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Project Highlights 3

Capacity Building in SRFSI: Working to strengthen individuals, organisations and institutions across disciplines, communities and borders

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Introduction and context

The Sustainable and Resilient Farming Systems Intensification Project (SRFSI) is a collaborative research project undertaken by over 20 partners across Bangladesh, India, Nepal and Australia and led by The International Maize and Wheat Research institute CIMMYT. Supported by the Australian Government Department of Foreign Affairs and Trade (DFAT) and ACIAR through the Sustainable Development Investment Portfolio (SDIP), SRFSI aims to improve agricultural productivity and resilience to reduce poverty in the region through rigorous research and scaling out, along with targeted capacity building of individuals, organisations and institutions. SRFSI has a systematic approach to the prioritisation and delivery of capacity building. Initial experiences will underpin the development of a well-grounded capacity building strategy.

Individual capacity building refers to developing the skills and knowledge of individual people who can apply new learnings to improve smallholder productivity and profitability. In the case of SRFSI this includes farmers, extension officers, researchers, academics and private sector entrepreneurs (e.g. traders, service providers). With respect to India, it is widely recognised that individual professional capacity is relatively good, so often the appropriate training is pitched at an advanced level. Organisational capacity building is broader and refers to strengthening key organisations' functionality to implement programs that, in the SRFSI case, improve smallholder productivity, incomes, and resilience. Within SRFSI, this kind of capacity building is targeted at research organisations, universities, government departments, NGOs, farmer cooperatives and private sector entities. Institutional capacity building refers to strengthening the way key organisations and individuals interact to create an enabling environment for sustainable change, or to co-learn about improved practices and approaches. In the context of SRFSI, institutional capacity building includes developing sustainable and profitable business models that allow the private sector (e.g. machinery manufacturers, seed companies and agribusinesses) to interact with farmer cooperatives/communities/clubs so individual farmers have consistent long-term access to new inputs and machinery at a reasonable cost and at the right time for optimal production. It also includes strengthening of networks to share experience and knowledge across borders.

Progress

As part of preparatory activities before the inception of the project, ACIAR and CIMMYT organised a round of capacity building activities covering topics such as innovation platforms, private sector engagement and team building at various levels including senior staff from partner organisations.

In its first full year of project activities, SRFSI has organised 171 events capacity building across all eight districts in the three countries. This includes 21 exchange visits, 26 farmer field days, 50 focus group discussions and 21 trainings for scientists. In total, 6481 people have received some training or utilised information services and technologies for increasing agricultural productivity. Researchers, extension officers, service providers, input dealers, project staff and farmers have benefited, including many women farmers. These events have built the skills and knowledge, as well as motivation, of individuals, organisations and institutions to create an enabling environment for the uptake of agricultural methods and technologies.

Individual capacity building

Training for farmers, service providers and extension workers

In the first year multiple training events have been conducted by national partners for farmers, service providers, input dealers and extension workers across all four regions targeted by the project. More than 350 people attended these events. Training events covered topics like operation and maintenance of zero tillage machines, operational guidelines and safety for spray techniques, intercropping and diversification of crops, site specific nutrient management, rice seedling raising for mechanical transplanters, conservation agriculture, plant protection measures, seed production techniques and seed inoculations.

Sanju Chaudhary (pictured below) is a field technician from Bhaluwa, Sunsari. She attended training in the operation of rice transplanters in the first year. During the training, project staff showed Sanju how to sow rice in her own field trial using the machine. Sanju will now use her skills to train other farmers in the area.



Fig 1. SRFSI project leader Mahesh Gathala trains Sanju Chaudhary

Women in training

30% of individuals trained in the project's first year were women. This includes 101 female participants attending exchange visits, 931 women attending farmers' field days and 44 female scientists who received additional training. Women were also given the opportunity to identify their training needs through focus group discussions, where 40% of the participants were female. 12 women participated in study tours.

Shika Barman (pictured below) is a widow farmer with two sons from Falimari in West Bengal. Her sons are currently completing their study so she is responsible for most of the agricultural work required to run her land. Shika Barman is actively involved in SRFSI activities (including training) and her land is being used for trials. Last season, the SRFSI project worked with Shika to compare wheat yields from fields sowed using zero tillage to wheat yields from fields where conventional tillage was used. According to her (recall basis), in the fields sowed with conventional tillage, the wheat yield was 2 tonnes per hectare whereas in fields sowed with zero tillage, the yield was 3.3 tonnes per hectare. This significant difference in productivity, as well as the labor saved by using zero tillage has impressed Shika and she is now interested in continuing to use this technology.



Fig 2. Widow farmer, Shika Barman explains to SRFSI project team how she became involved in project activities, including training

Sahana is from Manichak in West Bengal. She graduated from primary school but did not have the opportunity to complete high school. The SRFSI team visits her community regularly to engage with the local farmer group and monitor project field trials.

Sahana is not directly involved in field trials as she doesn't work in the field. However, she does interact with the project team through her involvement in focus group discussions and other community events. During a recent focus group discussion (pictured below), a group of women were asked what they view the key benefits of the project to be. Sahana said that she likes coming to project meetings because every time she comes, she learns something new. Sahana values the opportunity to learn so much that she attends the events, even though she does not do agricultural work.



Fig. 3 Sahana explaining the learning opportunities the project has created to UBKV University Socioeconomist Assistant Professor Kalyan Kanti Das during a recent focus group discussion

Training for research and development professionals

In the first year of activities, the SRFSI project facilitated a total of 21 training and short course events. These events benefited 434 research and development personnel, including 44 women. Highlights include;

- 12 participants attending advanced training courses on conservation agriculture
- Two scientists participating in a precision agriculture congress held in Perth, Australia
- Nine modelling scientists from the three countries trained in agricultural production systems stimulation (APSIM)
- Six researchers travelling to Brisbane to participate in theory of change and impact pathways workshops
- Over 70 people participating in a social network analysis and innovation platform training in Kathmandu

In addition to training events, there are several students from all over the region utilising project activities to complete post graduate studies and to develop skills through interactions with senior researchers.

Ranjana Devi (pictured below) is a plant pathologist from Manipur completing her PhD through UBKV University, a key project partner. She is also engaged on the SRFSI project as a senior research fellow. Ranjana is looking forward to learning from project activities, especially through interactions with senior scientists (both local and international) and developing research skills from her PhD studies.



Fig 4. UBKV PhD student, Ranjana Devi is engaged as a senior research fellow on the SRFSI project

Organisational capacity building

The training of individuals like farmers, service providers and agricultural professionals contributes to stronger organisational capacity within cooperatives, universities and government departments. However, organisational capacity has also been more directly targeted through advanced training events at international and national level. Sometimes this takes the form of 'training the trainer' (ToT), where leaders in their field receive training which they then give to others, multiplying the effect of the activity. Researchers and project staff have been trained in conservation agriculture, APSIM modelling, innovation platforms, farming system analysis and modelling, impact pathways and theory of change, socio-economic advancement and data analysis. Over 400 individuals have participated in at least one of these trainings from numerous organisations. Training of multiple individuals within key organisations on these topics strengthens the capacity of organisations to deliver programs that increase agricultural productivity, both within the SRFSI project and through other programs. In addition, service providers have been directly trained in their operations, (e.g. tractor drivers) and exposed to improved business practices through study tours.



Fig 5. A focus group discussion with women farmers in Sunsari, Nepal

In its first year, the project has also placed all machinery and equipment being used in trials with farmer communities, cooperatives or clubs including zero-tillage multicrop planters, rice transplanters and small equipment like sprayers. This creates a sense of ownership, builds organisational capacity within these groups and makes farmers more likely to actively participate and seek links with local dealers and manufacturers.

Institutional capacity building

The SRFSI project is bringing together civil, public and private organisations to address low agricultural productivity with solutions that are sustainable and mutually beneficial – not only within districts but also across districts and countries in the EGP. The project provides a common platform for organisations to work together with farmer communities, share knowledge and ultimately develop a better understanding of the farmers' needs. It also provides the opportunity to link financial institutions and on-going national programs and policies with farmer communities.

The key technological innovations and methodologies introduced by the SRFSI team cannot be brought to scale without strong institutional capacity, commitment and linking of key stakeholders for knowledge sharing and coordinated action. For example, farmers cannot adopt zero tillage unless there are manufacturers to fabricate machinery and cooperatives or entrepreneurial service providers available to manage machinery (rental and upkeep). In its first year, SRFSI started to build an enabling environment for viable business models for no-till by engaging a diverse range of organisations in local innovation platforms. This included local entrepreneurs, agri-businesses, leading farmers, farmer cooperatives and government staff.

Project study tours provided opportunities for staff to learn about successes and failures in the project across different jurisdictions and project annual evaluation and planning meetings also facilitated this kind of learning.

Local organisations have also benefitted extensively from interactions with Australian and international organisations like Curtin University and University of Queensland as well as CIMMYT and IRRI.

On a more practical level, new prototypes for machinery have been shared between regions, strengthening the capacity of the organisations involved. In addition, other project regions have learned from the success of the 2 wheel tractor operated based mechanisation that has benefitted thousands of smallholders in Bangladesh in recent years.

Overtime, SRFSI will continue to connect people through training events, communication and project activities so they can learn from each other. In addition, the project will continue to develop business models that will partner service providers to farmers in a mutually beneficial way.

Challenges being tackled

Women in training

Training women is crucially important to improve the productivity of their effort thereby improving overall agricultural productivity and livelihoods in the EGP. In addition, trained women are more likely to stay in the village than young men, who frequently migrate to cities outside of the immediate region. Despite this, there are several practical and social barriers to women farmers attending training. For example, when trainings are held outside a woman's own village of residence, she may find it difficult to arrange childcare so she can attend. It may also be considered socially inappropriate for her to travel and stay overnight in a different village without being accompanied by a male counterpart. Lastly, women may be personally reluctant to attend trainings where trainers are men and when the majority of participants are men.

On a different level, it can also be difficult to achieve gender equity when training is organised for research and development professionals. In the EGP, there are fewer women with university level education than men and many professionally qualified women face career barriers and disruptions when they have children and take time off work to raise their families. Whilst the SRFSI project actively encourages professional training for women, finding and retaining the appropriate candidates can be difficult.

Increasing awareness of the barriers to women's participation in training amongst the project team is crucial. When these barriers are understood well, activity design can be improved to maximise female participation. This is already happening within the SRFSI project, although more is to be done. For example, it was noted in the first year of the project that conducting focus group discussions for women only, led to a greater number of women being willing to participate. Moving into 2016, some regions will trial offering women-only farmer trainings and see if this will increase participation. Project teams will also consider how to run as many trainings as possible within communities so female farmers do not have to travel.

To address barriers faced by professional women, there is discussion of organising remote (distance) advanced training for women. The pilot is being initiated by the University of Queensland.

Turnover

There is a high turnover of local staff and young male farmers. This creates obvious challenges for the SRFSI project implementation. Young male farmers often migrate seasonally to work in factories and other sectors in larger cities. Although this is sometimes problematic for farm trials, it can create opportunities for SRFSI to work with female farmers left at home to manage the agricultural activities. High turnover of local staff is also a challenge however building the capacity of project team members and encouraging them to use newly developed skills can motivate individuals and departments to maintain consistency in staffing.

Systems and integration

Basic disciplinary training of professionals is relatively good in this region. However, there is a lack of capacity in some recent disciplinary areas, e.g., communications and stakeholder engagement, innovations systems management, and social/institutional analysis. There is a great challenge associated with building skills, knowledge and attitudes towards multi-disciplinary or systems research and development processes, with limited numbers of trainers or courses – but a critical need to expand this skill set for sustainable and resilient

solutions. This includes managing and coordinating linkages between private, public and civil organisations.

Institutional capacity

Strengthening institutional capacity is vital for creating sustainable change. However, this process takes time. Sometimes, there are obvious gaps in business models like a lack of machinery manufacturers in a particular area. SRFSI will need to continue to build on its first year of activities by identifying opportunities to close these gaps and connect organisations and individuals for mutual benefit.

Conclusion

Capacity building at individual, organisational and institutional level is crucial to improving agricultural productivity and livelihoods in a sustained way in the EGP. It is essential to ensuring quality technical inputs that contribute to improved productivity like enhanced rotations or modern no-till drills. Without an improvement in knowledge and capacity, machines remain unused, adoption rates are limited and wider impact is unlikely. For this reason, the SRFSI project is focusing on capacity building in order to add value to the innovations and scaling efforts. In its first year alone, the project has succeeded in training or providing knowledge to over 6000 people at all levels including farmers (women and men), service providers and researcher and development and policy professionals across all three participating countries.