Extension Services

Global Soil Week 2019 Outcome Report

Land and soil degradation is a global problem that directly affects yields and consequently leads to food insecurity that can be further intensified by climatic extremes. Agricultural practices to avoid soil degradation, commonly referred to as sustainable land management (SLM) practices, are well known and have been promoted by development organizations since decades. However, the continuation of the introduced measures often slows down as soon as the provision of inputs (equipment, seeds and seedlings) from the respective project comes to a halt. There is often no extended dissemination and continuation of successfully tested practices beyond farmers targeted directly by projects.[1]

Studies on the reasons for low uptake among smallholder farmers reveal that lack of access to the services (consulting, financing, inputs, outlet markets) necessary for successful adoption are a major obstacle to the dissemination, and sustained application of such practices. This applies particularly to target groups that are poor and often food insecure. The following factors contributing to this service gap can be identified:

- *The institutional capacities of governmental stakeholders are very limited, particularly in rural regions.*
- *Public and private service providers tend to selectively privilege smallholders who have more resources and are better off.*
- *SLM is not a political priority in most countries.*
- *Many of the regions particularly affected by soil degradation are peripheral ones with badly equipped infrastructure, difficult to reach, and often neglected by the service providers.*
- *The market integration of these regions is often inadequate. Even smallholdings that produce for national or international demand often suffer from low or strongly fluctuating producer prices. Consequently, they are not very keen to invest in new technologies or innovations.*[2]

Bearing in mind these problems and challenges, the improvement of the access to agricultural extension services is a key prerequisite to long-term adoption of SLM practices and technologies.[3] At the workshop on agricultural extension services, discussions sought to contribute to identifying strategies based on practical lessons learnt to

1. Rauch, T; Kersting, D. (2016). Making service systems work for food security and sustainable land management. Strategic recommendations for targeting smallholder farmers in sub-Saharan Africa and India. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

2. Ibid.
3. Ibid.

create an enabling environment for the adoption of sustainable soil and land management practices, with specific reference to agricultural service systems in Africa.

Conceptual framework: agricultural extension and the service system approach

Under the realm of the "Green Revolution" the traditional understanding of extension in Africa focused on increasing production, improving yields, training farmers, and transferring technology, commonly based on the introduction of high-yielding varieties, and the optimal application of yield-enhancing inputs such as fertilizers and pesticides.[4]

Today, the understanding of extension is wider and includes broader dimensions such as facilitation, learning and assistance to farmers' groups.[5] Agricultural extension can be defined as the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills, and technologies to improve their livelihoods and well-being.[6] This can include different governmental agencies (formerly the main actors in extension), non-governmental organizations (NGOs), producer and other farmer organizations, and private sector actors including input suppliers, purchasers of agricultural products, training organizations, and media groups.[7] The term "advisory services" is sometimes used instead of extension services.[8] For this discussion we use the term "extension services".

As a consequence of the public debt and structural adjustment policy, state advisory services aiming to promote small-scale agriculture were privatized in many regions from the mid-1980s. Consequently, the share of the agricultural sector decreased both in the national budgets of African countries (formerly around 10 percent) as well as in terms of the global development funds (official development aid, formerly 20 percent) to approximately 5 percent. The funds were mainly allocated in a one-sided manner to increasing production. Even today the share of programmes for sustainable land use management in Uganda, Ghana and Burkina Faso account for less than 5 percent of the agricultural sector budget whereas the lion's share of the funds is used for mineral fertiliser subsidies. Expenditures of USD 400 million a year as in the Ethiopian example (20 percent of the sectoral budget) is a rare exception.[9]

The current pluralistic service systems do not fill the resulting gap in an adequate manner. State services and non-governmental organizations only

4. Food and Agriculture Organisation of the United Nations (2014): The state of food and agriculture. Innovation in family farming. Rome
5. Davis, K. (2008). Extension in sub-Saharan Africa: Overview and assessment of past and current models and future prospects. Journal of International Agricultural and Extension Education, 15(3), 15-28.
6. Birner, R., Davis, K., Pender, J., Nkonya, E., Anandajayasekeram, P., Ekboir, J., Mbabu, A., Spielman, D. J., Horna, D., Benin, S., & Kisamba-Mugerwa, W. (2006). From best practice to best fit: A framework for designing and analyzing agricultural advisory services. ISNAR Discussion Paper No. 5. Washington, D.C.: IFPRI.
7. Neuchâtel Group. (1999). Common framework on agricultural extension. Paris: Bureau des Politiques Agricoles et de la Sécurité Alimentaire.
8. Davis, K. (2008). Extension in sub-Saharan Africa: Overview and assessment of past and current models and future prospects. Journal of International Agricultural and Extension Education, 15(3), 15-28.
9. Rauch, T; Kersting, D. (2016). Making service systems work for food security and sustainable land management. Strategic recommendations for targeting smallholder farmers in sub-Saharan Africa and India. Pg. 8. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

have very limited capacities, but private service providers often have little interest in soil protection and rehabilitation. SLM is often only addressed selectively in the context of commercially successful value chains. Mainly poorer small-scale and food insecure farmers are often excluded from agricultural services for soil protection due to the inadequate resources of state services and the lack of monitoring and coordination of various non-government stakeholders.[10] A crucial deficit of all public, private and cooperative advisory services is that they only reach a minority of farmers, predominantly those who are better off.
This is the central subject of the service systems approach.[11]

Strategies for agricultural extension service provision

During the technical segment of the GSW five strategies were formulated that, in their complementarity, offer an approach to create an enabling environment for sustained extension and agricultural service provision and thus lead to resilient and sustainable agriculture in Africa. The five identified strategies follow the subsequent line of argument:

- *If SLM technologies are to be successfully adopted by farmers they need to be adapted to farmers' specific needs and capacities.*
- *If SLM technologies are to reach and benefit the most vulnerable and marginalized groups within a community they need to specifically target these groups.*
- *To ensure that SLM technologies are applied in the long-term and further disseminated beyond project-targeted farmers, local organizations (including public and private extension service providers) and champions (community leaders) play a crucial role.*
- *In order to guarantee that extension services reach the most vulnerable farmers, public extension need to be strengthened. One strategy to do so can be the SLM-focused extension services in local development plans, ensuring public funds are allocated to these activities.*
- *Mainstreaming SLM into local development plans is one option for preparing scaling of SLM. Others may include strengthening spaces and platforms for stakeholder dialogues and engagement all levels. This would ensure vertical integration – local to international and vice versa, as well as horizontal integration, into other programmes including not only the public sector but also the private sector, civil-society and non -governmental organizations.*

These strategies are based on the practical experiences as shared from the cases and do not claim to be a comprehensive analysis of how to make extension services work for sustainable and climate-resilient agriculture in general, nor SLM adoption in particular.

10. Ibid.
11. Rauch, T; Kersting, D. (2016). Making service systems work for food security and sustainable land management. Strategic recommendations for targeting smallholder farmers in sub-Saharan Africa and India. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

STRATEGY 1: Enhancing adoption of SLM technologies by adapting to farmers' local needs, interests, and capacities

Discussions showed that SLM technologies are often developed in isolated research facilities, far away from the farmers' realities on the ground. Moreover, interventions often introduce technologies that were chosen on the basis of project implementers' assumptions but may not necessarily match farmers' preferences.

If SLM technologies are to be adopted by farmers and practiced in the long-term, these need to be tailored to the respective farmers' needs, interests and capacities. Local contexts are characterized by unique socio-cultural, socio-economic, political, institutional and biophysical characteristics that need to be considered when developing and introducing new technologies or innovating already existing technologies.

Means and ways to take local contexts into account:

- *Introducing SLM technologies that are accessible, affordable and context-fitting, therefore having a comparative advantage over the farmers' own practices e.g. locally adapted seeds (Conservation Agriculture).*
- *Addressing specific and relevant problems farmers are facing e.g. land degradation and showing the evidence of the effectiveness of the SLM technology on demonstration plots where the technology can be analysed together with the farmers (Improving traditional systems of soil fertility).*
- *Using existing farmers groups or by facilitating spaces/dialogue platforms where the farmers can analyse and express their needs (collective self-assessment), that can eventually change from year to year and season to season (Kenya Agricultural Carbon Project).*
- *Gathering and incorporating farmers feedback through surveys and focus group discussions to steer development of credit packages (One Acre Fund).*
- *Forming farmer organizations, based on their common needs/interests or on already existing social groups, to increase smallholder farmers' capacities to communicate their needs to extension officers (collective communication of extension needs) (Kenya Agricultural Carbon Project).*
- *Capacitating and supporting state extension officers to identify service gaps and adapt the service to the needs of the farmers (Kenya Agricultural Carbon Project).*
- *Introducing credit packages in phases (e.g. with small group of farmers, then with village, etc.) to monitor adoption rates and potential implementation challenges (One Acre Fund).*
- *Building on practices and technologies that are compatible with the community's norms and values (Laikipia Permaculture Centre; Apis Agribusiness; Limbua Ltd.).*
- *Adding economic value to existing endogenous and environmentally friendly production*

systems already in place e.g. bee keeping (Apis Agribusiness) and macadamia nuts (Limbua Ltd.).

- *Introducing low-input land management practices that generate multiple benefits to the communities (Laikipia Permaculture Centre).*
- *Bringing researchers and farmers together, organizing joint reflection and learning events (e.g. on project sites) to identify what works, needs improvements or could be upscaled (Upscaling Evergreen Agriculture).*

It was highlighted that SLM technologies need to be developed together with the farmers in order to match their realities. The *Upscaling Evergreen Agriculture Project* shows that this gap can be bridged by directly linking research facilities with local farmers, thus enabling direct feedback.

It was emphasized that SLM interventions should adopt an ecosystem approach (depending on the scale this can go far beyond the project site) and ensure that the associated technologies or innovations do not negatively affect ecosystem services, but rather contribute to restore and protect them.

Discussions also revealed that when introducing new technologies or innovating existing practices, interventions need to carefully take into account the prevalent relations and dynamics between different local actor groups e.g. smallholder farmers and pastoralists. These dynamics could present either interdependencies or synergies through e.g. exchange of goods and products or conflicts over the use of natural resources such as forests, pasture or water.

Finally, it was stressed that a new technology or innovation is best adopted if there is an obvious incentive for the farmer e.g. an added economic value through increased production, or lower inputs needed.

STRATEGY 2: Inclusion of specific groups (e.g. women, youth, elderly) in SLM interventions through improved targeting mechanisms

It was noted that extension services often do not reach the most vulnerable and food insecure farmers. In order to reach and support the most vulnerable and marginalized groups within a community through SLM technologies and practices, specific targeting mechanisms are necessary.

Means and ways of including specific groups:

- *Purposefully including women and youth in conversations during community meetings that would normally be dominated by men (Improving ecosystem services in degraded dryland areas).*
- *Securing women's access to land to enable them to invest in SLM (Land-access to women through intrahousehold agreements).*
- *Supporting the formalisation and functioning of women farmer groups to facilitate their access to extension services (Land-access for women*

through intrahousehold agreements).

- *Securing women's access to land, negotiating with elders to allow women to use designated area of a group ranch for the permaculture project (Laikipia Permaculture Centre).*
- *Creating locally accessible and managed training facilities. In this case, the previously formed women groups were very successful in their sourcing and selling activities based on permaculture practices, that they could invest in a multi-functional training centre as a joint effort (Laikipia Permaculture Centre).*
- *Ensuring the approach mirrors the various socio-cultural realities of the village and matches local learning processes (village meetings were held with various ethnic groups in different hamlets and camps composing the village) (Tem Sesiabun Gorado).*

The importance of securing land use rights as a prerequisite to enable women and other marginalized groups or minorities like pastoralists to invest and practice SLM was emphasised.
It was also noted that interventions need to map and address already existing spaces and organizational structures where specific groups can be reached e.g. women self-help groups.
Examples from Benin show that women can be reached and included by introducing quotas, creating the space for women to participate in meetings and workshops. By adapting the time when meetings and workshops are held to the availability of women, taking into account their many other responsibilities e.g. in the household, their participation can be strengthened. Further it was mentioned that in order to reach the younger generations, SLM could be taught in schools and be integrated into the academic curriculum.

STRATEGY 3: Diffusion of SLM knowledge by building capacity of local organizations, institutions and champions (leaders)

It was found that SLM technologies although successfully adopted by the 'target group' of an intervention, often do not spread to benefit others beyond that target group. Appropriate capacity building measures and diffusion strategies are crucial for the adoption of SLM technologies beyond the target group.

Means and ways toward capacity building and diffusion strategies:

- *Building the capacity of local champions to share their knowledge with the community and other farmers. These are chosen by the community due to their legitimate local authority (Tem Sesiabun Gorado).*
- *Training community moderators, community advisors and contract farmers to help disseminate information that their fellow farmers can use to help increase agricultural productivity (Conservation Agriculture).*
- *Demonstrating effectiveness of SLM practices to village chiefs who subsequently motivate the community to follow these practices (Improving traditional systems of soil fertility)*
- *Using existing farmers' networks to support*

knowledge sharing among farmers (Tem Sesiabun Gorado).

- *Jointly developing the diffusion approach together with the local community, to ensure process ownership (through village meetings where the diffusion approach is discussed, amended, and validated by farmers) (Tem Sesiabun Gorado).*
- *Establishing farmer field schools and demonstration plots managed by extension agents and hosted by farmers (Conservation Agriculture).*
- *Implementing locally accessible and managed training facilities (Laikipia Permaculture Centre).*
- *Facilitating exchange/learning visits between farmers within a locality, as well as to other parts of the country (Conservation Agriculture).*

It was commonly acknowledged that the diffusion of knowledge between farmers is most effective when happening within local organizations e.g. farmer associations, clusters or cooperatives. In the case of *Improving traditional systems of soil fertility* in Togo, project sites are chosen based on a number of selection criteria, one of them being the level of organization amongst farmers prior to project start. It was recognized that to design socially inclusive services to reach all smallholders, including the marginalized and food insecure farmers, the organization of smallholder land users is necessary.

Discussions stressed the importance of analysing capacities needed by the target group (e.g. extension officer or farmer) – whether technical knowledge or "soft" skills are required. It was highlighted that often extension officers lack "soft" skills such as communication, management, negotiation, conflict resolution, or coordination skills rather than technical skills.

It was also noted that capacity building tools need to be adapted to specific target groups by taking into account, for example, local language and level of literacy. The discussions underlined that successful diffusion mechanisms are influenced by prevailing social norms and values. In the *Tem Sesiabun Gorado* case, the local concept of 'social debt' – in which target farmers hold a responsibility to their communities to pass on project knowledge and spread new techniques – was key to reinforce the accountability between farmer trainers and trainees.

STRATEGY 4: Improving decentralized public extension service through the inclusion of SLM in local development plans

In most African countries, agricultural extension services are provided by a multitude of actors - public, private and non-governmental. However, this pluralistic system does not fill the service gap in an adequate and efficient manner. State services and non-governmental organizations often have very limited capacities while private service providers may have little interest in soil protection and rehabilitation. These topics are often only addressed selectively in the context of

commercially successful value chains. Often, poorer smallholder and food-insecure farmers are excluded from agricultural services for soil protection due to the inadequate resources of state services and the lack of monitoring and coordination of various non-government stakeholders.[12]

Public agricultural service sector thus needs to be strengthened. Although soil protection is in the direct interest of the landowner, the benefit for society as a whole often far exceeds that of the private user. Moreover, many soil protection measures are only successful if they are implemented on a landscape scale.[13] However public tasks such as soil conservation tend to face neglect in a policy environment that is dominated by the paradigm of privatization of services prevailing in many countries since the structural adjustments policies induced in the 1980s.[14]

Photo by Francis Dejon/IISD

One strategy to sustain extension services that promote SLM practices in the long term can be the inclusion of extension services practicing SLM in local development plans, and ensuring public funds are allocated to these activities.

Means and ways of including SLM in local development plans:

- *Effectively communicating evidence on the effectiveness of extension and SLM practice, creating awareness amongst political authorities and policy makers (e.g. mayor, members of the county assembly) (ADECOB; Domestication and harmonization of policies for SLM).*
- *Providing technical and financial support to consultation processes for developing SLM policies (Domestication and harmonization of policies for SLM).*
- *Mainstreaming SLM into county governments' key planning documents such as County Integrated Development Plans, Annual Development Plans, Annual Workplans and Budgets (Domestication and harmonization of policies for SLM).*
- *Monitoring the operationalization of SLM in communal development plans (mid-term evaluation of communal plans, evaluating progress in the implementation of SLM related activities) (ADECOB) and participatory monitoring and evaluation mechanisms (Domestication and harmonization of policies for SLM).*

12. Rauch, T; Kersting, D. (2016). Making service systems work for food security and sustainable land management. Strategic recommendations for targeting smallholder farmers in sub-Saharan Africa and India. Pg. 3. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.
13. Ibid.
14. Rauch, T; Kersting, D. (2016). Making service systems work for food security and sustainable land management. Strategic recommendations for targeting smallholder farmers in sub-Saharan Africa and India. Pg. 8. Deutsch Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

The discussions showed that public sector reform and community empowerment need to go hand in hand. Empowered farmer organizations need to lobby for their interest, influencing local policy makers and demanding for accountability and transparency in budget allocation.
At the same time, it requires bringing public service provision closer to the local level.
It was highlighted that the provision of SLM practices in development plans does not automatically translate into budget allocation and implementation. There is a need to closely monitor if budget is actually allocated and spent as planned. To hold government accountable, organized and empowered community and farmer organizations are therefore necessary.

The discussions also highlighted the role of the state in coordinating private or non-governmental service providers to avoid double allocation of resources, or the exclusion of the most vulnerable and poor farmers.

STRATEGY 5: Upscaling successful SLM practices into policies and programmes through stakeholder dialogues and engagement

It has been observed that there are many pilot projects that have successfully implemented SLM practices on the target group level. However, they were not replicated in other regions, nor did they inform policies that subsequently translate into concrete actions on the ground and sustain these SLM practices in the long-term. Upscaling is the process of increasing the geographic scale, policy scope or institutional scale by applying successful activities and approaches at different levels.

The concept includes both vertical (top-down or bottom-up, influencing policy reforms) and horizontal (replication across people and geographies) scaling.[15] The goal of upscaling is to ultimately improve sustainability and increase the impact of SLM interventions.

Means and ways of upscaling SLM practices:

- *Lobbying the parliament through regular field exchange visits and dialogues with farmers at local level to show policy makers and regulators the successes reached through SLM (Conservation Agriculture).*
- *Providing partner NGOs with continuous information and support to effectively adopt and replicate the successful extension model (Tem Sesiabun Gorado).*
- *Creating an international platform of SLM practice to facilitate exchange between farmers that have faced and overcome similar land management challenges (Improving ecosystem services in degraded dryland areas).*
- *Providing evidence on land degradation dynamics (long-term research) and making the information accessible to a wide audience and policy makers (Upscaling Evergreen Agriculture).*

15. SOPAC, UNDP, UNEP, and GEF. (2011). Defining Replication, Scaling-Up, and Mainstreaming in the Context of the Pacific IWRM Programme: Identifying Priority Areas of Work for Work Plan Development. http://www.pacific-iwrm.org/rsc/third-meeting-documents/16-Replication-Scaling-Up-Mainstreaming-cp.pdf.

ICRAF contributed with lessons learnt from the *SHARED project*[16] where scientific evidence on land degradation could inform decision-making and be mainstreamed into policies by adapting the way of communicating data through e.g. adapted language, one pagers, simple graphs, images, pictures or interactive decision dashboards.

Participants underlined that mainstreaming of SLM into policies and programmes need to be considered right from the start of a project or intervention, and not only at the end of the project, to ensure that processes are institutionalized and sustained in the long-term.

Finally, it was stressed that in today's digital era, Information Communication Technology (ICT – e.g. radio programmes, SMS service, websites, GIS platforms) presents a big potential to reach a larger audience in a cost-effective way.

16. http://www.worldagroforestry.org/shared