THE TEM SESIABUN GORADO MODEL

A farmer-led knowledge diffusion approach to promote sustainable agriculture in northern Benin

(TMG)

ThinkTankfor**Sustainability**
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Cover image: © C. A. K. Baba/ TMG Research gGmbH

An invasion of Striga leads to low corn yields in the hamlet of Bokonbwerou, Kabanou village. © C. A. K. Baba/ TMG Research gGmbH

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List of acronyms

BMZ	German Federal Ministry for Economic Cooperation and Development
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
NGO	Non-Governmental Organisation
ProSOL	Protection and rehabilitation of SOILs to improve food security
SEWOH	Special Initiative, 'ONE WORLD - No Hunger'
SLM/CCA	Sustainable Land Management / Climate Change Adaptation
TMG	Töpfer Müller Gaßner - Think Tank for Sustainability
TSG	Tem Sesiabun Gorado
UNCCD	United Nations Convention to Combat Desertification

Note for users

This guide is designed to facilitate understanding, and implementation of the Tem Sesiabun Gorado (TSG) model, a farmer-led knowledge diffusion approach. The TSG model was developed by Töpfer Müller Gaßner - Think Tank for Sustainability (TMG Research) to support the scaling up of the "Protection and rehabilitation of SOILs to improve food security" (ProSOL)[1] project in Benin. The project was coordinated by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Ministry of Agriculture, Livestock and Fisheries of Benin, as part of the special initiative, 'ONE WORLD - No Hunger' (SEWOH) of the German Federal Ministry for Economic Cooperation and Development (BMZ).

This guide is primarily addressed to political decision makers, as well as managers of development agencies and institutions concerned with scaling up promising projects and good practices.
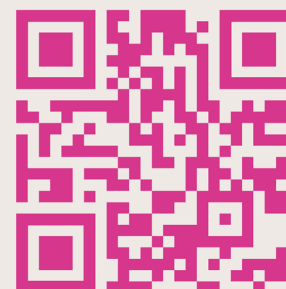
One of the primary objectives of the TSG model is to stimulate the dissemination of good agricultural practices that foster sustainable land management, and climate change adaptation (SLM/CCA), such as those promoted by the PRoSOL project. However, it can be easily adapted to other contexts, and agricultural sub- sectors, and used to disseminate agricultural information and innovations in general.

The TSG model is simple to use and can be easily understood and implemented by anyone with knowledge and skills in social mobilisation, and communication for behaviour change. However, its implementation requires a paradigm shift in the way that development projects and programmes promote SLM practices. Indeed, technicians and extension agents should no longer be solely focused on training farmers, or promoting specific technologies, and farming approaches. Instead, extension agents should serve as facilitators, whose role is not only to support farmers to adapt the knowledge gained to address their specific needs, but also to continue to experiment on, and innovate SLM/CCA practices. Moreover, technical advisers also need to play a role in creating an enabling environment in which farmers can share the results of their experimentation with their peers. It is for this reason that projects need to allow enough time for community consultations. Such participatory processes that can ensure local ownership, and the sustainability of agricultural innovations, including SLM/CCA practices.

This guide is inspired by a pilot of the TSG model carried out between February 2018 and May 2019 in the villages of Kabanou (Bembèrèké Municipality), and Sinawongourou (Kandi Municipality) in northern Benin. It also incorporates lessons learned from replicating and adapting, the model in other project intervention areas in Benin (Collines and Zou departments), as well as additional insights gained from the continuous documentation of the model in the pilot sites.

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Background

Context of the TSG model pilot project

It is estimated that more than 621 million Africans are affected by land degradation[2]. In Benin, an estimated 19% of land is affected by degradation (Ministry of the Living Environment and Sustainable Development, 2017). In some departments, especially in the regions with high cotton production, nearly 90% of the land has low, to very low levels of fertility (ProSOL, 2018), which has resulted in a continuous decline of agricultural yields.

The SEWOH programme aims to address the structural causes of hunger and food insecurity by promoting sustainable rural development. Benin is one of seven countries participating in the ProSOL project, which runs from 2014 to 2023, under the coordination of GIZ, and the Ministry of Agriculture, Livestock and Fisheries of Benin.

ProSOL aims to rehabilitate 200,000 hectares of degraded land by promoting SLM/CCA practices at community level. The project is implemented in 435 villages, spread across eighteen municipalities[3] in Benin, with technical support from several local NGO partners.

Concerned about the low adoption of SLM practices during the early phase of the project, ProSOL undertook a joint study with TMG Research to investigate the underlying socio-cultural factors influencing knowledge transfer at community level. Data collected in the villages of Kabanou and Sinawong-ourou revealed that there was limited dissemination of knowledge by ProSOL-supported farmers to other farmers in the village. This was attributed to several socio- cultural barriers, including a lack of accountability by some actors responsible

for the knowledge-sharing process, which in turn contributed to mistrust among community members. In addition, the technical capacities and motivation of the trained farmers to pass on their knowledge was affected by the lack of an appropriate, and sustainable, incentive framework, as well as limited access to adapted training materials and tools.

These knowledge dissemination challenges, which were subsequently confirmed across the entire project area, are not unique to the ProSOL project. Indeed, several other projects and programmes that seek to promote good SLM practices through training-and-visit, and farmer-field schools based approaches have encountered similar dissemination challenges (Anderson and Feder, 2007; Kondylis et al., 2017; and Rapsomanikis, 2015).

It is against this backdrop that ProSOL invited TMG Research to implement a pilot project in the two villages to introduce an alternative approach to promote and disseminate knowledge at community level. The choice of the Tem Sesiabun Gorado model, which is based on the farmer-to-farmer extension approach, was based on evidence from a number of agricultural advisers and practitioners that farmer-led approaches are effective in disseminating SLM/CCA knowledge and skills. TMG Research aimed to demonstrate a scalable knowledge diffusion approach that could help achieve ProSOL's land restoration targets, and to sustain these after the conclusion of the project.

In piloting the TSG model, TMG Research built on ProSOL project achievements, as well as existing skills and competencies within the community. The first cohort of TSGs, for instance, comprised farmers who had already been trained by the project. Since the TSG model is broadly based on the farmer-to-farmer extension approach, this guide also provides a brief overview of some strengths and weaknesses of the latter, with a view to addressing some of its challenges, (especially with regard to sustaining the model in the post-project phase).

2 Global Mechanism of the UN Convention to Combat Desertification/Conservation International/DIE, 2019

3 Departments of Alibori, Borgou, Collines and Zou

A critical review of the farmer-to-farmer extension approach

The farmer-to-farmer extension approach is commonly defined as the provision of agricultural extension services to farmers by other trained farmers (also referred to as relay farmers" or "farmer-trainers")[4]. Unlike conventional extension approaches, which tend to view farmers as passive users of SLM/CCA technologies, farmer-to-farmer extension places farmers at the centre of production and diffusion of technologies.

The benefits of this approach in promoting SLM knowledge include: proximity to other farmers, which ensures the timely provision of extension services to peers; a significant reduction in the cost of providing agricultural advice; greater accessibility for disadvantaged groups, including women, migrant workers, and the landless; and an improved chance of sustaining the agricultural advisory system at the local level.

Despite these advantages, there has been growing criticism of the farmer-to-farmer extension approach in recent years, especially with regard to challenges in sustaining interventions beyond the project period. Among recurring issues raised by practitioners, as well as researchers, are:

- Reduced motivation, and abandonment of the knowledge transfer process by farmer-trainers in the long term (Franzel et al., 2019; Kiptot and Franzel, 2015).

- Farmer-trainers' lack of accountability to the community they are supposed to serve (Dolinska and d'Aquino, 2016; Mahonge, 2013; Sanz et al., 2017).

- Difficulties in reaching disadvantaged groups, and remote hamlets (Nakano et al., 2018).

The TSG model was designed to take into account these challenges by providing concrete and operational responses to ensure the scaling up of ProSOL project activities in Benin.

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4 For consistency, the Guide uses the term Tem Sesiabun Gorado (TSG) as a generic reference to trained farmers, who are expected to train their peers. TSG literally translates as "Messenger of the restoration of degraded soils" in the local Baatonou language

A social mobilisation session in the village of Kabanou where community members reflect on various knowledge-sharing strategies. © C. A. K. Baba/ TMG Research

Cornerstones of the TSG diffusion model

"The effectiveness and sustainability of efforts to promote good practices depend on our capacities to implement self-reliant and community-centred mechanism[5]."

"A paid extension worker cannot reach thousands of isolated small farmers with improved techniques, but a well-mobilised community always can[6]."

These insights underscore the challenges that most development projects face in sustaining land restoration initiatives. They further reveal the need for a profound paradigm shift in the approaches that projects use to promote good practices. The TSG model responds to this gap by offering practical solutions to the challenges of sustaining SLM/CCA interventions once development programmes have been phased out.

Although the TSG model is conceptually based on the farmer-to-farmer extension approach, it is innovative in how it has capitalised on some of the lessons learnt from implementing this approach across the African region. It also builds on projects exploring sustainable models for providing community-based health services in Benin, as well as broader insights gained from related TMG Research work on the ProSOL project. Some of the research findings have highlighted, for example, a number of socio-cultural barriers that influence the dissemination of knowledge among farmers. To better understand the TSG

5 Anthony Whitbread, Research Program Director for Innovation Systems for the Drylands, International Crops Research Institute for the Semi-Arid Tropics

6 John Conrood, Executive Vice-President, The Hunger Project

model, therefore, it is important to understand the underlying conceptual framework – and especially the principle of "social debt" – that underpins its design and implementation.

Conceptual basis of the TSG model

The conceptual basis of the TSG model is made of four pillars (Figure 1).

1   Social debt: This concept has been proposed as a solution to the challenge of long-term motivation of farmer-trainers involved in sharing knowledge with their peers. This challenge has been frequently cited as a major limitation in implementing the farmer-to-farmer extension approach.

2   The participation, and inclusion of all strata of the population: To ensure the equal participation of community members, it is necessary to take deliberate measures to reach out to women, young people, migrant communities, and other groups that are often excluded from processes to select the initial group of farmers participating in a development project. Allowing these different community groups to elect their representatives helps to strengthen accountability between farmers participating in a development project, and those in the broader community, both during, and after the conclusion of the project. Moreover, to achieve social inclusion, it is important to strengthen overall community leadership, and promote strong social networks among farmers in the choice of farmer-trainers.

3   A manageable workload for farmers involved in knowledge sharing: To facilitate the refund of social debt, the workload of farmers involved in the TSG process needs to be manageable, and acceptable. This pillar is important because the time that farmer-trainers spend on knowledge sharing is often underestimated, and/or taken for granted. Failing to recognise the time investments involved in farmer-to-farmer knowledge sharing can create added pressure for TSGs, and lead to conflicts with their domestic, and other social responsibilities.

Understanding the principle of social debt

The principle of social debt is the central pillar in the implementation of the TSG model. It is a mechanism for individual and collective accountability that serves as the basis for the sustainable transfer of knowledge and skills between farmers participating in a development project, and those in the broader community. Since community ownership is a prerequisite for sustaining the TSG model in the long term, TMG facilitated a series of consultations with all sections of the population at the start of the project to reach a common understanding, and endorsement of the key elements of the TSG model, namely:

- As the project cannot reach everyone at the same time, it is necessary to select a group of farmer- trainers (TSGs), who will then be responsible for transferring their knowledge to their peers in the village. This selection will be done at the outset of the project through a participatory community process.

- The project is committed to helping all farmers in the village, without making distinctions based on sex, religion, or socio-cultural background. The trainings, technical monitoring, and material support deployed during the implementation of the project are therefore not provided on a personal or individual basis, but as part of a process that aims to support the entire community.

- By agreeing to participate in training, and to receive various types of support from the project, each farmer-trainer incurs a social debt towards his/her community, and towards the project.

- No financial or material compensation will be required to refund this debt. Instead, the farmer- trainer commits to share the knowledge and skills acquired with other farmers in the village.
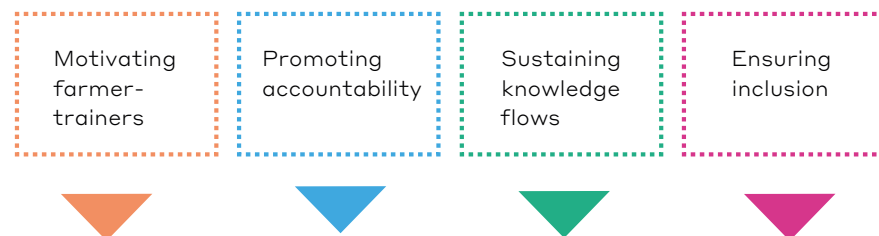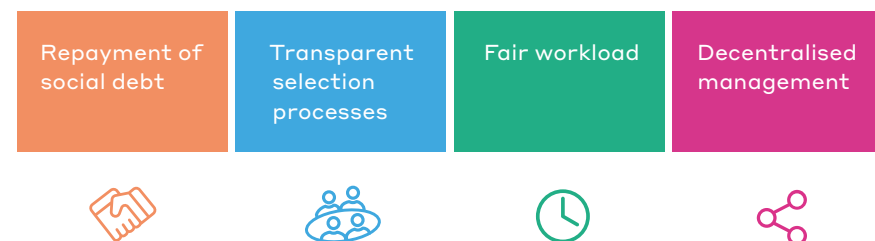
Challenges

Figure 1: Conceptual basis of the TSG model TSG. © TMG Research gGmbH

4   **Decentralisation of roles and responsibilities:** In the process of sharing knowledge, it is important to recognise that villages are complex entities, which are characterised by socio-cultural differences among community members. It is therefore unrealistic to expect that knowledge gained by some members will be spontaneously diffused to the rest of the village. It is for this reason that the TSG model recommends focusing on the hamlet level as the basic unit for knowledge dissemination. Above all, it calls for focusing on existing farmers' social networks when selecting which farmers are to receive training, and making corresponding efforts to strengthen overall community leadership.

This pillar therefore promotes crosscutting measures that help to, among others: enhance community acceptance of farmer-trainers, and reduce their workload; support the participation, and inclusion of disadvantaged groups; and facilitate the refund of social debt.

In summary, the TSG model emphasises the need for projects to change their modes of outreach in order to effectively contribute to the diffusion of SLM/CCA practices. As a core mechanism for motivating TSGs, and enhancing social accountability, the principle of social debt needs to be placed at the centre of such strategic communication approaches and promoted throughout the life of a project.

How to promote the principle of social debt and ensure accountability among farmers

"If you want someone to voluntarily pay her/his social debt, then make it easy for them."

● Ensure that the principle of social debt – as well as the mechanisms for its implementation – are well understood, and accepted by all.

● Discuss the social debt principle in public, and in the presence of village leaders, to strengthen the community's collective responsibility.

● Allow sufficient time for discussions and village meetings to ensure the acceptance of the concept of social debt at the community level.

● Ensure a manageable workload for each TSG, in order to motivate him/her to pay off their social debt. This implies:

> Restricting a farmer-trainer's area of intervention to his/her hamlet, or adjacent neighbourhood within the village, to reduce the time and workload associated with the knowledge sharing mission.

> Reducing the duration of each TSG mission to one or two agricultural seasons to minimise "mission fatigue" and subsequent cases of defections in the longer term.

Logical framework of the TSG model

Farmers are at the heart of the TSG knowledge-sharing approach. Tem Sesiabun Gorado literally means "Messenger of the restoration of degraded soils" in the Baatonou language, one of the dominant languages spoken in the northern intervention region of the ProSOL project. TSGs are farmers who are chosen by their communities, with the mandate of serving as the interface with the ProSOL project to promote good agricultural practices. As such, the community-appointed farmers (future farmer-trainers, or TSGs) participate in several capacity building sessions, and also receive technical, and material assistance (hence incurring a social debt). In return, they agree to share the knowledge and skills learnt with other farmers (repayment of the social debt).

In order to pay back his/her social debt, each TSG agrees to share the knowledge acquired with five untrained farmers over a period of one or two agricultural seasons. This group becomes the first generation of "farmer- learners." Each of the five farmer-learners also undertakes to train five other farmers after a period of successful experimentation with the acquired good practices. This knowledge-sharing cycle is continued until a saturation threshold is reached within the hamlet.

Figure 2 highlights the selection of farmer-learners by "wave" of generations, as well as the pillars of the model's success, which are described in terms of process goals.
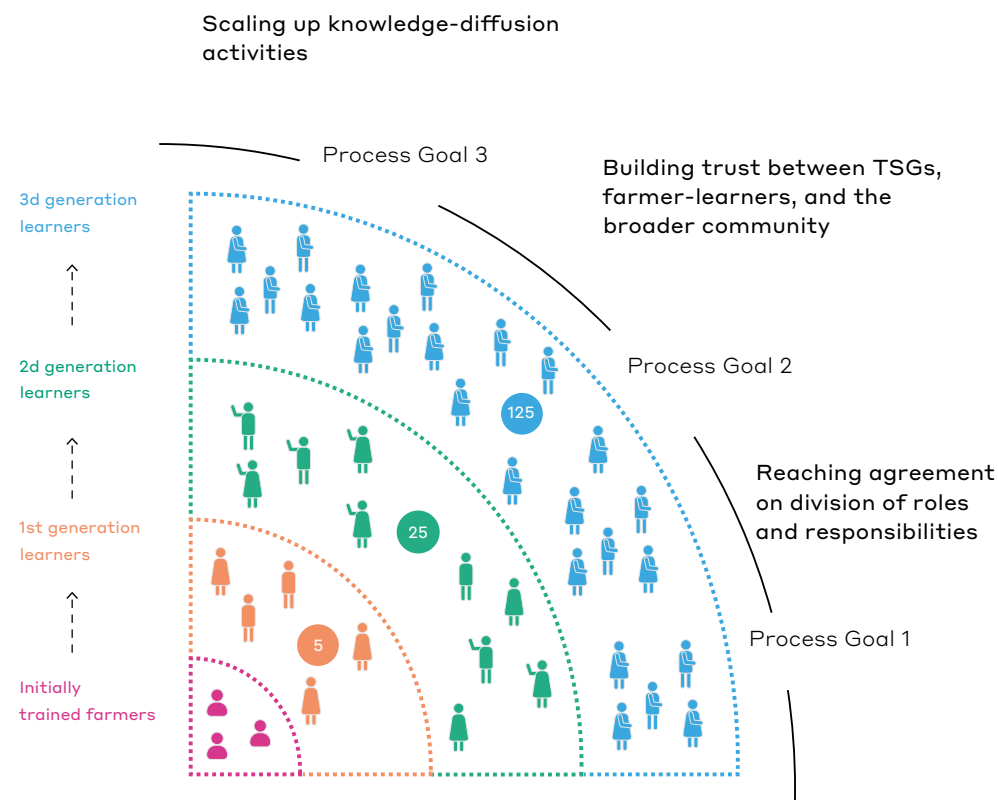

Figure 2: Logical framework of the TSG model. © TMG Research gGmbH 2020

In this process of intergenerational knowledge sharing, the first TSGs in a hamlet – who have been directly trained by the project team, and built up knowledge and know-how over time – continue to play a technical support role as the model is continually scaled up. Indeed, even if they are no longer obliged to train new farmer-learners, having transmitted their knowledge to the first generation, they remain poles of reference within their communities, and continue to provide advice and technical assistance to other farmers.

The model recognises that without effective accountability mechanisms, it is difficult to reach farmers in the wider community, as well as disadvantaged groups such as women and youth (Process Goal 1). To do so requires open discussions between trained and non-trained farmers to ensure acceptance of the social debt as a moral obligation toward the entire community. Throughout this learning period, there is also a need to maintain some capacity for technical supervision, and follow-up, by technical advisers, or extension agents. In addition to providing technical backstopping to fulfil the project's knowledge-sharing goals, technical advisers play a role in reminding the TSGs, as well as other farmers, of the commitments they made to actively work for knowledge diffusion within the village.

Effective knowledge diffusion also requires building trust between farmer-trainers (the TSGs) and their farmer-learners. An important objective in this is to address socio-cultural barriers that may constrain knowledge diffusion at the local scale. Trust is built, among others, through transparent, and inclusive processes to select TSGs (Process Goal 2). The criteria and considerations for the selection of learners are left to the discretion of the TSG. He /she takes responsibility for the knowledge-sharing process, and identifies potential farmers to train based on his/her social networks. This is because the transfer and application of knowledge is a voluntary process that requires mutual trust between the trainer and trainee.

In implementing the model, it is important to be aware that holding multiple training sessions does not automatically lead to knowledge diffusion. Trust in, and legitimacy of TSGs, and other actors involved in the knowledge diffusion process, are critical in increasing demand for training, and hence ensuring the sustainability of the TSG model in the long term (Process Goal 3). This calls for intensive coaching, and facilitation, of extension agents in the early implementation phases. Over time, this investment in capacity building should lay the basis for autonomous knowledge replication from one generation of farmer-learners to the next.

Finally, attention should be paid to the underlying context, that influences the implementation of the TSG model. As this continues to change, there is need for an iterative process of assessing, analysing, and adapting the TSG training modules over time. This also includes the need to review the broader processes and mechanisms of knowledge sharing.

TSG model implementation approach

The TSG implementation approach follows nine steps, which are clustered around four key phases (Figure 3).

- Initial diagnosis and membership research (Steps 1 and 2)
- Capacity building of farmer-trainers (Step 3)
- Installation, and monitoring of farmer-trainers, or TSGs (Steps 4 to 7)
- Assessment, and motivation of TSGs, and farmer-learners (steps 8 and 9)

1 Step: Community validation of the TSG model

Community validation meetings are direct consultations among farmers. The purpose of these meetings is to enable the participatory analysis of shared challenges, as well as solutions, for SLM/CCA. It is also during these meetings that participants discuss how to facilitate the sharing of knowledge and skills between the trained farmers, and those who need to learn new skills.

During the meetings, facilitators introduce the main concepts and principles of the TSG model, and its general implementation approach. The meetings further address selection criteria for farmer-trainers.
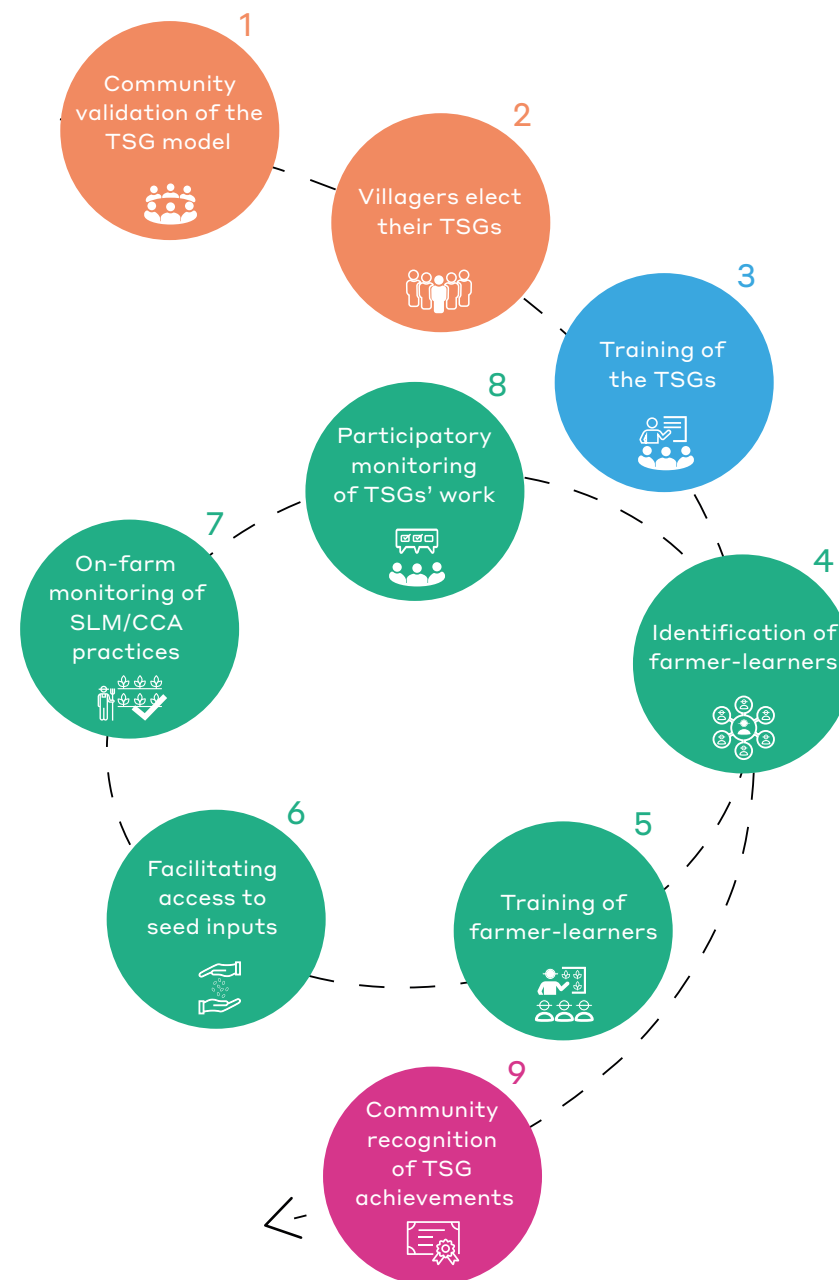

Figure 3: TSG model implementation phases and steps. Orange, blue, green and pink colors represent the four implementation phases of the model. © TMG Research gGmbH 2020

Each village consultation is convened by local village leaders, and facilitated by the ProSOL technical adviser, or extension agent in charge of the village. While technical advisers have access to a facilitation guide, they are encouraged to adapt it to their own facilitation style, as well as the socio-cultural realities of each community.

Through such carefully facilitated village consultations the project lays the groundwork for implementing the TSG model.

The guide used to facilitate village consultation meetings in Kabanou and Sinawongourou is available here:

https://soilmates.org/wp-content/uploads/Guide-facilitation-rencontres-villageoises.pdf

2 Step: Villagers elect their TSGs

The second step in engaging communities to share knowledge on SLM/CCA practices is to select farmer- trainers. The aim is to encourage all participants at the selection meeting to have a say in the appointment of their representatives (TSGs). As is the case with the village consultations, TSG selection meetings are facilitated by the ProSOL technical adviser, or extension agent. The pilot project prepared a facilitation guide to support technical advisers in preparing, and facilitating these selection processes.

TSGs selection meeting underway in Sinawongourou. © C. A. K. Baba/ TMG Research gGmbH

The Kabanou and Sinawongouro pilot

Prior to the start of the TSG pilot, the ProSOL project had provided training, and monitoring of several farmers in SLM/CCA. To capitalise on the existing knowledge and skills in the two villages, participants at the community consultations agreed that a TSG is:

- A farmer who has been trained and monitored by the ProSOL project.

- A farmer who has effectively implemented good SLM/CCA practices, and has gained experience in the advantages and difficulties associated with these practices.

Other socio-community criteria taken into account in the selection of TSGs included: courtesy, and respect for others; availability; a strong work ethic; and willingness to help others, which is the essence of the term Gorado. It should be noted that participants in the Kabanou and Sinawongouro consultations did not prioritise literacy, or the education level of prospective TSGs, in their selection criteria.

The guide used to facilitate the selection of village TSGs in Kabanou and Sinawongourou is available here:

https://soilmates.org/wp-content/uploads/Guide-facilitation-selection-des-TSG.pdf

3 Step: Training of the TSGs

This step is the capacity building and planning stage for the farmer-trainers. It also provides an opportunity to discuss the knowledge-sharing strategy, as well as the general organisation of work. It is during this stage that the specific needs of farmer-trainers are identified, both in terms of technical support, as well as how to practically organise knowledge-sharing with their peers. Training TSGs in facilitation skills is therefore an important component of this step.

The main tool recommended for this session is the picture box, which has been duly designed for this purpose. In addition to providing essential information for implementing good agricultural practices, this visual guide is organised around thematic modules – each with different colour scheme – making it easy for farmer-trainers (even those who are not literate) to understand. Furthermore, it is important to reiterate the principle of social debt throughout the farmer-trainer training process. This is because this concept is the basis of TSG training, as well as successful knowledge-sharing across several generations of farmer-learners. During monitoring and coaching visits, therefore, it is important that technical advisers and the TSGs, continue to remind farmer-learners about the moral and social commitment that they have made to their communities, and the need to honour it.

The picture box that was used in Kabanou and Sinawongourou is available here:

https://soilmates.org/wp-content/uploads/Formation-des-producteurs-sur-les-mesures-de-gestion-durable-des-terres-et-d-adaptation-au-changement-climatique.pdf

4 Step: Identification of farmer-learners

This step marks the start of the knowledge, and skills-sharing process. It also provides an opportunity for the farmer-learner to negotiate, and directly interact with, his/her future learners. The selection of farmer-learners is the responsibility of the TSGs, as well as previous generations of farmer-learners who became TSGs after demonstrating their experience with good agricultural practices. Given the importance of trust between a TSG and his/her farmer-learners, it is recommended that they identify their learners through their own social networks.

5 Step: Training of farmer-learners

During this stage, farmer-learners identify which skills are useful to them, following which they undergo a process of acquiring knowledge on good agricultural practices. This ensures that while farmer-learners are offered a varied menu of knowledge, and skills, they are responsible for deciding what to learn, and how to apply such knowledge. Training is provided by the TSGs (farmer- trainers), not the technical advisers or extension agents. However, the project's technical advisers can monitor the training sessions, and provide backstopping support to the TSG, while respecting his/her authority. It is therefore essential for project staff to remain polite and constructive in their feedback, and contributions.

A TSG simulation session at Gourè Loua camp, Sinawongourou village.
© C. A. K. Baba/ TMG Research gGmbH

Farmer-trainers, and their learners, holding picture boxes after
a training session in the hamlet of Koussounin, Kabanou village.
© C. A. K. Baba/ TMG Research gGmbH

The Kabanou and Sinawongouro pilot

During the TSG pilot in Kabanou and Sinawongourou villages, several
strategies were used to train TSGs, and ensure that the knowledge
transmitted was of good quality.

One approach was for two to three TSGs from the same hamlet to
hold joint training sessions to their farmer-learners. Through such
collaboration, the TSGs were able to maximise their knowledge of the
picture box. For cases where TSGs did not feel confident about their
knowledge, they were encouraged to seek help from the project's technical
adviser. Generally, such follow up trainings were held on an individual basis,
with each training session organised around the availability of farmer-
learners. Through planning for, and organising these follow-up sessions,
the skills and facilitation capacities of the TSGs were further enhanced.

It must be noted, however that the project should avoid imposing a
particular training regime on farmer-trainers because they have a better
view of their individual constraints, as well as those of their learners.

6 Step: Facilitating access to seed inputs

Securing, and providing seed inputs to each generation of farmer-learners is one of the ways that the TSG model seeks to enhance mutual responsibility and accountability between TSGs and farmer-learners. During this step, TSGs, as the initial beneficiaries of ProSOL project, are also encouraged to view the agricultural inputs received from the project as a collective good to be shared with other farmers. In this way, TSGs who had been able to build up their own seed stocks following initial support from the project, are encouraged to share them with learners who have expressed a need for seeds. In the event that a TSG does not have enough seeds to share, the technical adviser encourages them to negotiate with other farmer-trainers who may have sufficient stock. It should be clarified, however, that at this stage, it is not the quantity that matters but rather making sure that each learner has obtained even a handful of seeds to build their own stock for the coming years.

The Kabanou and Sinawongouro pilot

To ensure efficient use of time, training sessions also provided an opportunity for TSGs to distribute seeds of fertility-enhancing crops to their learners.

The empowerment of TSGs in collecting and sharing seeds among their learners is an important part of the knowledge-diffusion process because it strengthens their sense of responsibility, while also promoting the accountability of farmer-learners, towards their own future trainee. Through this symbolic act, the TSG reminds his/her learners that seed donation is a core part of repaying their social debt, and invites them to do the same with their learners. Moreover, this process reinforces the message that TSGs, and their learners have a responsibility to maintain core sustainability principles, such as protecting their plots, and continuously collecting, and improving their seed stock.

7 Step: On-farm monitoring of SLM/CCA practices

This step entails the concrete application of the knowledge acquired by the farmer-learners, and supporting them to overcome any implementation challenges. Monitoring is usually done through follow-up meetings, but, even more importantly, physical visits to the farmer-learners. While such monitoring is primarily done by the TSG, it is beneficial if technical advisers take part from time to time so as to motivate both the TSG, as well as the farmer-learner.

An example of a joint visit to a farmer-learner by a TSG and community technical adviser. Hamlet of Gorou-Goudda, village of Sinawongourou Peulh © C. A. K. Baba/ TMG Research gGmbH

8 Step: Participatory monitoring of TSGs' work

Participatory assessment, and validation of the findings, are continual activities that are not only limited to this step. They consist of periodic exchanges between the technical adviser, or extension agent, the farmer-trainers, and their learners. Among other actions, the meetings discuss, and take stock of, performance indicators and results associated with each level of the implemented model. Both the participatory assessment, as well as the validation of the findings, are done in small groups. They can take the form of supervision, or discussion sessions with farmer-trainers, and their learners. At the end of a knowledge- and skills-sharing cycle, a public meeting is convened to validate the results of implementing the TSG model, as well as the performance of the actors involved.

9 Step: Community recognition of TSG achievements

This final step in the TSG process provides an opportunity for the community to evaluate, and publicly acknowledge the efforts made by the farmer-trainers, as well as all other actors involved in the knowledge- sharing process. The agenda of the village meetings, which are facilitated by the technical adviser, or the extension agent in charge of the village, includes:

- A brief review of knowledge dissemination in the respective communities. This includes an assessment of challenges faced in implementing the TSG model, as well as achievements in CCA/SLM knowledge dissemination within the village neighbourhood or hamlet.

- A vote of thanks to all stakeholders, and especially the farmer-trainers and their learners, for their active participation in the knowledge-sharing process.

- Awarding of certificates of achievement to the recipients on behalf of the project and the village. Other token contributions from local NGOs, or public agencies and institutions collaborating with the project, are also distributed at this time to motivate the TSGs and farmer-learners. Some affordable items agreed by ProSOL and its partner NGOs include, for instance, tee-shirts and caps with the project logo, or boots and gloves. Project partners could also be encouraged to consider donating farm tools and equipment, such as wheelbarrows, to reward highly-performing TSGs, who have been selected by the community based on clear assessment criteria.

Certificate of achievement developed in Kabanou and Sinawongourou is available here:

https://soilmates.org/wp-content/uploads/Example-of-accomplishment-certificate-delivered-to-the-TSGs_Translated-in-FrenchEnglish.pdf

Conclusions and recommendations

TSGs are awarded certificates of achievement to publicly acknowledge their contribution to knowledge diffusion.
© C. A. K. Baba/ TMG Research gGmbH

This technical guide was developed to facilitate understanding, and implementation of the TSG model, and enhance the scaling up of promising SLM/CCA practices. The guide comprises a set of principles, as well as practical implementation advice based on lessons learnt from piloting of the TSG model in two villages. It also outlines some of the key challenges encountered by ProSOL project technical advisers currently involved in scaling out the CCA/SLM knowledge-diffusion model to 400 villages.

The TSG knowledge-sharing approach is innovative in that it provides a practical solution to the challenges of sustaining farmer-to-farmer extension, as well as the problem of long-term motivation of community workers, who are the essential pillar of this approach.

Derived from practical experiences in the two pilot villages, as well as subsequent application of the TSG model to other rural contexts, the following six elements summarise the most important "take-home messages" on implementing farmer-led knowledge sharing.

1   A shared understanding of the challenges of community knowledge dissemination is necessary to ensure collective ownership of the process.

2   The mechanisms and criteria for selecting participants must be inclusive to allow the choice of credible and legitimate representatives.

3   Farmers need to agree on the principle of "social debt" to stimulate their commitment, and social responsibility to contribute to knowledge dissemination.

4   TSGs' expectations must be realistic to ensure long-term motivation, and facilitate their repayment of social debt.

5   In order to effectively disseminate knowledge, it is essential to clarify the roles and responsibilities of the different stakeholders involved.

6   It is necessary to understand potential risks, such as quality differences in the information and knowledge transferred to successive generations of farmer-learners, in order to take anticipatory measures and corrective actions.

Agricultural advisers who accompanied this process, including those involved in an online workshop to review a draft version of this guide, concluded that the TSG model can be easily adapted to other fields of agricultural innovation, such as value chain development.

By demonstrating that autonomous knowledge-diffusion mechanisms can work at the local level, it is our expectation that the TSG model can ultimately contribute to the sustainability of CCA/SLM practices, and agricultural innovations, once external support is phased out. Moreover, this approach offers an alternative pathway to counter the high dropout rates associated with conventional farmer-to-farmer extension approaches.

In closing, while these principles and recommendations are instrumental in successful implementation of the TSG model, we must reiterate that their application must build on a good understanding of the socio-cultural context in which various SLM/CCA practices or agricultural innovations are promoted.

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