



SUSTAINABLE AGRICULTURAL PRODUCTION & FOOD SECURITY

December 2014

Scaling-up strategies – from Technology Transfer to Empowerment with focus on Sustainable Agricultural Production and Food Security

1. Introduction

This report provides an overview of the worskhop on "Scaling-up strategies – from Technology Transfer to Empowerment with focus on Sustainable Agricultural Production and Food Security" held at SLU, Uppsala on 28-29 August 2014. It also has a compilation of all workshop outputs contained as Attachments to the main body of the report. The workshop was a joint effort of SIANI and SLU Global.

1.1 Workshop rationale and aim

All the CGIAR Research Programs include Scalingup and Gender as two general components. In the past Scaling-up in agriculture was just a question of how Extension would disseminate to the farmer in an efficient way the research findings from the universities and research institutes that were to be translated into good practice in agriculture. Many studies on failed agricultural development projects have however shown that the reality is much more complex, when it comes to whether or not farmers adopted the new technologies, calling into question the effectiveness of the dissemination process.

The main aim of this event was to produce a specific policy brief including the reflections and recommendations for future development projects on food security and good practices for scaling-up. The workshop was arranged as a twoday event with invited participants. The 29 participants were members of the civil society in the form of Swedish NGOs and consultants implementing aid projects in developing countries and the authorities funding such project, but also researchers at Swedish universities researching and educating for agricultural development projects.

1.1 Workshop design principles

The workshop (full program in Attachment 1) was built around cases from the field as a basis for group reflections on potentials and challenges with regards to 'scaling up' in food security related contexts. The criteria for the selected cases were that they should firstly have taken place in practice, and secondly have been launched as scaling-up projects.

The workshop and the cases for reflections were then divided into the following two group work sessions:

- 1. The first work session (first day) generated common formulated questions on what to highlight and scrutinize regarding 'scaling-up' in food security contexts. The workshop organizers selected the first category of 'invited' cases (five cases). A one-page case description was sent to all participants in advance (descriptions in Attachment 4-8).
- 2. The second category of 'proposed' cases were used as suggested cases for the second group work session (second day). These cases were brought up by the participants themselves from their own field experiences, and seen as important for this workshop. During this session the common formulated questions from the first session were applied on these cases as experienced by the participants.

Each invited and proposed case had a case-owner among the participants, who had worked with it and followed its dynamics and development.

2. Main outcomes

2.1 Introductory session

In the plenary morning session, Seerp Wigboldus (invited key speaker from the Center for Development Innovation, Wageningen University), introduced the workshop theme in the form of a presentation titled 'Scaling up: What are we dealing with? A brief exploration through questions, issues and statements'. He invited the participants to reflect beyond their comfort zone by questioning the scaling up concept and explore the nuances around it.

After the presentation, participants were asked to take few minutes to talk with a colleague, and write the highlight issue/thought/reflection that emerged while listening to Seerp's presentation in a post it sticker. All the stickers were gathered and clustered under 6 main thematic issues, as shown in Figure 1.

First group work session - Invited cases

The five case owners presented their respective cases to groups of participants who had been given the chance to choose the Case they wanted to follow. In their groups, participants selected a facilitator, and the case owner presented the case to the group. The group used the first hour to interact, to understand the case, and summarize the main features of the case on flipchart paper. The groups examined the cases using a list of guiding questions (see Attachment 3) provided by the facilitators.

At the end of the First Group session, the five groups presented (Attachments 9-13) their reflections according to the following two questions:

- What can we highlight to the workshop and its theme from the discussion about our cases?
- What have the cases informed us about our practices when attempted to scaling-up? Opportunities? Challenges? Cautions?

The main points that came from the discussions of the five invited cases in plenum were captured in the form of a Mind Map shown in Figure 2.

At the beginning of Day 2, participants were invited to recall and reflect on the highlights of the discussions on Day 1. These were also drawn up in the form of a second Mind Map presented as Figure 3.

Second group work - Proposed cases

The participants were invited to reconnect the previous day with their own experiences by bringing their 'Proposed cases'. There were 13 cases brought by the participants, these were made into four clusters according to topic and contexts, and four working groups were formed for the second group session.

Using their experience with each of the cases constituting the four groups, the participants were invited to draw lessons for their own practices, think of possible next actions that the workshop could propose, and construct targetd messages to send out. These were the guiding questions posed for the task:

Drawing lessons for own practice

- What kind of change, which enabling conditions and what capacity do you need to develop for yourself and your organisation to perform well in 'scaling up' activities?
- What immediate actions can you think of for you to be taking as an outcome of this workshop?

The outcome of the second group work session as presented by the four groups according to the above two questions are summarised and presented in Figure 4. The notes from the group work are in Attachment 14.

Key messages for Policy brief

As a final synthesis exercise, participants were asked to formulate sharply worded messages to the scaling up community. The guiding question posed to participants and their responses follow in Table 1:

• What would be a short, sharp message that you wish to send out to any relevant actors out there, for eg. to development agencies, donors, policy makers, private sector, other beneficiaries?



Figure 1. Thematic Issues brought up as reflections by participants following Guest Speaker's introductory presentation.



FFigure 2. Main points that came from the discussions of the five invited cases, presented as a mind map.



Figure 3. Main points drawn through reflections on Day 1. Photo by Nicia Givá.





Table 1. Sharp & Key messages to Scaling up Community (in plenary session)

- Farmers first
- When scaling up start from people's experience and capabilities
- Consider social aspects in all scaling up projects
- Assist farmers with transformative adult education & farmers' institutional development to enable them to enter into dialogue as equal partners
- Scaling up provides business opportunities to private input suppliers, which need to be throughout from the start of the project
- Planning for incremental scale up and change comprehensively & inclusively with key stakeholders while targeting for realistic implementation and engaging in reflections on processes and feedback loops
- Identify elements of success and use them as building blocks for contextbased diversity or improvements
- World food security is our responsibility which requires joint actions for increased productivity & scaling up of current efforts in agriculture
- Scale-up well tested technologies/ solutions to solve farmers problems in integrated manner ensuring ownership of different stakeholders and working together in a partnership mode providing flexibility to implement;
- We need an open mind...there is no one best solution
- Develop a long term & holistic viewpoint & strategy in decision making
- Work for public good in a transparent manner
- Find balance between promises expected by donors and a realistic

understanding of the possibilities of your project to ensure enough flexibility and adjustments on the way

- Context first and technology second: Local situation, peoples' interest & goals must guide the process;
- It's the soil, my dear! The living soil is the substrate and the axiom for any scaling up
- Stop ask for scaling up, start asking for action on facilitating change;
- Facilitators & partners: Have realistic expectations
- Use people at the grassroots level to pass on good practices
- Create enabling conditions: administrative structures that stimulate innovative ideas and stakeholders dialogues;
- Policy makers should allow space for experimentation of different approaches/ models & scaling up. There are many parts to achieve reasonable scaling;
- Listen/respond to stakeholders (accountability);
- Strong, equal, open links among all actors for good reiterative learning;
- Instead of giving fish or fishing gear to the poor enable them to continuously develop their own fishing;
- Focus on process to ensure tangible & sustainable results of scaled innovation;
- Scale out- Tune in! Scaling up/out a project requires the ability of tuning in with a new context;
- Open & Equal dialogue: get all the expectations & assumptions out in the open and have an open discussion about process and goals

A brief presentation was made about the template for a Policy Brief to come out of this Worskhop. Some of the key recommendations that emerged (from one group) from the workshop for inclusion in the Policy Brief are captured in Figure 5 below.



Figure 5. Some recommendations for policy brief from one of the groups.

Conclusion

The Workshop concluded with some final reflective comments offered by Guest Speaker Seerp Wigboldus (contained in the slide set provided to participants). Some of the remarks made by Seerp at the end are offered here as a way of concluding this report.

Some cases discussed in the workshop did not seem to be really about scaling up or down that much, but rather about development, upgrading or improving. It is advisable to only use the term of scaling up/down if there is a clear scaling process involved, and not when it is about something for which other descriptors would be more appropriate.

A scaling-up ambition is often inspired by some kind of political agenda, which may not be bad in itself, but does add political dimensions and easily introduces compliance demands. The value for society through Scaling up would be first of all through activating and enabling strategic competences rather than through compliance mechanisms. It is worth considering the options between one huge scaling-up initiative and multiple connected scaling-up initiatives, the latter allowing for diverse trajectories adding up to the same goal. In other words, facilitating convergence rather than trying to control all dynamics in one grand effort may be a better pathway to take.

Different stages in a scaling processes may require different strategies, such as shown in the ecoorganic farming case, so that first experimenting, then catalysing, then building up support and then starting small may lead to better outcomes.

Scaling up is still about people. Build on what makes partnerships with people flourish: Shared vision - Shared learning - Shared effort - Shared information. Attachment 1. Workshop program Scaling–up strategies – from Technology Transfer to Empowerment with focus on Sustainable Agricultural Production and Food Security

Program – Thursday 28th August

09:00 – 09:15 Arrival and mingle

09:15 – 11:00 Introduction: Formulating conceptual and practical needs (all in plenum, introduced by Seerp Wigboldus, Center for Development Innovation, Wageningen University)

11:00 – 12:00 Group Work 1 on Invited Cases: Formulating general questions from each case

12:00 – 13:00 Lunch

13:00 – 15:00 Continue Group Work 1 on what to highlight and scrutinize

15:00 – 15:30 Coffee

15:30 – 17:30 Presentations of Group Work 1: Formulating jointly general questions (all in plenum)

17:30 – 18:00 Gothrough the brief descriptions of proposed cases brought by the participants, and select cases for Group Work 2

18:00 – 20:30 Dinner (at the workshop venue)

Program – Friday 29th August

09:00 – 09:15 Introduction of Group Work 2 (1---4 cases per group): apply the questions generated during Group Work 1 on the new cases.

09:30 – 12:00 Participants work in depth (group work) on the cases brought to the workshop by the participants.

12:00 – 13:30 Lunch

13:30 – 15:00 Sharing reflections on the group works (all in plenum)

15:00 - 15:30 Coffee

15:30 – 16:00 Synthesis to be summarized in a policy brief (all in plenum)

16:00 – 16:30 Summing up by Seerp Wigboldus and finalize the workshop

Attachment 2. Participants list

Workshop participants

Organizers

- 1. Lennart Salomonsson, SLU Global
- 2. Margarita Cuadra, Inst. stad och land, SLU
- 3. Nadarajah Sriskandarajah (facilitator), Inst. stad och land, SLU
- 4. Nicia Giva (facilitator), Inst. stad och land, SLU
- 5. Seerp Wigboldus (Speaker) Center for Development Innovation, Wageningen University

Case owners:

- 6. Karin Höök, Swedish Society for Nature Conservation (SSNC)
- 7. Suhas Wani från ICRISAT
- 8. Klara Jacobson, SLU
- 9. Girmay Tesfay (Mekelle University, Ethiopia)
- 10. Karl-Erik Johansson, SLU

Invited participants

- 11. Esbern Friis Hansen, DIIS
- 12. Fredrik Moberg, Albaeco
- 13. Anders Ölund (Policy Advisor, Church of Sweden)
- 14. Eva Stephansson (Sida Helpdesk, SLU)
- 15. Kristina Marquardt (Department of Urban and Rural Development, SLU)
- 16. David Amudavi, Biovision Africa Trust, Kenya
- 17. Mwatima Juma, TOAM, Tanzania (Country Programme Officer IFAD)
- 18. Sue Edwards, ISD, Etiopien
- 19. Humphrey Mwambeo, PELUM-Kenya Programme
- 20. Charles Francis, NMBU (Ås, Norway) & Nebraska University, USA
- 21. Nora Kaegi, Department of International Cooperation, FiBL
- 22. Karin Ulmer, Svenska Kyrkan
- 23. Eskil Mattson, Focali
- 24. Eunice Cavane, Universidade Eduardo Mondlane, Mozambique
- 25. Karolin Andersson, SIANI
- 26. Madeleine Fogde, SIANI
- 27. Anna Nilsson, We Effect
- 28. Ricardo Quiros, We Effect
- 29. Alex Arévalo, Swedish Society for Nature Conservation (SSNC)

Attachment 3. Guiding questions for the first group work session

Scaling-up Process, Approach and Strategy

- How intentional was scaling-up in this project?
- What was being scaled-up? (Technical, ecological, social, institutional or combination?); single or package?
- Why was it considered worth scaling up?
- What made you think it that it was worth to scaling up?
 - To achieve which ends? Gains?
- What assumptions did you make?
- How was it being done? (approach and strategy)
 - With whom? And for whom?
 - How inclusive? (who decided? Who benefited? Who was left out?)
- Did the approach consider aspects wider than the specific innovation?
 - Socio/cultural/institutional features of the system?
 - Power + Politics
 - Ethicality
 - Responsibility
 - Cross scale influence

Scaling-up Impact, Lessons and Barriers

- What has been the experience?
 - Impact/change
 - Lessons (success & failures)

Lessons (process)

- What were the barriers?
 - Internal (project related)
 - External (wider system)

Attachment 4. Scaling up practices of ecological organic agriculture in Africa

David Amudavi, Director of Biovision Africa Trust, Nairobi, Kenya

Agriculture continues to play a critical role to many African economies. However, unsustainable agricultural practices coupled with natural challenges such as; effects of climate change, soaring human population, land degradation, and pest and disease pandemics, among others have hampered the agriculture's capacity to contribute to sustainable development and poverty alleviation in Africa. This condition is further exacerbated by inadequate institutional capacity for professional development, inadequate financial resources, and lack of access to adequate relevant information and technologies.

These challenges prompted the African governments to pass an important Decision on supporting Organic Farming systems. Hence in 2011, the African Union Commission (AUC) and regional partners (Biovision Africa Trust, PELUM Kenya, Institute for Sustainable Development of Ethiopia) and some National Organic Agriculture Movements) coined the term "ecological

organic agriculture" (EOA) which integrates two previously distinct concepts, organic and ecological with the aim of bringing out the synergies from both concepts and their practices. Since then, an EOA Initiative has been established aiming to mainstream EOA practices into national policies by the year 2025 in order to improve agricultural productivity, food security, access to markets and sustainable development in Africa.

Pursuant to the AU Decision, some international development partners working in collaboration with the African Union Commission and regional partners conducted pilot work in 2012 in six African countries (Kenya, Uganda, Tanzania, Ethiopia, Zambia and Nigeria) through support from the Swedish Society for Nature and Conservation (SSNC) and SIDA. At the same time baseline studies were conducted in three West African countries (Benin, Mali and Senegal) with support from the Swiss Agency for Development and Cooperation (SDC). SSNC is continuing its support to the initiative in four East African countries (Kenya, Tanzania, Uganda and Ethiopia) for the period 2013-2015, while SDC is providing additional support for the period 2014-2018 covering the aforementioned West African countries in addition to the four East African ones. This is expected to help in establishing an African organic farming platform and development of sustainable organic farming systems and improved seed quality. The key outcomes of the EOA Initiative with the support from the current partners are:

EOA related knowledge along the agricultural value chains increasingly documented and actors capacitated to translate it into practical application.

Producers systematically informed and made aware of the EOA approaches and good practices and motivated to apply them by strengthened access to efficient advisory and support services.

A substantially increased share of organic quality products at the local, national and regional markets achieved.

Multi-stakeholder platforms formed at the national, regional and continental levels to influence positive changes in appropriate public policies and investment plans supporting EOA.

Professionals and practitioners equipped with skills and competencies to build capacity of communities towards establishing, developing and supporting Ecological Organic Agriculture in Africa

Biovision Africa Trust and PELUM Kenya, who have been driving the initiative's implementation, will be sharing their practical experiences, successes and lessons learnt from the pilot and progress of the current roll-out as supported by SDC and SSNC/ SIDA respectively. Suggestions on how to scale up these efforts will be shared.

Some Issues for further Discussion:

- Whereas increasing agricultural production to assure food security seems key and of urgency, supporting systems that achieve this and providing a balance between the nutrient and energy dynamics and biodiversity of agricultural systems including ecosystem services require broadened efforts and resources. How can partners in Sweden collaborate with counterparts in Eastern and Horn of Africa to achieve this?
- To draw increased support for EOA and achievement of outcomes at enhanced scale, we need investments and activities by partners at various levels and demonstration of evidence of EOA to address challenges facing African agriculture. How do we achieve this to provide the basis for supporting the EOA Initiative in Africa?

Attachment 5. The Massive Food Production Programme: a result of the idealisation of large farming

Klara Jacobson, Department of Urban and Rural Development, SLU

This case presents a study of the Massive Food Production Programme (MFPP) in Eastern Cape Province, South Africa. The programme aimed to reduce poverty by raising productivity of smallholder maize farming through the introduction of genetically modified Bt maize and fertiliser.

The results reveal that the programme was not equipped to support the improvement of local smallholders' livelihoods through agriculture. I will argue here that there are two main reasons for this:

The influence of a historically dominant linear view of agricultural development, reinforced by a contemporary dominant neoliberal view of development as progress through growth.

The focus on agricultural development through seed (very small scale) resulted in blindness to key constraints to agriculture located at much larger scales.

The view agriculture as a linear and unidirectional development path towards large scale industrialised and commercially orientated agriculture obstructed possibilities to acknowledge key reasons for the low agricultural production by smallholders in the present case. By instead conceptualising development as a process where nested systems of different scales interact, the effects of South Africa's history on the currently low agricultural production in the smallholder system could be visualised. It is well known that smallholder agriculture during a long period of history was systematically undermined by the government for the sake of providing cheap labour to the settler farmers and mining companies. Settler farmers were also actively supported by financial and infrastructure support from the government. The development of large scale commercial farming in South Africa is thus directly linked to the 'underdevelopment ' of smallholder farming. This was unacknowledged in the programme and smallholders' need for advisory and infrastructure support was instead translated as backwardness and lack of will to change.

The case also shows how the view of large scale commercialised farming as the top of the development ladder also resulted in that maize varieties unsuited to local conditions were promoted. The study shows that maize yields could be raised, but that the focus on maximisation of output resulted in promotion of varieties that were not well adapted to meet other local demands, such as storability and possibility to recycle seed. The Bt maize variety introduced, like hybrid maize varieties introduced during pre-democracy interventions, was input-demanding and sensitive to environmental dynamics, and it was promoted for planting in monoculture. Bans on saving and recycling seed resulting from patents, plant breeders' rights and new regulations to ensure the biosafety of GM crops were largely incompatible with local practices and further undermined local strategies for dealing with resource shortage. Significantly cheaper, open-pollinated maize varieties, which can be recycled and are more tolerant to low-input conditions, were available locally, and would raise smallholders' maize yields at more modest levels but without compromising other values such as storability and possibility to recycle seed.

While the choice of seed is an important issue, I will argue in this presentation that the need for new crop varieties in

general, and GM crops in particular, often is overemphasised in agricultural development today. The focus on seed (micro level) diverts attention away from other factors at higher system levels that significantly limit farming in many smallholder communities. Taking a systems perspective, this case shows how the focus at modifications the very small scale (seed) made this programme blind to the fact that the constraints to agricultural production were located and had to be addressed at a much larger scale. Local smallholder farming was insufficiently contributing to rural livelihoods because of its lack of support from larger nested systems such as government policies affecting agricultural advise subsidies and infrastructure development.

- Based on this case, I suggest that agricultural development projects might be better made to support smallholders if a systems perspective is adopted and the role of farming in the wider context is acknowledged.
- Can we together think of examples that have benefitted, or would benefit from such a systems perspective?

Attachment 6. Pattern and process of agroforestry Scaling up

By Karl Erik Johansson

Agroforestry practices can improve the adaptive capacity and resilience of small scale farming and subsistence systems while providing livelihood benefits to households and increased carbon sequestration. However, scaling up of agroforestry technology has often proved difficult. Many studies have been carried out to explain the lack of tangible impact, based mainly on formal household/farm surveys comparing characteristics of non-adopters with that of adopters.

The Vi Agroforestry project in Mara region, Tanzania was initiated in the beginning of 1995. The 80% food insecure, small scale farming households of the Lake zone of Mara was and still is the target group of the project. The project's development objective is to make a substantial improvement in the livelihood of this group through improved food and nutritional security, increased fuel wood availability, and increased sources of income.

The number of project extension agents (PEA) increased from 16 in 1995 to 113 in 2000. The rural project area was divided into seven subprojects called zones with about 15–16 PEA in each. A zonal manager was responsible for the running operations in each zone. The total number of households in the project area in 2001 was about 34500. From 1999, the implementation strategy gradually developed from regular extension to an integrated landscape approach including close collaboration with government district extension, local leaders and applied research.

In an effort to focus on the most useful and sustainable intervention for the food insecure a consolidated package gradually developed in collaboration with farmers, government staff, and ICRAF-Shinyanga. The package included agroforestry, improved crop varieties, organic farming, and soil and water conservation. Social and ecological interaction across landscape levels and farmers co-designed learning experiments were important parts of the approach. In the year 2000, 54 agroforestry tree species and four improved crop varieties were promoted by the project. Species and interventions were selected depending on the households' needs, livestock, the condition of the farm and its position in the landscape. Trees and crops were mixed in sequential or spatial pattern (e.g; improved fallow, soil improvement hedges, inter planted Nfixing multipurpose trees or back yard gardens) or separate as woodlots or fruit orchards

After seven years in operation the project was subjected to an extensive assessment in May 2001. A field survey was carried out. Random samples of 21 household drawn from village records including all households in 89 project villages. Field data and interviews were collected from a total number of 1869 households. The survey revealed that 20-thousand households practiced agroforestry, a ten-fold increase from 1997. However, the inter-village variation in the proportion of households practicing agroforestry was found to vary from 10 to 90 percent.

To better understand the causes behind the established variation, we first mapped the relationship between the proportions of active agroforestry households in the project villages with key social-ecological variables. Using a multiple methods approach, the variation was further analysed in relation to changes and differences among administrative districts and project zones regarding perceived barriers to agroforestry adoption, project interventions, governance and the chronology of the scaling-up process

During my presentation I will elaborate and discuss causes to the inter-village variation found in project outcome. Interesting question arises from the result, e.g.:

Although, good local collaboration clearly contributed to the scaling up process it was difficult to develop good collaboration and trust in villages, wards and districts with poor governance. In relation to empowerment and human right based development, how can the situation of food insecure smallholders be improved in areas subjected to poor governance through Ngo based development cooperation?

The original interventions disseminated by the project contributed to ecological sustainability but they were not socially robust or economically viable. With the improvement in the implementation strategy social, technical and institutional integration improved. Also, with an increasingly efficient farming system the economic viability of the small scale production improved but not sufficient due to poor market access and inclusion. How could the access, inclusion and power in national to international markets of food insecure in remote areas like Mara be improved?

Attachment 7. Scaling-up Sustainable Intensification of Rainfed Agriculture in the Semi-arid Tropics

By Suhas P Wani

ICRISAT Development Center (IDC), ICRISAT, Patancheru, Telangana, India

Globally rainfed systems occupy 80% of agriculture with average productivity of 1 to 1.5 ton in Asia and Africa. However, huge untapped potential exists, as the current farmers' yields are lower by two to five folds as that of achievable potential/ researchers managed trials. The huge yield gap is largely due to failure to achieve scaling-up of improved technologies by the farmers which may be associated with poor knowledge dissemination or access to the required inputs, credit facilities or lack of infrastructure to adopt improved management practices.

Realizing these constraints for achieving the impact to address

the issues of stagnant agricultural productivity in the states of India where 60% of the people depend for their livelihoods on agriculture was addressed through science-led development approach. The holistic integrated watershed management approach as well as soil-nutrient mapping for sustainable intensification of rainfed agriculture were scaled-up through innovative institutional arrangements and enabling policies by adopting farmer-centric participatory research for development. Science of soil analysis and rainwater conservation was taken at the door steps of the farmers and scaled-up by putting in place appropriate knowledge and input delivery systems, enabling policies and institutional arrangements to link up knowledge generating institutions and knowledge disseminating development institutions to benefit millions of farmers. The assessment of constraints for intensifying rainfed agriculture revealed the importance of water scarcity and declining soil fertility as the main bottlenecks in India. By identifying the drivers of success from the pilot success stories, the integrated watershed management program as well as soil nutrient mapping programs were formulated/refined and new models were piloted for testing its suitability for sustainable intensification. With revised guidelines by the Government of India for integrated watershed management, the new livelihood approach through integrated watershed management is benefiting millions of farmers in different states of India. Government of India investment in rainwater conservation and utilization in agriculture is silently revolutionalizing the rainfed areas in the country.

Soil nutrient mapping of farmers' fields in different states of India revealed multiple nutrient deficiencies in soils, which are holding back the potential of agriculture. A mission approach "Bhoochetana" (soil rejuvenation) was scaled-up for achieving agricultural productivity and production along with improved profitability for small farm holders thru unlocking the potential of rainfed agriculture. Not only technical solutions are the bottleneck but other factors (institutional, social, economic and cultural) issues need to be addressed along with input delivery and market linkages. More of change of mindset and the way the absence of agricultural extension is done need to be changed which is a challenging task. The innovative institutional mechanisms such as farm facilitators as para agricultural extension workers, consortium of research and development institutions for guiding the implementation, soil health nutrient mapping for the whole state and taluk-wise fertilizer recommendations based on soil analysis, regular, rigorous and concurrent monitoring and refinement of strategy, enabling policies to incentives adoption of the recommendations, ensuring availability of needed inputs resulted in substantial benefits during 2009-2012. The Bhoochetana Program benefited 3.65 million small farming families with increased crop productivity by 20-66% with a benefit cost ratio of 2 to 14:1 for individual farmers. The state benefitted with total gross value of increased production of US\$ 240 million in four years and achieved 5 per cent annual growth rate for agriculture. Not only technical solutions is the bottleneck but other factors (institutional, social, economical and cultural) issues need to be addressed along with input delivery and market linkages. More of change of mindset and the way the absence of agricultural extension is done need to be changed which is a challenging.

The question which is if the impact pathway in small farmholders agriculture in developing countries is complex. Then what changes we need to bring in to adopt integrated holistic approach by the researchers for R4D to achieve sustainable intensification for achieving increased production, profitability and minimizing environmental degradation.

Attachment 8. CApacity building for SCaling up of evidence based best practice in Agricultural Production in Ethiopia (CASCAPE)

By Girmay Tesfay

Agricultural growth is at the centre of the overall development strategy of Ethiopia and different programs are successively under implementation since the early 1990s to realize that. Among the sectoral programs under implementation since 2011, the Agricultural Growth Program (AGP) is the major one aiming to double the performance of the Agriculture Sector and assure food security. Scaling up of best agricultural practices is a key pillar of the program. The program covers 96 potential districts in four regions of the country. The Federal MoA has developed best practice scaling up guidelines and circulated to the regions to facilitate the process of scaling up.

CASCAPE is a project funded by the Netherlands Government to provide research and capacity building support the AGP stakeholders for scaling up of evidence based best practice in the broader context of sustainable development. The project runs for five years from 2011 till 2015 and is implemented in four regional states in Ethiopia with the aim of addressing 6,000 households directly and 60,000 farm-households there farmer networks over the project life. The project follows strategies and approaches guided by four key principles, namely integrated farming system management, sustainability, participatory action research, and stakeholder and knowledge networks.

The project aims to generate which practices work better under what circumstances and propose ways to scale up. An example is the scaling up of disease resistant wheat varieties in the highlands of southern Tigray in the context of mixed farming systems. Wheat is the first ranked crop in the area and yellow rust problem is a major constraint. Lack of yellow rust resistant varieties was identified by the research systems and some new ones are released. CASCAPE was testing and demonstrating five wheat varieties recommended by the research systems under farm conditions. After two seasons of participatory onfarm testing and demonstration there is good level of acceptance for these varieties and the productivity per hectare has increased from 2500kg/ka to 3600kg/ha. Scaling up is the next challenge. Specifically the major issues are related to:

- How to mobilize sufficient collective action/critical mass/ for scaling up? Meaningful scaling up requires reasonable number of farmers adopting the practice and key stakeholders playing their role. How to achieve the right institutional inputs and mobilize private and civil society stakeholders to align towards sustainable scaling up? How to ensure commitment of all stakeholders?
- How to capacitate the conventional extension system to address scaling up issues? Unlike the linear approach of technology dissemination, scaling up requires a holistic and dynamic approach? What experiences are there in retooling extension personnel?

Answering these questions will significantly contribute to designing of workable scaling up strategy. Collaboration areas can be thought also with partner in Sweden and in the region.

Attachment 9. EOA (Ecological Organic Agriculture) group exercises and mind maps

Issues for Scaling Up (Main Features)

- Scale of spatial coverage (8 to 54 countries);
- Institutionalizing the initiative to mainstream in national plans & receive wider support;
- Documentation and report on the initiative;
- Capacity Building to support implementing organizations and networks;
- Co-ordination among development partners and stakeholders to increase efficiency;
- Resource mobilization to scale up;
- · Harnessing continental & global champions

Scaling Up: Process, Approach and Strategy (guiding questions)

- 100% intentional
- Package/combination
- It is suppose to cover 54 countries yet it only started with 6. Further, the specific activities also need to be enhanced;
- Livelihood creation
- · Smallholders can make changes if empowered;
- There would be support locally & from international society
- Multi stakeholder approach was used
- · Youth and women not equally represented;
- There is room to increase inclusiveness by bridging in other actors;
- All aspects considered

Scaling Up: Impact, Lessons and Barriers

- Impact experience at policy level, i.e. Curriculum intervention (courses);
- Revision of the program design
- Additional support from EOA support steering committee and other activities (i.e. training)
- Establishment of national forums
- Increased financing from SDC
- Establishment of farmer information centres;
- Increased sensitization of farmers on value of organic agriculture;
- Lessons on process in change in design of program, from across countries to coordination within countries;
- Internal barrier: inadequate capacity amongst actors;
- External barrier:
 - Small scale is not bankable compared to conventional farmers;
 - · Financial contribution by partners is not adequate
 - Imbalance support from external donors where EOA receive less support;
 - Market dominance by multinationals used to suppress market/ unfair completion

Attachment 10. Case of Massive Food production in South Africa (main features) group exercises and mind maps

Gender

- Taking into account of local gender roles and power dynamics
- Find ways for women to have a voice

Dialogue

• Top down approach doesn't work to make sustainable

change

Create situations where farmers can ask and question advice given;

Context

- · Young farmers: willing to farm cannot be forced
- Agriculture not always the way people see as way out of poverty;
- Scaling up social processes (institutionalization but not a trap...)
- Unpack what works in one context, take the parts that worked and adapt them to the new context;
- Changes take time.



Figure 6. Detailed analysis of the case "Massive food production" done by the group (Day 1)



Figure 7. Massive food production Lessons Learnt (Day 2)

Attachment 11. Agro-Forestry project– MARA group exercises and mind maps

Main Features

- Multi-stakeholder collaboration
- Agroforestry as an integrated part of a larger farm approach
- Collaborative Learning
- Power

Scaling Up: Process, Approach and Strategy (guiding questions)

- Started in 1995, targeting small scale farming household of Lake Zone of Mara region
- Development goal: to make substantial improvement in the livelihood of the target group

- Intermediate objectives: improved food and nutritional security, increased fuel wood availability, increase sources of income
- Approach: Age and gender sensitive participatory agroforestry extension
- The strategy gradually developed to a landscape approach including a close collaboration with government district extension and local leaders
- Changed focus from agroforestry to integrated landscape approach

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- External factors might influence largely
- Different stakeholders in the vertical process key
- Adaptation to local context

Attachment 12. Case on Scaling Up Sustainable intensification rainfed Agriculture in India - group exercises and mind maps



Figure 8. Detailed analysis of the case "Scaling up sustainable intensification of rainfed agriculture in the semiarid tropics" done by the group (day 1)

Attachment 13. Minutes from group 1 discussion of CASCAPE case on scaling up of disease resistant wheat varieties - group exercises and mind maps

Group 1 members: Lennart, Seerp, Girmay and Esbern

The CASCAPE program in Ethiopia (see one page description) is based on integrated farming system management, sustainability, participatory action research, and stakeholder and knowledge networks.

Scaling up is the next challenge. Specifically the major issues are related to:

- How to mobilize sufficient collective action/critical mass/ for scaling up? Meaningful scaling up requires reasonable number of farmers adopting the practice and key stakeholders playing their role. How to achieve the right institutional inputs and mobilize private and civil society stakeholders to align towards sustainable scaling up? How to ensure commitment of all stakeholders?
- 2. How to capacitate the conventional extension system to address scaling up issues? Unlike the linear approach of technology dissemination, scaling up requires a holistic and dynamic approach? What experiences are there in retooling extension personnel?

Assumption of program was that extension could undertake scaling up of 4 wheat varieties selected by program through participatory variety testing in 10 farmer groups involving 23 to 25 farmers in each. There are 60000 extension workers in Ethiopia using a Farmer Training Centres (watered down version of Farmer Field School) extension approach. However, this single spine top down accountable extension system rely on one way transmissal of technical messages and at odds with the integrated participatory approach taken by the project.

An additional major constraint is that there is no formal seed system capable or interested in multiplying the new wheat varieties. CASCAPE there had to rely on a few selected farmers capable of multiplying the varieties. Seed business groups and cooperatives pay seed producer farmers a 15% premium price for the seed. Problem is that this arbitrarily determined price is much too low and seed producing farmers are discouraged. The grain market price is too low during the season farmers sale the seed to the cooperatives. This year CASCAPE only had seed for 615 farmers, although they wanted to reach 1400 farmers.

Long term solutions to constraints for scaling up (inadequate seed multiplication and responsible extension) require structural reform of the entire extension system. Short term solutions are possible by CASCAPE acting as intermediary by working with actors in the periphery of the system.

CASCAPE seeks to be socially inclusive by including at least 30% female headed households as their pilot farmers.

The more the group discussed the situation, the more we realised that CASCAPE was trying to work within and around the system in a number of ways to achieve its goals. They involved administrative and political local leaders in planning and implementation to ensure that success was attributed to them and that they were helpful in influencing extension services to assist them in dissemination the new wheat varieties. There is a need for private sector and NGOs involvement in the seed supply and creation of market for the products.

Attachment 14. Second group work sessions – Proposed cases - group exercises

Drawing lessons for own practice

- What kind of change, which enabling conditions and what capacity do you need to develop for yourself and your organisation to perform well in 'scaling up' activities?
- What immediate actions can you think of for you to be taking as an outcome of this workshop?

Messages to be sent out

• What would be a short, sharp message that you wish to send out to any relevant actors out there, for eg. to development agencies, donors, policy makers, private sector, other beneficiaries?

1. Kalle's group

- Change of mind set to share, collaborate, networking, stakeholders' dialogue
- Horizontal social capital building
- New drivers/incentive system and structures to be more open and integrative
- Qualitative and quantitative to be more balanced
- Enabling administrative structures
- Plan inclusively
- Implement realistically
- Reflection on the process and feedback loops

2. Klara's group

Enabling conditions

- Flexible money
- · Policy environment
- Influence change, talk to those in power, empower ourselves
- SIDA/ donors conditions need more flexibility

Capacities

- Train new leaders to be listeners
- Organization embracing diversity, recognizing each other competences
- Internal dialogue within the organization so that we understand each other & where we are going
- Find ways to train locals to take ownership over time, process, over their situation
- Being open to change your plans

Practical changes

- Promote open dialogue
- Listen to stakeholder
- Be open and transparent
- Think outside the box
- Democratization of knowledge
- Donors (SIDA) have to be open for changes in plans & adaptations to context. Conditions coming with funding can be limiting to a true dialogue and botton-up process
- There is not one best solution
- · Change of mindsets take time
- Positive changes needs acknowledgement of social, political, environmental, economic conditions of target groups for lasting results and spread effect

- Invest more to produce integrated solutions through participation of stakeholders for scaling up to achieve winwin solution by taking a long term view
 - Listen to stakeholders
 - Share decision making
 - Learn humility
 - Respect but challenge authority
 - Vision what could be ("trend is not destiny")
 - Context & dialogue

3. Esbern's group - Farmers Field School – Lessons for Scaling Up

Needed changes

- Empowerment of farmers (demand driven change in mindset)
- Farmers in control of resources
- Learning by doing needs time
- The need to understand the political context
- Win political support for institutionalization
- Involvement of private sector/contractors

Enabling conditions and Capacity

- Decentralization of resource allocation
- Farmers willing to contribute resource
- Quality of facilitation
- Training for transformation

Immediate Action

- Training on FFS to farmers
- Training of extension and policy people
- Integration of the methods and concepts in academic program
- Promoting it as extension method for scaling up

4. Alex's group

- Be aware of the risk of replicating blue print approach when scaling up
- Not every project has to be scaled up
- Identify elements of success and allow them to mature in different contexts
- Considering the socio-cultural dimensions is critical

This report was written by Nadarajah Sriskandarajah, Nicia Givá and Margarita Cuadra.

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The views presented are solely the author's.

