to the Great Green Wall Initiative – see http://terrafrica.org/great-green-wall/*


Photo: ©Bancy Mati

1. SLM TECHNOLOGIES, INTEGRATED AND CLIMATE SMART PRODUCTION SYSTEMS AND APPROACHES TO SUPPORT SLM

SLM technologies tested and adopted by land users

The SIP projects enabled the testing, development and application of SLM technologies in a wide range of agro-ecosystems (crop, livestock and tree based) across the region to restore healthy soils, vegetation and biodiversity. This catalysed improvements in the range of ecosystem services: regulating services (rainfall infiltration and storage, nutrient cycling and carbon stocks etc.) leading to improvements in productivity and yields (crop, fodder, woody biomass and livestock products) and importantly also reductions in inter-seasonal variation in yields due to the impacts of increasing weather variability and climate change.

The technologies most often identified by project managers and beneficiaries as being widely adopted included:

- crop rotations, fallowing, intercropping and / or green manures, particularly using nitrogen-fixing crops to improve soil fertility;
- conservation agriculture and steps towards this goal such as reduced or no tillage, application of compost and / or mulch;
- tree planting in agroforestry systems, shelter belts, woodlots etc.;
- crop – livestock integration for manure production, improved yields and resilience;
- soil and water conservation measures for erosion control and effective use of rainwater– stabilization of river banks, vegetation strips, stone lines, tied ridges, progressive / bench terraces, rainwater harvesting - zaï and half-moon;
- rangeland restoration (temporary area closures, re-seeding, holistic grazing management, assisted natural regeneration, tree planting, etc.);
- gully healing /reclamation.

Land users were the primary targets for awareness raising and practical training, on the range of appropriate SLM technologies, including local knowledge and innovations, and their conditions for success, also on the costs, benefits and possible socio-economic constraints (e.g. increased labour, inputs, time required for generating impacts). The TerrAfrica **SLM in Practice** publication[5] and **WOCAT tools**[6] were available at the start of the SIP and where used proved valuable,

[5] *WOCAT (2011) SLM in Practice Guidelines and Best Practices for Sub-Saharan Africa, WOCAT, Berne, Switzerland. Available from: https://www.wocat.net/en/knowledge-base/documentation-analysis/global-regional-books.html*

[6] *WOCAT- World overview of conservation approaches and technologies – standard tools and global database for assessing and documenting SLM practices (technologies and approaches), see www.wocat.net*

Figure 2: Range of agronomic and vegetative measures tested or implemented (Ethiopia)

Soil and water conservation interventions at Mecha Amarit

Stone bunding for soil conservation on cultivated lands in at Miriam Monze watershed, Amhara Region

Rehabilitated catchment using excavated trench, stone bunding and grass reseeding at Miriam Monze watershed, Amhara Region

Photos: ©Bancy Mati

but could have been used by all projects with on-the-ground interventions to facilitate wider assessment and documentation of SLM technologies and approaches by local actors for their wider diffusion.

Rather than advocating one or a small number of technologies, success on the ground is more likely through using combinations of agronomic, biological and structural measures from a "menu" of "locally appropriate" practices. Blended technologies that generate both rapid and longer-term financial and environmental benefits should be favoured due to "quick-wins" in terms of adoption rates and lasting community participation - vital for post-project sustainability.

Some projects particularly worked to identify and support innovations by individuals or groups of farmers in existing technologies – notably **SIP 2184 (Regional): Stimulating Community Initiatives in Sustainable Land Management.**

In most projects, participatory approaches were used to help land users choose appropriate SLM technologies. However, detailed country reviews of SIP projects revealed that in some instances, decisions on the choice of technology were made in a top-down manner allowing little room for farmer innovation (farmers were given instructions on what to experiment – perhaps due to shortage of time). This is not a wise model - rather decisions on how to intervene to reduce and reverse land degradation should be "bottom-up", agreed in close consultation with well-informed land users.

Integrated and climate-smart production systems promoted

Many (if not all) SLM technologies, if combined in an effective way and adopted on a large enough land area, contribute not only to **increased production but also to generating many other ecosystem services** –water flow and supply, resilience to drought, nutrient cycling and restoration of soil fertility, carbon stocks in soil and biomass and reduced GHG emissions etc. Shifts to more **integrated production systems** can address the challenges of increasing pressures on limited land and water resources as well as climate change and biodiversity loss.

During the SIP, understanding of the issues and impacts of increasing weather variability, frequency of extreme events and climate change has grown – as has the appreciation of the huge potential and opportunities for SLM in climate change adaptation and mitigation[7].

Many SLM technologies "contribute to **climate smart agriculture (CSA):** 1) sustainably increasing agricultural productivity and incomes; 2) adapting and building resilience to climate change; and 3) reducing and/or removing greenhouse gases emissions, where possible"; thereby contributing "to the achievement of sustainable development goals (economic, social and environmental dimensions) by jointly addressing food security and climate challenges"[8] .

Climate smart crop and pastoral systems that combine adapted crop, pasture and tree species / varieties and livestock breeds with soil and water management practices can make more efficient use of the resources and biodiversity, enhance ecological functioning, as well as providing resilience of vulnerable peoples and ecosystems to unreliable rains, high temperatures, flood and drought.

Approaches to support SLM

Projects used different arrangements to implement "on-the-ground" activities according to the local situation and needs. Some supporting capacity development of existing extension services or decentralized technical services, while others entered into contract agreements with local "service providers", such as local NGOs, farmer's groups or producers' organizations.

Several projects showed how local actors can be enabled to select, adopt and evaluate the **"best" SLM practices at farm and community level,** and to make informed decisions for effective **planning and management** of their resources and territories in the longer term (i.e. considering impacts of their actions on their and their children's lives). Support and **guidance of technical and extension services** was provided in diagnosing problems and priorities on the ground, developing coherent action plans and supporting their implementation, through appropriate **governance and incentive mechanisms**. Despite the SIP investments, however, competent services and support mechanisms are often not in place or inadequate to support continued scaling out and ensure sustainability post project.

A number of studies and incentive measures were also explored to encourage wider adoption of practices that contribute to environmental and societal benefits (such as hydrological monitoring and support for soil and water conservation in upper catchments for enhancing water quality and flow downstream (Kagera TAMP); support for climate smart practices that increase soil organic matter / carbon in soils (e.g. zero tillage or conservation agriculture) and sequester C in biomass (agroforestry; woodlots).

The **landscape approach** is becoming increasingly favoured in SLM projects and programmes, using logical geographical units for implementation to support the integrated management of natural resources and ecosystems across sectors and for different functions (hydrological services, reducing GHG emissions for climate regulation, food production, economic development) and interactions (e.g. upstream-downstream; agriculture-forest; livestock-wildlife; etc.).

Many projects worked with land users to encourage them to take ownership of planning how the land resources could be better (more sustainably) managed in their local territory or landscape. Adopting a landscape approach (also variously termed: integrated landscape management; forest landscape restoration; "gestion de terroir"), projects supported land users to develop , for example, catchment / watershed plans, community land

[7] *World Bank (2009) Using sustainable land management practices to adapt to and mitigate climate change in Sub-Saharan Africa. TerrAfrica Resource Guide v1.0, The World Bank, Washington, USA.*

[8] *FAO (2013) Climate-smart agriculture Sourcebook, FAO, Rome, Italy. Available from: http://www.fao.org/docrep/018/i3325e/i3325e00.htm*

use plans, grazing agreements, soil and water conservation zones, riparian corridors, shelter belts, etc. For example one Output of **SIP 2139 (Regional / Kagera TAMP)** was "participatory land management plans are developed and implemented in targeted communities, micro-catchments and wider land units". This project team mobilized community groups, built their capacities and helped develop local management plans.

Several projects, in particular those targeting **river basin/watershed management** demonstrated that landscape approaches and units are appropriate for designing and implementing SLM interventions that are adapted to the agro-ecological and socio-economic context and engage the multiple sectors and stakeholders at relevant scales (e.g. community territory, catchment or river basin). See Box 3.

These projects demonstrated that **landscape approaches and units** are appropriate for designing and implementing SLM interventions that are adapted to the agro-ecological and socio-economic context and engage the multiple sectors and stakeholders at relevant scales (e.g. community territory, catchment or river basin). However, they also showed that the specific measures on-the-ground depend on and should be determined by the needs, objectives and knowledge systems of local farmers, pastoralists and other users of the land resources (soil, water, biodiversity) and taking into account external demands (e.g. for charcoal, mineral resources or tourism).

The scale of the defined landscape or territory used in projects varied greatly, from sub-continental (e.g. for sustainable pastoralism in drylands) to micro- or sub-catchment (e.g. for addressing land-water interactions in hilly terrain).

Modern administrative units (entire nations or selected districts / provinces) can also be a basis for scaling up SLM. But success has been particularly evident in the use of **traditional land units** in Swaziland where the **SIP 3390 Lower Usuthu Smallholder Irrigation project** has catalyzed planning and associated activities using the framework of chiefdoms (- possible due to the enduring strength of the chiefdom system in Swaziland).

Farmer field schools and agro-pastoral field schools (FFSs and APFSs) proved to be a particularly successful approach in several projects for piloting SLM technologies, enabling farmers to "learn by doing" and to exchange experiences on the basis of experiential learning on study plots and on-farm including livestock and pasture management activities as well as support skills such as agro-business. FFS/APFS were reported as being a very effective approach for encouraging innovation and adaptive management, even in some cases stimulating farmer initiated experiments in SLM.

Some projects successfully developed partnerships (e.g. with the World Food Program) using the **"food for work"** or **"cash for work"** principles and targeting the most vulnerable for the land restoration activities. For vulnerable groups, these approaches provide a short term source of income to prepare for an intermediate period without food, and an alternative to dependency or migration to seek work elsewhere. However, projects need to ensure that the whole community is aware and benefits, or is in agreement to target vulnerable groups if works are conducted with food or cash for work and that other income generating activities are proposed to the different community groups, to ensure that the most vulnerable benefit in the medium- and long-term.

Income generating activities were important in most projects, to ensure that land users can store, process and market additional produce and diversify away from high dependence on natural resources (e.g. through value addition, processing etc.). In Niger, the **SIP 3383 Agricultural and Rural Rehabilitation and Development Initiative** project included a component to develop income generating activities that provided interesting

results in terms of ownership at local level. The creation of an activity of fodder seed collection and marketing the seeds played a large role in interesting the population to construct half-moon terraces in common lands, by rapidly (within a single year) generating income.

Box 3: Zoom in on a regional project: combining multiple actions on the ground "approaches, technologies, support measures"

The regional project **SIP 2139 Kagera Transboundary agro-ecosystem management** made substantive achievements as noted by mid and terminal evaluations:

- Participatory management plans were prepared and implemented for different land use systems: 68 community action plans; 46 micro-catchments; 15 pasture/ rangeland areas; 10 target wetlands as well as river banks and lake margins. For this, 135 community groups were mobilized and their capacities built in SLM and developing action plans for managing their community territories/land units and by-laws were established (e.g. bush fire control, livestock grazing, riverbank cultivation). A total of 7,400 farmers and other stakeholders were trained directly on improved SLM systems, albeit the number of herders was much lower.
- A wide range of SLM practices were applied by communities: buffer strips to protect lake margins, bamboo to stabilize river banks (95 km in place- far less than the 1,000 km planned but capacities were built and nurseries established); pasture/ rangeland productivity improved through restored vegetation cover (fruit trees, agroforestry, woodlots, fodder crops and enclosures); soil and water conservation structures (contour bunds, diversion ditches progressive and bench terraces; gully reclamation); agronomic practices (mulch/ cover crops for soil moisture conservation; integrated soil fertility management; also crop-livestock integration (goats, pigs and stall-fed cattle for manure and income generation; and fish ponds built/or renovated (174).
- Through a strong focus on the farmer/agropastoral field school approach, the quality of services provided to rural communities was enhanced. Also inter-sectoral approaches built on local knowledge and innovations for improved agro-ecosystem management from farm to catchment scale. Indeed the FFS approach "turned out to be the highlight of the project; FFS are the core organizations to moderate the adoption of new technologies and their promotion".
- Also the project worked to create an enabling environment through activities aimed to reduce barriers to SLM (e/g/ sensitization and conflict resolution ; participatory diagnostics to inform local land use plans). The establishment of community catchment committees for planning of SLM integration in micro catchments or watersheds was a key activity to guide and facilitate the landscape approach, as well as the establishment of by-laws, mainly for pasture and henece livestock improvement.

"Exchange and dissemination of SLM technologies was conducted with great enthusiasm. Vibrancy was highest, where SLM activities achieved highest results and greatest government support . in terms of adoption "greatest results were using technologies that were largely unknown (locally), such as composting, use of manure, green manure; (enhanced access to) planting material resistant to banana bacterial wilt and cassava mosaic virus and value chains. Success factors were dependent on farm level production factors such as farm size, soil quality, climate etc." (ibid.)

Photo: ©FAO/Giulio Napolitano

2. CAPACITY DEVELOPMENT AND TARGETING MARGINALIZED GROUPS

Capacity development

The SIP theory of change was that projects should "strengthen extension, service providers and land user capacities for a range of already proven technologies in targeted production systems " as a means of supporting SLM at scale.

Project design teams and implementing teams should be familiar with the key principles of SLM – and should be aware of the win-win-win benefits of SLM (see Figure 1), also how these can be most effectively integrated into land users' systems. This is likely to include community participation for capacity development for community participation (community driven approaches), knowledge of available tools for FFS/APFS support, effective communication, also gender sensitivity and tenure security - ensuring that communication materials/media resources targeted for land users are produced in local languages. **SIP 3370 Agro pastoral SLM in Kenya** was exemplary in supporting capacity development and targeting to needs on the ground, see Box 5. The project generated a wide range of achievements in targeted capacity development (see www.slmkenya.org).

SLM projects frequently introduced new approaches and technologies that required capacity development tailored for each group of stakeholders. For example, farmer or agro-pastoral field schools targeted for land users; technical training/updating for government technical officers; management and technical training for local NGO "service providers". Projects are making frequent good use of demonstrations and short courses for all the participant groups. The formerly commonly adopted approach of sending technical staff on "longer" (e.g. 3 month and over) courses or post-graduate degrees no longer feature in projects.

In terms of capacity development, the **farmer field school** (FFS) **approach** was successful in numerous projects, including in Kenya, Swaziland and the regional Kagera project (Burundi, Rwanda, Tanzania and Uganda), transferring skills to farmers and also to FFS/ APFS facilitators and master trainers in piloting and validating SLM technologies, through participatory experimentation, M&E and enhanced decision making. An important outcome of the FFS process was also empowerment of farmers to play a more active role in the wider community notably in catchment management and to access required support services. However, quality control of the FFS process is sometimes a problem as it requires that FFS/ APFS groups are supported by competent facilitators and master trainers and well linked to technical services and research allowing them to build on local knowledge and scientific advances and to access required seed and other inputs, information and advice. Clearly this is not always the case!

Results of the SIP review (Figure 3) showed that land users were the most frequently reported participants

Box 4: Zoom in on a country project in Kenya, exemplary in tailoring capacity developments to needs

The project SIP 3370 Agro pastoral SLM in Kenya (see www.slmkenya.org) noted a wide range of achievements:

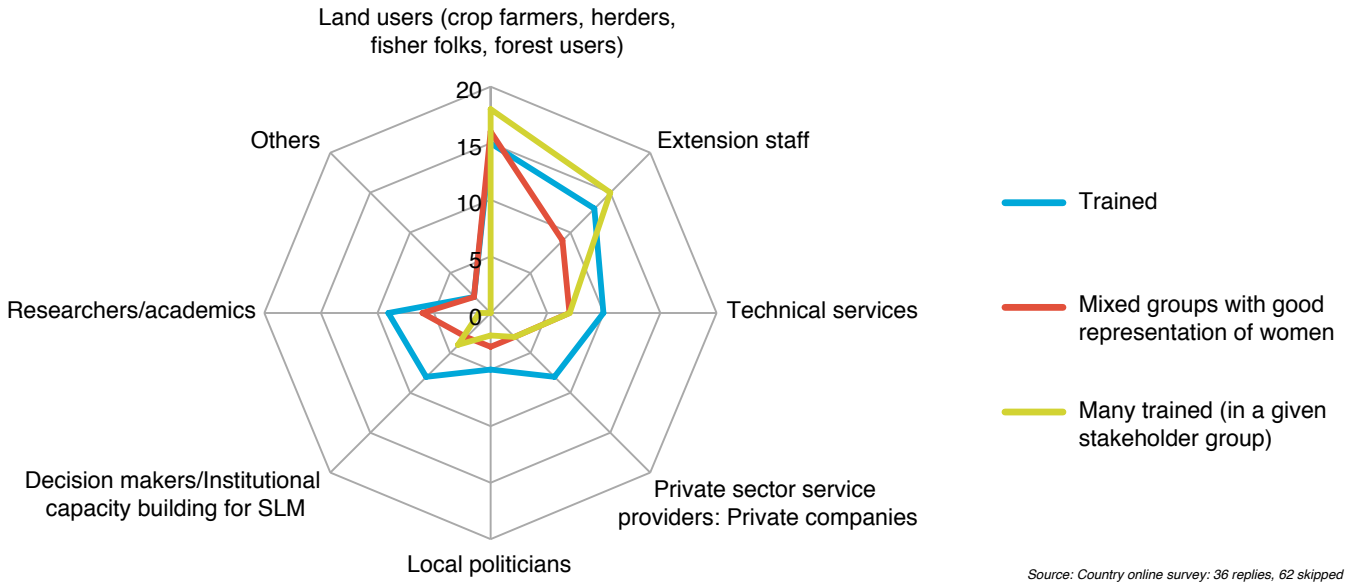
- For farmers: 46 farmer/pastoral field schools established/revamped in all pilot districts; 1,739 FFS members trained on various SLM practices (value-additions of honey, quality hides, conservation agriculture, drought resistant crops, post-harvest crop management, pasture establishment, water harvesting and agro-forestry); FFS members trained on gender mainstreaming and micro-finance;
- For the youth: over 27 primary and secondary schools placed under the awards scheme - aimed at motivating individual farmers and school-going children on implementation of SLM practices;
- For technical staff: acquired skills and other capabilities required for SLM: officers trained on a range of subjects- environmental impact assessment, climate finance and M&E, gender mainstreaming, FFS methodology and performance reporting) and sponsorships provided (6 officers on Master degrees, 4 diploma and 9 certificates courses, 2 Senior officers on leadership course and 15 officers attending a 2 year in-service course at Bukura agricultural college;
- Engaging multiple stakeholders at national level: the first ever National Conference on SLM brought together diverse stakeholders including policy makers, researchers, and civil society organizations who shared knowledge and experience on SLM;
- Supporting coordination and integration: SLM platform of 40 CSOs established to enable sharing of knowledge and experiences and to provide a check on development matters at county level.

In addition, the project created strategic partnerships to create knowledge, document results and enable dissemination, for example:

- In collaboration with KEFRI, a baseline survey was conducted in the pilot districts including composition, density and diversity of vegetation cover, degraded and non-degraded areas were mapped and preliminary guidelines developed on suitable tree species for rehabilitation of degraded areas;
- In collaboration with scientific and academic institutions (UoN, KARI, KEFRI and JKUAT)a book was published on SLM in the drylands of Kenya.
- The government approved additional funds to carry out some key project activities; and beyond the project timeframe, committed to set up a government unit to continue the process;
- Establishment of 6 tree nurseries (over 30,000 seedlings) managed by local communities in the pilot districts and bulking sites in all districts.

in training in SLM (approaches and / or technologies), followed by extension then technical staff. The low numbers of decision makers trained in SLM limits the scope for mainstreaming as this is not a standard subject in school – or even university curricula except perhaps in some land and water specialisations or as a

Figure 3: Stakeholder groups trained



Source: Country online survey: 36 replies, 62 skipped

side course in agriculture and forestry. This gap may to some extent be compensated by workshops that also help raise knowledge of decision makers.

Decentralisation in the SSA region has resulted in technical services being better distributed in the countries, but most do not have well-resourced local technical and / or extension services - yet SLM projects are reliant on the availability of a combination of expertise (inter alia soil, water, forestry, agriculture and livestock management).

For the foreseeable future, although SLM materials are increasingly becoming available on the internet, as is modern web-based teaching, there remain such severe limitations on internet access, speed and costs in most of SSA (apart from in major cities), thus unless there is a step-change, these options cannot be relied upon.

Exchange visits / study tours can be highly effective means for the exchange of knowledge and contribute greatly to motivating participants, including land users, extension staff and technical officers – as "seeing is believing". However, these need to be well funded and carefully organized with due consideration of whom should go, to where and to look at what, and to provide post-exchange support for materialising some of the lessons learned.

Only a few SIP projects integrated a specific component on capacity development in the design of their projects – but this would have been very beneficial in all projects, as it focuses attention on this vital aspect. It is recommended that a specific capacity development component and budget should feature in future SLM projects/ programmes.

Future projects should also consider establishing better linkages between the field and research (notably universities and technical or educational colleges). The aim would be to build a cadre of skilled scientists and technical specialists with knowledge of SLM and the concept of inter-sectoral approaches for use by ministries, NGOs and projects as required. Training-of-trainers courses for practical training of teachers in SLM could lead to

rapid and wide dissemination of knowledge via pupils to farming families.

Targeting marginalized groups

The projects also showed the need for **concerted efforts to address social considerations and inequities, including gender and tenure security, and to build ownership at community level**, including targeting and empowering women and identifying opportunities for youth. See Box 5. Several technologies, such as soil and water conservation measures, increase labour demand, especially for women. There is a need for more efforts to reduce drudgery, increase yields and post-harvest losses and encourage youth into agriculture, through appropriate hand tools and equipment (small scale irrigation, storage silos, etc.) and access to quality inputs, credit, markets and extension services. Support mechanisms such as cash-for-work or inputs-for work, e.g. goats, were successfully used to provide remunerated labour and kick-start enterprises for vulnerable households. Also gender equality

Box 5: Zoom in on building ownership through well-tailored stakeholder involvement

The project SIP 3386 SLM in Senegal was successful in building ownership at community level

- The participatory, inclusive, and community demand-driven approach of the SLM project was innovative; in particular, as the direct beneficiaries were also the main actors in its implementation.
- Unanimously, the producers and their organizations appreciated the project and requested a nationally scaled-up second phase (… a SAWAP project was prepared and a smaller-scale funding enabled to maintain momentum and scale-up in 32 communities located in the same regions).
- More than half of the beneficiaries were women (53%); through its community demand-driven approach concerns of particular interest to women were addressed through appropriate SLM technologies. The implementing agency's (IA) emphasis on an inclusive approach with respect to gender, and the strong involvement of rural women in the leadership of local producers' organizations (Comités local de concertation des organisations de producteurs - CLCOP) played a major role in achieving such results.
- Youth, especially as heads of households, were also heavily involved in project implementation and account for a substantial share of the beneficiaries. The development of agroforestry and other SLM technologies increased agricultural yields and productivity (e.g. per unit of land and labour) and gave young people new options to pursue sustainable livelihoods in rural areas, reducing the likelihood of migration to urban centers in search of employment.

As stated in the project terminal report (ICR) *"Gender-sensitive teams and strong female leadership among beneficiaries are driving forces in building the gender dimension of a project. Gender sensitivity among members of the World Bank (IA) task team (men and women), the project coordination unit and implementing agencies can focus attention on the gender dimensions of a project and maintain awareness of the need to address beneficiaries' gender-specific requirements... "*

was enhanced through empowering women in the FFS process and in decision making on farm and livestock management as well as household level (i.e. to address division of labour, diversify agricultural enterprises/agri-business, enhance diet and nutrition, etc.).

SLM interventions should particularly target vulnerable groups, including very poor people, female- / child-headed households, also particularly youth.

Women represent a large share of the beneficiaries of the SIP projects, directly or indirectly benefitting from improved natural resources. They also are major actors in the restoration work of common lands (e.g. in silvo-pastoral systems). However, frequently their roles in restoring and creating added value is not acknowledged formally to enable them to have enhanced access over resources or to use restored resources. In some cases they may even lose access to the resources e.g. irrigation in wetlands may displace traditional gardening or harvesting /gathering of natural products (feed for small livestock, material for crafts). Tenure security over land, forestry and fisheries and rules / rights of use and access to water and restored common lands are critical elements to address within projects to ensure that women and female headed households benefit.

Youth are a key group who were rarely considered specifically in the design of SIP projects. The youth (when young) play a key role in keeping small animals but, as soon as they can, they frequently leave the communities to look for jobs and opportunities elsewhere. Targeted information awareness and activities from school level may encourage them to remain in the rural areas and support SLM, for example, help in ensuring social fencing of areas being restored, in implementing and monitoring management plans and project activities, in linking farmers to markets for value addition.

The pastoralists / nomads are a group frequently forgotten when projects are designed as they are only present in particular areas seasonally. However pastoralists are known to be both a cause of land degradation and a group particularly affected by land degradation, biodiversity loss and climate change - hence a key target group for SLM projects in drylands. Some projects supported interventions to address pastoral challenges such as restricted access to pasture and increased degradation of pastures and watering points due to unreliable rains, overgrazing and livestock concentration, through restorative actions to support vegetation recovery (reseeding, temporary exclosures, assisted natural regeneration, holistic grazing management) – or pastoralists were encouraged to keep smaller herds but with higher productivity and quality of produce (meat, dairy and hides).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3. POLICY AND INSTITUTIONAL ISSUES AND SUPPORTING CONDITIONS FOR SLM

Policy and institutional issues

SLM does not fall within a single sector: it connects sectors including agriculture, environment, land, water, rangeland and livestock management and forestry. All the SIP country projects included activities to promote inter-sectoral approaches on-the-ground and in most projects in mainstreaming SLM into sectoral policies. However, most projects found cross-sectoral work challenging and failed to effectively link the SLM agenda / interventions with the food security, poverty reduction and climate change agendas (adaptation, mitigation, resilience) to benefit from synergies. The projects need to go further in integrating SLM into district /provincial planning and contributing to harmonise the various agricultural and environmental sector strategies and actions plans.

A particular barrier to effective inter-sectoral working, are tensions between Ministries, where there are "territorial" issues and different visions about land and water user's roles in SLM.

Many projects were designed to include policy development and thus these were important targets against which SIP projects' success was determined in mid and terminal evaluations. Project M&E documentation shows that while project teams often work with national agencies to draft revisions of existing or draft new policies and legislation, frequently these draft documents, in particular at national levels, have reached the desks of policy makers but are not enacted within the typical project period of 4 years. Also ultimately it is not the project but the elected governments who can champion the necessary processes to enact new policy or legislation.

In the SIP, there were notable exceptions. An example of successful national policy interventions was achieved in Malawi under the project **SIP 3376 Private Public Sector Partnership on Capacity Building for SLM in the Shire River Basin** which revised the Fisheries Policy and the Forestry Policy with provisions for SLM. A major catalyst for this was the desk study "Policy sector review for incorporating sustainable land management in the Shire River Basin and development of an institutional framework for sustainable land management". The study reviewed policies, legislation and institutional arrangements on natural resources in order to address the conflicts between sectors and to seek opportunities for complementarities that should guide SLM implementation across the Shire River Basin.

Achieving success is more achievable at local levels in enacting and enforcing by-laws against actions which degrade land resources (e.g. avoiding cultivation in

riparian zones or up and down steep slopes, deforestation for charcoal production, setting bush fires, temporary enclosures or ensuring livestock do not enter areas of degraded rangeland to enhance recovery). Optimistically, over time such by laws will be applied more widely and even enforced through national policies, as awareness grows of the benefits of local regulations and win-win-wins of SLM.

Early and regular involvement of local government technical services in project design and implementation (more common now with decentralization) is shown to generate ownership over activities, to influence annual work programmes and budget decisions and in turn inform national strategies. Project staff reported the need for regular information exchange between local and national levels – for example visits of national government officials; organization of national events in projects sites, etc.

One aspect of inter-sectoral working in many SIP projects was the inclusion of representatives of the various key sectors in project steering committees / boards to ensure that key decision makers and sectors are kept aware of or involved in project activities and outputs. Active involvement was reported to be enhanced when different Ministries / institutions at central or local levels were allocated responsibility for different Components / Outcomes of the project, with the financial means for implementation.

In future SLM interventions it will be vital to demonstrate to policy makers at national and district / provincial level not only the direct impacts of SLM but to show how SLM practices and integrated production systems contribute to the simultaneous achievement of many of the newly adopted **Sustainable Development Goals (SDGs).**

Supporting conditions for SLM

Focused efforts on improving production without ensuring adequate improvements in linkages to markets, is clearly not sustainable and will rapidly lead to communities not continuing with project-catalysed actions. This element was frequently omitted in SIP projects during the design and only in some cases included during implementation.

Access to a sustainable source of rural financing can be a critical stepping stone for land users. Only a few SIP projects became involved in developing and / or enhancing access to micro-credit, but those which have done so and ensured that these will continue post-project will be beneficial in terms of post-project sustainability of SLM technologies.

Some projects followed a detrimental route which encouraged dependency, with the introduction and promotion of conventional intensification, including short term provision of improved seeds and agrochemicals in areas which are too poor and vulnerable to maintain and / or finance these practices. This approach leads to an increase in crop yields during the project, but then post-project when support is no-longer available, yields revert to the pre-project level, or worse.

The SIP did not systematically address tenure and governance issues, despite initial expectations. However **SIP 2794 SIP: Ethiopia Country SLM Program** enhanced tenure security through a land certification program for individual and communal lands, with geo-referencing and mapping of plots. Also **SIP 3667 Ethiopia's Lake Tana Watershed Community-Based Integrated Natural Resources Management** project addressed land administration & certification for rural

households; watershed planning & management and participatory forest management over many administrative units (woredas) covering thousands of hectares as well as pasture and forage management in communal grazing lands. The mid-term review noted the "value of 'social fencing' of communal land and certificates for promoting SLM". Also in **Senegal SIP 3385 on SLM** and **SIP 2268 Integrated Ecosystem Management in Representative Landscapes**, villagers negotiated a community charter for the use, management and conservation of pastoral lands, including an item for seasonal pastoralists. Clearly there are greater opportunities for better integrating land and water governance, administration and tenure in SLM projects and interventions through enhancing security of tenure and user and access rights of land users and communities.

4. MONITORING AND EVALUATION AND ACHIEVING IMPACT - SLM CHAMPIONS AND COMMUNICATIONS

Monitoring and evaluation

Projects' monitoring and evaluation (M & E) systems need to be realistic – many SIP projects had complex M&E plans which were impossible to implement. Although the programme intended to provide guidance on project-level M & E, this was not achieved; therefore projects developed their own independent system. These were on the whole based on the original TerrAfrica key indicators: 1) number of land users adopting SLM practices / technologies as a result of the project; 2) area under with SLM (ha); 3) number of direct project beneficiaries; 4) change in NDVI as a proxy of vegetation cover; 5) changes in yields of major crops; 6) tons of CO_2 sequestered.

Most project documents recognized that a large part of project monitoring should be participatory, involving beneficiary communities and noting changes in causes and effects. However, the various projects used varied approaches for the baseline data and monitoring. It was suggested that projects should use comparable approaches for the baseline assessment and monitoring of impacts but this was not achieved. In future, projects should indeed use comparable approaches for monitoring land degradation, SLM[9], food security mapping, environmental and social assessment, also resilience assessment and climate change risk analysis. For example, the LADA-WOCAT methods and tools for assessing and mapping land degradation and SLM and for assessing and documenting SLM best practices. The World Overview of Conservation Approaches and Technologies (WOCAT)[10] are since 2014 the UNCCD standard and should be adopted by countries to record and share information on SLM best practices.

Most GEF projects were expected to report on the Global environment benefits (GEBs) of their activities, thus the monitoring systems should have been defined, agreed and baselines measured at project design and start-up, as a basis for re-assessment at mid-term and completion. Many of the SIP projects had difficulties in monitoring or valuing impacts of SLM practices on ecosystem services and in measuring GEBs as in many cases they were not equipped to monitor them.

The limited duration of most of the SIP projects also made it difficult to detect change in the ecosystems (soil properties, biodiversity). SLM projects should last for at least six years, preferably longer even up to 15 years, though a phased process – projects of shorter duration are unlikely to demonstrate substantive impact or be sustainable.

[9] *developed by LADA-WOCAT under the Land Degradation Assessment in Drylands (LADA) project, See http://www.fao.org/nr/lada/*

[10] *See www.wocat,net and Liniger et al (2011), produced under the SIP*

It was also shown during the SIP that there is a risk that projects become so involved in their development agenda that they lose track of the higher objectives of the supporting agencies, especially the GEF – thus giving inadequate attention to GEBs.

In future, a realistic programme-wide monitoring scheme, including a minimum of standard of indicators and methods, should have been structured around the key target indicators and assessment methods from the outset. This emphasizes the importance of determining baselines during project design and at the start of implementation. Work is also needed to develop a simple and robust set of indicators and methods for participatory monitoring and evaluation of the socioeconomic and environmental benefits and impacts of SLM at farm-household, landscape and even national and global scales and to relate these to the SDGs.

Achieving impact - SLM champions and communications

To ensure impact, projects need to reach a critical mass of land users. However, most of the SIP projects appeared to lack a clear project communications strategy / plan and few projects produced materials in local languages that could assist in facilitating this outreach. The notable exceptions were the **Regional Kalahari-Namib project) Enhancing Decision-making through Interactive Environmental Learning and Action in Molopo - Nossob River Basin** in Botswana, Namibia and South Africa and **SIP2139 Regional Kagera TAMP project**, which defined clear communication objectives and message areas related to the issues of the project.

In all SLM projects, a project communication strategy should be developed during project inception to ensure that beneficiary communities as key actors, communities in non-project areas (where scaling-up may take place), also local and national decision makers etc. appreciate the win-win-win benefits of SLM. This should include the development of training modules in local languages and audio or visual formats – e.g. radio, film and illustrated posters for illiterate populations.

The SIP review found a low level of involvement by regional organisations, the media, learning and teaching organisations, which is of concern. No less worrying is the surprisingly low involvement of national policy makers and development agencies. These groups can catalyse massive beneficial impacts and can ensure support and scaling-up. Field visits by national policy (and decision) makers can enhance awareness and hence stimulate support for mainstreaming SLM, while making teachers in training aware of the win-win-win benefits of SLM can reach massive numbers of pupils (and their parents) in a few years. Clearly also donors and investors need to know the costs and benefits before they would consider investing.

All the above groups can have massive beneficial impacts and can ensure support and scaling up. Exemplary in good practise has been the IFAD-supported **SIP 3390 (Swaziland / LUSIP)** project, which established links with the national school of journalism, ensuring that young journalists know about the project and global environmental issues and can practise their skills writing about the project).

Projects or countries could usefully appoint an SLM "champion", or more, high profile individuals to campaign on the issues and who will be kept briefed on projects and evidence. This role is a vital one for the sustainability of partnerships and can be for awareness raising and scaling up. Some countries have established a national SLM team or task force, that proved instrumental in playing such an advocacy and partnership support role (Ghana, Ethiopia, etc.).


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5. MANAGEMENT AND SHARING OF KNOWLEDGE AND INFORMATION

Management and sharing of knowledge and information across the programme

Linking between projects was considered a very important aspect of the SIP when it was designed, to share lessons between projects and countries across SSA. In practice, there were no mechanism in place and very limited exchange took place between projects across the SIP program. Hence although individual projects have made positive achievements, this gap limited the overall effectiveness of the program.

This lesson has already been acted on, with the new GEF programme "Integrated Approaches Pilot on Food Security" which includes a funded regional "umbrella" or "hub" project to ensure linkages across the 12 child projects and wider exchange across the region in particular through linking relevant science - policy platforms.

The external mechanism of NEPAD organized TerrAfrica steering committee meetings among agencies and selected country representatives, although not systematic, allowed some wider sharing through their conduct as side events of UNCCD COP or SBSTA meetings.

The regional river basin / watershed projects did share technologies, approaches and lessons across the countries within their own geographic remit. In particular, the opportunities for policy makers to come together through regional steering committees and for exchange visits by local, technical and policy actors were appreciated. However, there was no mechanism to share knowledge and information across those 4 projects which could have been very valuable:

- FAO Kagera TAMP- Transboundary agro-ecosystem management of the Kagera river basin (Burundi, Rwanda, Tanzania, Uganda)
- UNEP Kalahari-Namib Enhancing Decision making through Learning and Action Molop - Nossob RB (Botswana, Namibia, South Africa)
- WB Eastern Nile TB Watershed management (Egypt, Ethiopia, Sudan)
- WB LVEMP II (Burundi, Kenya, Rwanda, Tanzania, Uganda)

Likewise there was no mechanism to share knowledge from the regional thematic projects with other national projects :

- Equatorial Africa **Deposition Network** (Burundi, Cote d'Ivoire, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda)
- **Institutional support** to NEPAD and Regional Economic Communities (RECs) in Africa

- Stimulating **Community Initiatives** in SLM- Ghana, Morocco, Uganda, South Africa

Many projects produced a wide range of documents and products. Some projects were quite innovative, producing websites, using Facebook and Twitter **(SIP 3370 (Kenya / Mainstreaming SLM Agropastoral Production System)**, producing newsletters, using radios and TV programs. For example the **SIP 3386 (Senegal / Irrigation small scale)** partnered with a local radio JIDDA FM to have a weekly radio program on the SLM activities of the project reaching out to a large number of stakeholders including across the borders in Mali and raising awareness on new options in small scale irrigation. However, many did not disseminate information about their project to others.

The **Kagera project** shared materials across the four countries and with partner programmes, such as **SIP 3399 Lake Victoria Environmental Management programme II (LVEMP2)** and the Nile Basin Initiative, through a well-documented website and also exchanged data through an MOU with NBI. It developed and made widely available many facts sheets on local SLM technologies and approaches through the global WOCAT database, as well as producing videos and posters in national and local languages and training materials, such as validating a manual on land and water management and TOT materials for FFS.

In future, projects should be better supported in producing both visual and audio products, as such products have great values for others as illustrated in the recent SLM forum organized in Niger where a video was produced and presented by the **SIP 3381 Oasis Micro-Basin Sand Encroachment Control in the Goure and Maine Regions** project team which was well received by stakeholders.

One of the lessons learned in the mid-term review (2014) of the project **SIP 3367 (Ethiopia / Lake Tana Watershed)** was “Without a simple, informative fact sheet / brochure / flyer a project’s identity is weakened, and it is not easy for outsiders to quickly grasp the basics of the project, or its components”.


Photo: ©FAO/Giulio Napolitano

6. SUSTAINABILITY AND SCALING-UP

Sustainability and scaling-up and aspects to avoid

Sustainability plans should be initiated during SLM project inception involving in particular local beneficiary communities. These should propose strategies to ensure that land users gain benefits from the project activities they will devote time and labour to and future investments to be supported by communities to sustain project achievements and scale-up them up.

Clearly, where projects have been successful in including pro-SLM measures in national level policies (and laws), the chance of post-project sustainability is good. The prospects for sustainability at more local levels are also favoured when projects have ensured that by-laws and other local regulations have been enacted which are pro-SLM (e.g. protection of land adjacent to river-banks from cultivation, and regulations to limit removal of trees, notably from common lands).

Several projects began by building the organizational and technical capacities of farmer field schools, through which large numbers of land users have become aware of and have started using SLM technologies on their own plots / farms. As projects come to a close, in numerous instances FFS are supported to convert to operate as producers' organizations or cooperatives, which should enhance the likelihood of sustainability after the cessation of project funding and support. In other cases, the access to project funding may enable the spreading and scaling up of interventions that are accessible to single farmers or small groups.

Only a minority of SIP projects made efforts to address issues of land tenure – many feeling that this was too complex an issue within what were generally short-term projects. However, it is of vital importance that future projects ensure that, before the end of the project, they secure tenure over land which has been protected through soil and water conservation measured and vegetation restoration measures– to safeguard sustainability of the efforts post-project.

The project team who worked on the regional project **SIP 2184: Stimulating Community Initiatives in Sustainable Land Management** are preparing a book (Di Prima and Critchley, in press) of the results of their systematic pilot work in Ghana, Morocco, Uganda, South Africa. This includes two tests which they have developed for use in the process in assessing the sustainability of novel methods of social organization and / or innovative SLM practice initiated by a community through a participatory investigation. The project **SIP 2139 Kagera TAMP** is also developing a book of case studies compiled by local authors covering many of the target interventions "SLM in practice in the Kagera basin".

There are some lessons that are clearly aspects to avoid:

- Reinventing the wheel – SIP projects often started-up by testing with local actors, technologies which have already been well-proven and are well documented, delaying project implementation at scale.
- Inadequate sharing of knowledge at all levels – There is a tendency for project teams of failing to share good news of achievements and abilities to a wider audience and for documenting over and again existing and well known technologies. The focus should be rather placed on communication and scaling strategies and monitoring and documenting benefits.
- Encouraging dependency – promoting use of high inputs (inorganic fertilizers, pesticides) and costly seeds should be avoided as there is little chance of sustainability.
- Lack of a clearly defined ownership and management strategy for rehabilitated communal areas (e.g. forest resources or rangelands) may result in conflicts in the future.


Photo: ©FAO/Olivier Asselin

CONCLUSIONS-KEY LESSONS

The SIP review has highlighted a wide range of issues that are already and should further **inform investments in SLM scaling up by Governments and partner agencies; and the TerrAfrica platform, NEPAD and the AU are encouraged to maintain efforts to promote the scaling-up of sustainable land management in view of multiple productivity, livelihood and environmental benefits.**

In concluding, 18 main lessons can be highlighted

1. **The SIP was helpful to create momentum on GEF financing for SLM in sub-Saharan Africa.** The SIP succeeded in securing $150 million in GEF grants to finance 36 projects, including 27 national projects, 4 regional/multi-country projects, and 5 other projects addressing specific thematic issues.
2. **The SIP had a catalytic role in promoting partnerships and financial leverage for SLM.** The GEF grant was additional to resources mobilized by the 26 countries, GEF Agencies, bilateral partners and Civil Society Organizations (CSO), which amounted to probably more than the estimated $800 million dollars. This catalyzing role would have been greater if country driven investment frameworks had been ready during project preparation or early stages of implementation (known as CSIFs).
3. **The SIP improved the understanding of land degradation issues and how to address them through a wealth of adapted SLM technologies and approaches in sub-Saharan Africa.** The SIP was instrumental in many SSA countries in making the case on the importance of investing in and promoting wide uptake of SLM practices from farm to landscape scales to address the prevalent land degradation processes. The SIP partners are still a long way from demonstrating sustainability in economic, social, environmental and governance dimensions at the various scales, but the SIP has increased awareness on the vital importance of sustainable land and ecosystems management in the development agenda.
4. **The SIP was a useful platform for testing, developing and applying à wide range of SLM technologies and tools and implementation approaches to restore ecosystem services, soil functioning and improve yields of crops.**
    - The **approaches** included, for example, watershed and territorial management (“gestion de terroir”), improved user and access rights over resources, conflict resolution and regulations and strengthening capacities of actors and institutions at all levels especially at grassroots.
    - The **technologies** included, for example conservation agriculture, agroforestry and integrated crop livestock systems, and specific on farm practices for soil fertility improvement, water conservation and irrigation, as well as practices conducted at a wider landscape scale for erosion control, water harvesting, and grazing management in rangelands.

5. **The SIP showed that to be effective and sustainable, land users need appropriate information on the range of options, their conditions for success and expected impacts** also **farmer innovation and experimentation should be encouraged and facilitated and in this regard**, in several projects, farmer or agropastoral field school approaches proved to be a very successful research-action approach. Providing **incentives for adoption of sustainable practices both by local users and external users of resources** (soil, water, biodiversity, energy) is also critical to prevent over-exploitation. A number of studies and incentive measures were also explored to encourage wider adoption of practices that contribute to environmental and societal benefits. A number of incentive measures were also explored to encourage adoption of practices that contribute to wider environmental and societal benefits (e.g. water cycling; carbon sequestration).

6. **The SIP has contributed to developing capacities in SLM at the different levels.** SIP projects frequently introduced new approaches and skills that required capacity development tailored for each group of stakeholders (i.e. farmer field schools for farmers, technical trainings for government technical officers and local "service providers" usually NGOs and CBOs, awareness raising for the public and government authorities etc.). However, while knowledge management was a key principle of the SIP surprisingly only a few projects had a specific component on capacity development in the project design. Moreover only in a few cases were SLM approaches institutionalised, such as a national strategy for FFS in **Burundi (SIP 2139)** and the develpment of platforms for dialogue among local stakeholders supporting the decentralisation process in **Niger (SIP 3382)**

7. **The SIP projects demonstrated that SLM is a useful way of targeting very poor people that are dependent on natural resources for their livelihoods, including consideration of gender dimensions** (family farmers, pastoralists, female headed households). Many projects highlighted the importance of targeting vulnerable groups such as the nomadic herders, and including gender issues in terms of division of labour, labour saving technologies and decision making processes. The predominant role of women in agriculture in Africa, and in SLM in particular, was highlighted (Tanzania, Lesotho, Gambia, Malawi, Uganda, Senegal, Niger, etc.).

8. **The SIP created opportunities for countries to explore innovative options for SLM financing. CSIFs are expected to be essential tools for future cross-sectoral planning and aid harmonization.** Indeed even during their preparation, these pilot tools demonstrated their value in the coordination of aid efforts in support of SLM.

   On the other hand, this review showed that inter-sectoral work and mainstreaming SLM into sectoral policies was challenging at the level of individual projects.

9. **The SIP included a mix of national, transboundary and cross-cutting projects, which offered a source of lessons on knowledge management.** Linkages between projects was considered an important aspect of the SIP when it was designed. The review found however, that very limited exchange had taken place between projects across the program, as in fact specific mechanisms for facilitating such exchange were not in place. Hence, although individual projects have made positive achievements, this has limited the overall effectiveness of the programme. Some respondents to the surveys in this stocktaking were actually not aware their project was part of a wider programme. The regional projects on the other hand facilitated and enabled exchange visits and knowledge sharing

in particular on SLM approaches for example in stimulating community initiatives and the transfer of implementation to local/community level as a basis for sustainability in the long term.

10. **Many projects were designed to include policy development, often as their first Component or Outcome and thus an important target against which project success would be determined.** Project teams can indeed work with national agencies, national consultants and processes to draft revisions of existing or draft new policies and legislation. Despite often draft policies or acts having been prepared, frequently these have not been enacted within the typical project period of 4 to 5 years. An informant for this stock take, who has been involved in SIP projects for many years, concluded that it is a "noble but unachievable aim", as it is up to national governments to enact policy and legislation and projects' should not be held to such targets.

11. **Many projects claimed multiple global environment benefits (GEB), but all of them faced difficulties to measure them.** While it is understandable that measuring all change is not possible and that representative sampling and proxies are needed, the limited duration of most projects made it difficult to actually detect change in the ecosystems (biodiversity, underground water levels, soil organic carbon). In addition, projects had difficulty with establishing meaningful baselines and mid- and end-term targets before they started. One of the reported impediments was the lack of guidance and tools to measure specific indicators (i.e. tons of carbon sequestered in soils). Furthermore, practices such as conservation agriculture and agroforestry had clear impacts on the carbon balance, but few projects were able to report on the amount of carbon sequestered

12. **Monitoring & evaluation systems should be realistic – but many projects had M&E plans which were too complicated to be effective / feasible.** The draft Comprehensive Monitoring and Evaluation System Document (EcoAgriculture, 2014) was produced late in the SIP process and became available too late and was overly complex for use by the projects. It would have benefited from a participatory development process and rigorous peer review with national institutions and GEF agencies. In the absence of programme-level guidance, projects have developed their own independent M&E systems, usually based on the TerrAfrica key indicators:

    - Land uses where SLM practices have been adopted as a result of the project;
    - Number of land users adopting SLM practices as a result of the project;
    - Area under SLM (ha);
    - Number of direct project beneficiaries;
    - Vegetation cover (NDVI and ground trothing);
    - Changes in yields of major crops/livestock productivity;
    - Tons of CO_2 sequestered.

    A realistic programme monitoring scheme could have been constructed around these from the outset but would have required an interactive process to generate required buy in.

13. The findings also emphasizes **the importance of determining a valid project baseline** at the start of implementation (often there was such delay between project development and start-up, so baselines determined under the project development grant were not accurate). However, an additional challenge was the selection of the intervention sites and target practices before project implementation, allowing realistic estimates of achievable targets. This requires a participatory process with stakeholders on the ground, which cannot be exhaustive before projects are approved because of prematurely raising benefi-

ciary expectations. In many cases it is only once the project starts and funds are available in country that the final selection of target catchments/communities is effectively completed.

14. **The SIP created a momentum and helped to substantively increase the total resources planned for SLM in the involved countries, but the potential for scaling-up and for sustainability remains challenging**. At local level, the role, responsibility and capacity of farmers' organizations and stakeholder platforms seems to be a key factor. At a sub-regional level, the TerrAfrica platform has already been anchored in the NEPAD framework, but much is needed to effectively articulate with the NEPAD's Comprehensive Africa Agriculture Development Program (CAADP).

15. **One of SIP's critical outcomes was to reach a critical mass of land users. However most of the SIP projects appeared to lack a project communications strategy / plan** and few projects produced materials in local languages that would facilitate such massive outreach. Projects or countries could usefully appoint SLM "champions", high profile individuals to campaign on the issues and to be kept briefed on project achievements and evidence of change.

16. **The low level of involvement by regional organisations, the media, learning and teaching organisations is of concern. Not less worrying is the surprisingly low involvement of national policy makers and development agencies and donors.** These groups can have massive beneficial impacts and can ensure support and scaling-up. Field visits by national policy (and decision) makers can enhance awareness and hence stimulate support for mainstreaming SLM, while making teachers in training aware of the win-win-win benefits of SLM can reach massive numbers of pupils (and their parents) in a few short years. Clearly also **donors and investors need to know the benefits before they would consider investing.**

17. While the SIP shows that 4-5 year projects were catalytic in creating knowledge and capacities from local to national levels, **in the long term, it is their influence on mainstreaming SLM in national strategies and decentralized plans and budgets that is essential** for putting in place competent human resources and funds at all levels. SIP projects having two successive phases made more progress in such institutionalization for sustained impact, while projects which faced changes in key staff suffered from lost momentum and difficulty in meeting targets. The SIP showed that **projects need to be adaptive and flexible in design to allow for changes in staff and in direction**, for example, to address recommendations of the mid-term review and emerging issues.

18 In some cases **enhanced awareness of decision makers of the importance of investing in SLM, enabled SIP countries to program GEF resources for new and additional SLM related investments** (notably in Ethiopia, Niger, Burkina Faso and Senegal). The SIP also established the foundation for other significant programmatic approaches supported by the GEF (notably SAWAP in GEF5 with $100 million for 12 countries and over $1b of total aid); the integrated approaches pilot (IAP) on Food Security in GEF6 with $106 million for 12 countries).

ANNEX 1. SUMMARY LIST OF PROJECTS

Projects covered a wide range of subjects, as illustrated in Figure 3, on which they have results and experiences to share.

GEF_ID	Agency	Country	Short Title	Full
2139	FAO	Regional (Burundi, Rwanda, Tanzania, Uganda)	Kagera TAMP	SIP: Transboundary Agro-Ecosystem Management Programme for the Kagera River Basin (Kagera TAMP)
2184	UNEP	Regional (Ghana, Morocco, Uganda, South Africa)	SCI-SLM	SIP: Stimulating Community Initiatives in Sustainable Land Management (SCI-SLM)
2268	UNDP	Senegal	PGIES/ ecosystem mgt	SIP: Integrated Ecosystem Management in Four Representative Landscapes of Senegal, Phase 2
2794	World Bank	Ethiopia	ECPSLM	SIP: Country Program for Sustainable Land Management (ECPSLM)
3362	IFAD	Eritrea	Landscape Mgt	SIP: Catchments and Landscape Management
3363	IFAD	Comoros	Coastal Ecosystem mgt	SIP: Integrated Ecological Planning and Sustainable Land Management in Coastal Ecosystems in the Comoros in the Three Island of (Grand Comore, Anjouan, and Moheli)
3364	UNDP	Eritrea	SLM pilot	SIP: Sustainable Land Management Pilot Project
3367	IFAD	Ethiopia	Lake Tana Watershed	SIP: Community-Based Integrated Natural Resources Management in Lake Tana Watershed
3368	AfDB/ IFAD	Gambia	PIWAMP / watershed	SIP: Participatory Integrated Watershed Management Project (PIWAMP)
3369	World Bank	Ghana	SLM	SIP: Sustainable Land Management in Ghana
3370	UNDP	Kenya	Agropastoral SLM	SIP: Mainstreaming Sustainable Land Management in Agropastoral Production Systems of Kenya
3372	UNDP	Lesotho	Knowledge mgt for SLM	SIP: Capacity Building and Knowledge Management for Sustainable Land Management
3373	World Bank	Madagascar	Watershed North	SIP: Watershed Management
3374	UNDP	Madagascar	SLM South	SIP: Stabilizing Rural Populations through Improved Systems for SLM and Local Governance of Lands in Southern Madagascar

GEF_ID	Agency	Country	Short Title	Full
3375	World Bank	Malawi	ADP-SLM	SIP: Agriculture Sector Development Programme -Support to SLM (ADP-SLM)
3376	UNDP	Malawi	PPP / Shire basin SLM	SIP: Private Public Sector Partnership on Capacity Building for SLM in the Shire River Basin
3377	World Bank/ UNDP	Mali	Ag Productivity	SIP: Fostering Agricultural Productivity in Mali
3379	IFAD	Mauritania	Oases Mgt	SIP: Participatory Environmental Protection and Poverty Reduction in the Oases of Mauritania
3381	UNDP	Niger	PLECO / Sand dune stabilization	SIP: Oasis Micro-Basin Sand Invasion Control in the Goure and Maine Regions (PLECO)
3382	World Bank	Niger	PAC II/ Community	SIP: Community Driven SLM for Environmental and Food Security
3383	IFAD	Niger	ARRDI/ PASADEM	SIP: Agricultural and Rural Rehabilitation and Development Initiative (ARRDI)
3384	World Bank	Nigeria	Knowledge Mgt / SLM	SIP: Scaling up SLM Practice, Knowledge, and Coordination in Key Nigerian States
3385	World Bank	Senegal	SLM	SIP: Sustainable Land Management in Senegal
3386	UNDP	Senegal	Irrigation small scale	SIP: Innovations in Micro Irrigation for Dryland Farmers
3390	IFAD	Swaziland	LUSIP / Irrigation small scale	SIP: Lower Usuthu Smallholder Irrigation Project (LUSIP)
3391	UNDP	Tanzania	Kilimanjaro	SIP: Reducing Land Degradation on the Highlands of Kilimanjaro
3392	World Bank	Uganda	SLM	SIP: Sustainable Land Management Country Program
3393	UNDP	Uganda	SLM Cattle Corridor	SIP: Enabling Environment for SLM to overcome land degradation in the cattle corridor of Uganda.
3395	UNEP	Regional (Africa)	NEPAD / RECs/ institutional Support	SIP: Institutional Support to New Partnership for Africa's Development (NEPAD) and Regional Economic Communities (RECs) for Sustainable Land Management (SLM) Scale-up in Sub-Saharan Africa (SSA)
3396	UNDP	Regional	Civil society	SIP: Improving Policy and Practice Interaction through Civil Society Capacity Building

GEF_ID	Agency	Country	Short Title	Full
3398	World Bank	Regional (Egypt, Ethiopia, Sudan)	Eastern Nile	SIP: Eastern Nile Transboundary Watershed Management in Support of ENSAP Implementation
3399	World Bank	Regional (Burundi, Kenya, Rwanda, Tanzania, Uganda)	LVEMP II	SIP: Lake Victoria Environmental Management Project II
3401	UNEP	Regional (Burundi, Cote d'Ivoire, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda)	EADN (deposition Network)	SIP: Equatorial Africa Deposition Network (EADN)
3403	UNEP	Regional (Botswana, Namibia, South Africa)	Kalahari-Namib Project	SIP: Kalahari-Namib Project: Enhancing Decision-making through Interactive Environmental Learning and Action in Molopo-Nossob River Basin in Botswana, Namibia and South Africa
3529	UNDP	Djibouti	SLM	SIP: Harmonizing support: a national program integrating water harvesting schemes and sustainable land management
3872	World Bank	Regional (Madagascar, Niger)	BioCF	SIP: Monitoring Carbon and Environmental and Socio-Economic Co-Benefits of BioCF Projects in SSA

TerrAfrica

REGIONAL SUSTAINABLE LAND MANAGEMENT

TerrAfrica is a partnership that aims to address land degradation in Sub-Saharan Africa by scaling up harmonized support for effective and efficient country-driven sustainable land management (SLM) practices.

TerrAfrica Secretariat

NEPAD Planning and Coordinating Agency
Block B International Business Gateway Park
New Road & 6th Road
P.O Box 1234 Halfway House
Midrand 1685 South Africa
(P) +27 11 256 3600
(F) +27 (0) 11 206 3762
www.nepad.org

TerrAfrica/SIP countries

- Where TerrAfrica is working
- Lake Victoria Environmental Management (LVEMP-2)
- Transboundary AgroEcosystem Management in the Kagera River Basin
- Eastern Nile Transboundary Watershed Management
- Enhancing Decision-making through Interactive Learning and Action in Molopo-Nossob River Basin
- Monitoring Carbon and Environmental and Socioeconomic Co-benefits of BioCF Projects
- Equatorial Africa Deposition Network (EADN)
- Stimulating Community Initiatives in SLM

Informing Future Interventions for Scaling-up Sustainable Land Management

The Strategic Investment Program (SIP) for Sustainable Land Management (SLM) in Sub-Saharan Africa (SSA) was the response from the Global Environment Fund (GEF) to support SSA countries in GEF 4 to tackle land degradation. The Land Degradation (LD) Focal Area was recent at the GEF (began in 2002) and the SIP was the first opportunity offered to get a high profile and give visibility to the global issue of land degradation. The SIP provided a challenging framework bringing together the World Bank, UNDP, UNEP, IFAD, AfDB and FAO as implementing agencies (IAs) in close coordination with NEPAD, RECs and countries, aiming to strengthen coordination between GEF and other funding mechanisms.

FAO TerrAfrica Vision Paper (2007)[a] noted that "SLM is a thread that fundamentally links multiple sectors, actors and scales. This in turn requires the development of a supportive enabling environment by mainstreaming the concepts and principles of sustainable land management across central and local government development policies and programmes (including agriculture, environment, energy, finance, education, and rural development among others), and forging multi-stakeholder partnerships and programme-based approaches to make efficient use of national and international investments."

Overall, the SIP provided $150 million of GEF's land degradation funding to sub-Saharan Africa between 2007 and 2010. Thirty-six projects in 26 countries were implemented around a menu of activities tailored to the context, the baseline and the partners to:

1. support on-the-ground activities for SLM scaling-up;
2. create an enabling environment for SLM at all levels (i.e. supporting an intersectoral approach – including policy development);
3. strengthen advisory services for SLM; and,
4. support knowledge generation, management, sharing, monitoring and evaluation.

Most projects worked in part(s) of single countries (Figure 2), but a significant group are the "regional" projects. These either cover a specific contiguous land area, for example the "Transboundary Agro-Ecosystem Management Programme for the Kagera River Basin" (Kagera TAMP), which is shared by Burundi, Rwanda, Tanzania and Uganda – or involved non-contiguous countries where there was common concern for a specific SLM-related issue, for example the "Stimulating Community Initiatives in Sustainable Land Management" (SCI-SLM) project, which involved Ghana, Morocco, Uganda, South Africa.

The stocktake of TerrAfrica SIP that was conducted in 2015 to learn lessons for informing future TerrAfrica and other SLM investment projects and programmes was guided by a Steering Committee.

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[a] FAO (2007) TerrAfrica – A Vision paper for Sustainable Land Management in Sub-Saharan Africa. Food and Agriculture Organization of the United Nations, Rome, Italy.