

Linking farmers with value chain actors boosts climate-resilient farming systems in Malawi

Summary and key facts



Despite the existence of agricultural innovations that improve soils and yields, many farmers continue with poor agricultural practice.



Strategies to drive the adoption of agricultural innovations are needed to have an impact on food security. These innovations include sustainable practices and stress-tolerant varieties.



SIMLESA researchers successfully piloted the scaling of conservation farming practices using the concepts of Agricultural Innovation Platforms (AIPs).



Connecting farmers with value chains through AIPs saw significant increases in the adoption of conservation practices by 35% in the 2016/17 season.

What is the problem?

Lack of coordination in agricultural markets limit progress in rural areas

In many rural areas of Malawi agricultural markets are not well developed. Many communities are poorly connected to major roads and markets. Moreover the agricultural supply and value chains are not well formalized. Many farmers participate in markets using informal mechanisms of exchange. Financial and credit market are therefore very thin. Therefore; coordination, formalization and predictability; the tenets

of well-functioning modern markets are often absent. This means many farmers act alone, handling small volumes. This leads to thin and fragmented markets with high transaction costs. High transaction costs contribute to low profitability of their farming enterprises. Low farm profitability discourages technology adoption, leads to low productivity and possible vicious cycles of poverty traps.

What solutions were identified from research?

Agricultural Innovation Platforms can boost the adoption of climate-smart practices

The Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) project evaluated and promoted packages of Conservation Agriculture-based Sustainable Intensification (CASI) technologies for smallholder farmers in Malawi. The use of Agricultural Innovation Platforms (AIPs) in the project helped to enhance wide adoption of these technologies.

SIMLESA research found CASI technologies increased yield by over 30%, improved food security, strengthening resilience to climate change and maximizing limited resources compared to conventional practices. Despite this, adoption was initially slow due to a stretched extension to farmer ratio, staff turnover and lack of incentives to extension agents. Other dissemination players used different approaches to solve similar adoption challenges but SIMLESA used Agriculture Innovation Platforms (AIPs) to enhance adoption.

An AIP is defined as a network of institutional actors along knowledge, service, and/ or commodity value chains that work for mutual benefits. SIMLESA used these AIPs to bring together different stakeholders to identify solutions to the common problems that maize and legume farmers were facing. These problems included; small and fragmented land holding sizes due to increased population, low productivity, abiotic and biotic constraints as well as institutional and socio-economic constraints. AIPs made research more relevant to stakeholders and farmer communities as well as facilitated the adaptation and dissemination of research findings.

Functional AIPs in the SIMLESA project helped overcome problems associated with capacity building of farmers and extending the reach of CASI technologies. Six successful AIPs were formed in Malawi through the SIMLESA project to demonstrate successful outscaling strategies. AIPs also helped to serve as platforms for organizing and planning scaling activities to enhance adoption.

Successful SIMLESA AIPs in Malawi

Name of AIP	Total number of farmers	Year of Establishment	Activities
Mitundu	146	2010	Marketing, input acquisition and out scaling activities (field demonstrations, trophies and field days).
Chamama	83	2012	Out scaling activities (field demonstrations and field days) and input acquisition.
Nsipe	52	2013	Out scaling activities (field demonstrations and field days.)
Tembwe	152	2012	Out scaling activities (field demonstrations and field days) and input acquisition.
Kapiri	60	2012	Out scaling activities (field demonstrations and field days).
Rivirivi	45	2013	Out scaling activities (field demonstrations and field days).

After about five farming seasons the AIPs grew and saw an increase in the number of farmers using CASI technologies from 2% in 2011 to 35% in 2017/8. The drivers for the successful implementation of the AIPs were market linkages (input and output markets) and access to commodity storage opportunities. Purchasing large volumes of inputs at discounted prices, helped the farmers to make savings,

which were committed to other household needs. A typical bag of fertilizer cost \$30 but due to volume discounts farmers were able to buy at \$24. Storing large volumes of commodities centrally, did not only reduce the cost of storage but also forced farmers to comply with the targeted market requirements. It also allowed farmers to sell when better prices availed.

What are the opportunities for policy action?

Invest in the growth and development of AIPs by supporting change agents and strengthening social networks

The success of AIPs in Malawi offers a tentative model that can be replicated in other parts of the nation. The approach used by the research team in piloting the AIP approach allowed greater access to information, technical assistance and production of inputs by farmers through the involvement of different actors, including agro-dealers. Therefore, policy action should focus on supporting such groups. The results here suggest the need for the following types of investments:



Diversify the skills of agricultural extension departments as change agents in support of AIPs

Diversify the skills of agricultural extension departments as change agents in support of AIPs. Successful AIPs would require considerable training in the management of groups formed through AIPs. Training programs in leadership, agricultural extension and financial management would be beneficial. This means diversifying the skills in local extension departments as key change agents at various levels. This could cover the downstream aspects (technology adoption) as well as upstream market access and innovations.

For instance, in Malawi, AIPs facilitated provision of extension services to other farmers through use of demonstrations, lead farmers, field days, exchange visits and competitions. In addition, some AIPs facilitated bulk purchase of inputs and group selling of produce using commodity exchange arrangements.



Use private and public partnerships to foster change

Public research and extension institutions in the agricultural sector should partner with innovative agribusinesses that are willing to invest in rural innovation, market development and technology adoption as part of their business model. This kind of policy support includes providing business development funds for market development or linking such farms with government extension services to provide training in their market catchment areas as a matching support.

Participating organizations need to show their capacity and demonstrable investment. Working with NGOs and input suppliers accelerated technology adoption among farmers. For instance, NASFAM facilitated provision of extension services where government extension agents could not reach as well as linked farmers to markets. Input suppliers also provided inputs that were demanded by the farmers in the right quantity and quality.

Why act now?

As economic players in a complex and difficult environment, many farmers cannot succeed when they act as isolated units. Some of the problems facing smallholder farmers such as poor access to markets and lack of information about new technologies is brought about by the fragmented nature of the research-extension-farmer chains. Greater coordination

and networking among farmers such as through AIPs can solve some of these problems. Strong social capital, collective action and coordination are hallmarks of modern economies. Little progress can be achieved in the nation's agricultural development if this critical aspect is not addressed.

References and sources

Munthali, G.T., Siyeni, D., Chowa, S., Ngwira, A., Chaula, K., Dambo, G., Kamwana, F., Yohane, E., Simwaka, P., Chintu, J., Mwale, C., Matenje, M and Nyagumbo, I (2019). (2019). Enhancing Resilience and Sustainability on African Farms: Key Findings and Recommendations for Malawi. SIMLESA Project Country Synthesis Report. CIMMYT/DARS. El Batan/Lilongwe.

Please also visit us at:

www.simlesa.cimmyt.org for more publications and data on Malawi and other SIMLESA program countries

Acknowledgements

Financed by the Australian Centre for International Agricultural Research (ACIAR), SIMLESA project was led by the International Maize and Wheat Improvement Center (CIMMYT) in collaboration with Malawi Department of Agricultural Research Services (DARS), numerous partners, including national agricultural research institutes in Ethiopia, Kenya, Malawi, Tanzania, Rwanda and Uganda in collaboration with other CGIAR centers. Other regional and international partners include Queensland Alliance for Agriculture and Food Innovation (QAAFI) of the University of Queensland, Australia and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), among others.

For further enquiries please contact

Grace Timanyechi Munthali,

SIMLESA Country Lead and Coordinator for Social Sciences
Department of Agricultural Research Services,
Chitedze Research Station,
P.O. Box 158,
Lilongwe, Malawi.
email timanyechi.24@gmail.com or timanyechi.munthali@dars.mw

Donald Siyeni, SIMLESA Coordinator for Agronomy
donglad2@yahoo.co.uk

Kenneth Chaula, SIMLESA Coordinator Scaling and Gender Specialist
email: kwchaula@gmail.com

Donwell Kamalongo, DARS Scientist and Agronomist
dkamalongo@yahoo.com

Cynthia Mahata, Communications Officer, DARS
mahatacynthia00@gmail.com