



Australian Government
Australian Centre for
International Agricultural Research



ACIAR POLICY BRIEF

Research findings with policy implications

Institutionalizing SIMLESA in ESA: lessons from on farm research and scaling in development

KEY MESSAGES

- i) SIMLESA systematically and contextually tested and applied CA-based portfolios that entail optimal combinations of soil-conserving tillage practices, crop diversification, cropping systems, biomass recycling and the use of improved crop and forage varieties.
- ii) Developed innovative partnership-based approaches and adaptive capacities that ensured programme ownership and sustainability.
- iii) Initiated 58 AIPs that have generated multiple benefits (related to scaling, SI-related cost reduction, gender interests, credit, investments). These benefits are being extended through a CGS programme.
- iv) Engaged policy players, and other programmes to spread and entrench SIMLESA benefits
- v) Manuals, approaches, tools, portfolios and capacities are now entrenched as regular practice in national research institutes, governments, development partners and other players in the agricultural development field.

ACIAR POLICY BRIEF:

Institutionalizing SIMLESA in ESA: lessons from on farm research and scaling in development

EXECUTIVE SUMMARY

SIMLESA is a unique partnership-based regional programme. It is sustainably improving the lives of more than 650,000 households in ESA through research-led efforts in CA-based SI, institutional arrangements, and adaptive capacities. Gains made since project initiation in 2010 are being secured through:

- i) Adoption of SIMLESA model among projects and work of national agricultural institutions. For instance, other donors (e.g. IFAD, USAID and World Bank) are applying SIMLESA model.
- ii) Integration of CA-based guides and portfolios, manuals, strategies, with existing initiatives.
- iii) Private Sector Engagement: for example a scaling partner AGRIMERC has effectively linked scaling farmers to maize markets in Mozambique.
- iv) Regional Initiatives, especially the ESA Policy Forum of October 2015 held at Entebbe Uganda involving Ministry of Agriculture representatives. This led to the Entebbe declaration of 2016 (www.cimmyt/simlesa).

We propose countries adapt their annual planning and budgeting based on a National Adaptive Strategic Competencies policy/ framework, to ensure SIMLESA gains are nationally owned and scaled.



Figure 1. SIMLESA host farmer in Kasungu, Malawi explaining the benefits of adopting maize legume rotation practices

KEY FACTS AND FIGURES

- The SIMLESA programme is implemented in 8 countries in eastern and southern Africa (ESA) since 2010. It is applying R4D and tools that emphasize participatory to test and apply CA-based sustainable intensification (SI) portfolios.
- Over 650 000 farmers across (ESA) are projected to adopt the SI options by 2018.
- Main benefits derived by farmers from SIMLESA include increased yields, reduced labour, increased incomes, enhanced social equity, built up soil fertility and better ecological balances in the medium and long term horizon.
- These benefits have resulted from institutionalization of i) CA-based portfolios ii) reliance on participatory approaches iii). Agricultural Innovation Platforms (AIP) iv) complementary partnerships v) broad and intensive capacity building.
- SIMLESA approach and principles have been embraced widely among governments, donors and other stakeholders in ESA to test and scale SI portfolios.
- SIMLESA portfolios comprise climate smart agriculture (CSA) options, evidences and benefits.
- Institutionalization of the SIMLESA approach, principles and portfolios by governments, donors and other stakeholders is paving the way for agricultural sustainability in ESA.

BACKGROUND

Poverty, food insecurity and malnutrition remain one of the most exigent challenges in Eastern and Southern Africa (ESA). These conditions are brought about by economic and environmental factors that reflect development challenges having to do with infrastructural, policy, agro ecological and social challenges. In recent decades, these factors now include climate change induced weather variability. For instance, in 2015/16 southern Africa region lost about 634 000 heads of cattle and over 16 million people were left food and nutrition insecure due to the El Nino phenomenon. These sorts of events increase poverty in a region where 48.5% of the population lives on less than \$1.25/day as per recent data published by the African Development Bank. If these poverty and climate change trends are not reversed, poverty in the region is expected to increase from the current 420 to 550 million people by 2025 (World Bank 2016). It is also estimated that one in three people living in SSA were undernourished in 2010.

SIMLESA'S ROLE IN BREAKING ESA'S POVERTY-FOOD INSECURITY-ENVIRONMENTAL DEGRADATION CYCLE

To achieve meaningful progress in producing more food while protecting the resource base upon which agriculture depends, productivity increases in agriculture is an essential element. These productivity increases will be underwritten by widespread and sustainable intensification (SI) of smallholder agriculture. The persistent low yields in the region (1t/ha) is not for lack of technologies (Abate et al., 2015). The 'Sustainable Intensification of Maize legume systems in Eastern and Southern Africa (SIMLESA) project is therefore one of the projects designed to respond to this dilemma, working to develop technology portfolios, approaches and tools that can be institutionalized in the region to meet the needs of rural poor. The project was funded by the Australian Center for International Agricultural Research (ACIAR) and implemented by a dedicated team of scientists from the national research institutes of the eight countries and coordinated by the International Maize and Wheat Improvement Center (CIMMYT).

In sum the SIMLESA project:

- i) Generated a range of conservation agriculture (CA) based portfolios of agronomic practices and crop mixes that were systematically and contextually tested to produce optimal combinations of practices that focused on soil-conserving tillage practices, crop diversification, biomass recycling and the use of improved crop and forage varieties. A set of CA-based practices suitable under smallholder conditions have been developed and tested for specific agro ecologies across the eight SIMLESA countries.
- ii) Applied a partnership-based approach, aimed to ensure ownership esp. among national organisations who coordinated and implemented activities. And among scaling partners identified through a competitive grant.
- iii) Built and strengthened capacities, including among NARS and 58 Agricultural Innovation Platforms.
- iv) Engaged policy players, and other programmes to spread and entrench SIMLESA benefits

This programme now requires concerted efforts in order to achieve adoption and impact at scale farmers. Further to this, scaling and adoption at scale require that this programme and results be institutionalized in the project countries research and extension systems. By institutionalisation we mean the process of entrenching the application of SIMLESA technology portfolios, approaches, tools and capacities as regular work of national research institutes, governments, development partners and other players in the agricultural development field.

HOW HAVE SIMLESA TECHNOLOGY PORTFOLIOS AND APPROACHES BEEN INSTITUTIONALIZED?

Through projects and work of national agricultural institutions: SIMLESA's approach of working with national research organizations in each country has contributed to the project's results being recognized and used by institutions in the project countries. For example in Malawi the SIMLESA technologies involving maize and legume varieties have been taken up by the IFAD funded Sustainable Agricultural Production Programme (SAPP) focussing on sustainable intensification based CA systems and improved maize and legume seed access and the World Bank funded Agricultural Productivity Programme for Southern Africa (APPSA). In Malawi, a CA guide building on SIMLESA's CA-based research results has been produced for use by scientists, extensionists and farmers. In Mozambique the SIMLESA framework has been taken up and replicated in related projects such as APPSA and others supported by AGRA. In Kenya, the Kenya Agricultural and Livestock research organization (KALRO) has also domesticated SIMLESA manuals. In Ethiopia the government has already requested SIMLESA to support the development of policy briefs based on SIMLESA's findings that will be used to institutionalize this approach for scaling purposes. In Kenya the recently released Climate Smart Agriculture strategy (<http://canafrica.com/wp-content/uploads/2017/05/>) aligns well with SIMLESA's current and future initiatives.

In Ethiopia a project funded by the Norwegian Development agency and focused on upscaling CA practices is being implemented using CA options tested under SIMLESA research. In addition, seven farmer training centres in Ethiopia have also embraced the SIMLESA portfolios. The SIMLESA technology packages and work framework has also been adopted by several organizations in southern Africa such as the USAID SIMLEZA project in Zambia, IFAD SAPP project in Malawi and Tanzanian ministry of agriculture is also using SIMLESA principles in its official R&D country strategy.

In Rwanda the Innovation Platforms approach was extensively applied at scale to disseminate various sustainable intensification technologies while in the Eastern Cape province of South Africa the Agricultural Research Council is also applying the SIMLESA framework. Capacity building initiatives in SIMLESA spread all the way from the farmers to technocrats within the implementing NARS institutions. Trainings were tailor made to suit skills gaps in each country and by 2017 some 23 PhDs and 45 MSc graduates had been trained. Linkages with advanced research institutes in Australia and well recognised regional institutions such as the Agricultural Research Council facilitated most of these trainings.

Through Private Sector Engagement: Some of the institutional efforts involve the private sector. In Mozambique for example a scaling partner AGRIMERC has now effectively linked scaling farmers to maize markets thereby providing incentives and creating a demand for the cropping technologies, an

ACIAR POLICY BRIEF:

Institutionalizing SIMLESA in ESA: lessons from on farm research and scaling in development

outcome of the Competitive Grant Scheme now with 13 organisations using and promoting SIMLESA Portfolios/ approaches across the region and 7 zonal offices of Ethiopia Extension system using, promoting SIMLESA approaches.

Through Regional Initiatives: A major institutionalization effort as a Policy Forum in October 2015 held at Entebbe Uganda involving Ministry of Agriculture representatives from seven countries in East and Southern Africa. This led to the Entebbe declaration of 2016 (www.cimmyt/simlesa) ratified by representatives of the seven countries. The resolutions focused on the need to open cross border trade, seed sector harmonization, institutionalise the sustainable intensification of agriculture as a basic agricultural development approach.

WHAT WERE THE OUTCOMES?

1. The institutionalization of the SIMLESA approach by several research and development players in ESA paves the way for sustainability of both the technologies and the approach as an effective scaling or research and development strategy in the region.
2. The SIMLESA approach led to significant contributions to the research and development capacity of NARS partners through empowering them to manage large scale projects such as SIMLESA
3. Institutionalizing CA-based sustainable intensification in the agricultural production systems require interventions at different tiers addressing the technologies, farmer engagement approaches as well as input and output market interventions. Thus, institutionalizing SIMLESA's experience in the national systems requires exploiting synergies among researchers, extension, farmers and development partners.

WHAT CAN POLICY DO?

Support institutionalisation of SIMLESA portfolios and model of partnerships for rural agricultural transformation. This is possible through annual planning and budgeting based on a National Adaptive Strategic Competencies policy/ framework that facilitates customised skills (e.g. for programme coordination) and approaches for agricultural transformation.

Governments and donors invest in the development of a demand driven R4D national policies that promote sustainable production systems that will drive the promotion of climate smart agriculture in Africa.



Figure 2. SIMLESA Annual Review and Planning Meetings and field visits, Malawi 2016

FURTHER READINGS

Abate, T., Shiferaw, B., Menkir, A., Wegary, D., Kebede, Y., 2015. Factors that transformed maize productivity in Ethiopia 965–981. doi:10.1007/s12571-015-0488-z

Nyagumbo, I., Mkuhlani, S., Mupangwa, W., Rodriguez, D., 2017. Planting date and yield benefits from conservation agriculture practices across Southern Africa 150, 21–33. doi:10.1016/j.agry.2016.09.016

Nyagumbo, I., Mkuhlani, S., Pisa, C., Kamalongo, D., Dias, D., Mekuria, M., 2016. Maize yield effects of conservation agriculture based maize–legume cropping systems in contrasting agro-ecologies of Malawi and Mozambique. *Nutr. Cycl. Agroecosystems* 105, 275–290. doi:10.1007/s10705-015-9733-2

World Bank, 2016. *Poverty and Shared Prosperity 2016: Taking on Inequality*. Washington, DC. doi:10.1596/978-1-4648-0958-3.

ACIAR'S CONTRIBUTION TO RESEARCH

This policy brief was prepared for the Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA). SIMLESA is funded by the Australian Centre for International Agricultural Research (ACIAR) and is managed by the International Maize and Wheat Improvement Center (CIMMYT).

Contacts for further information

Isaiah Nyagumbo, (i.nyagumbo@cgiar.org) CIMMYT, Harare, Zimbabwe.



Australia



Botswana



Ethiopia



Kenya



Malawi



Mozambique



Rwanda



Tanzania



Uganda



Australian Government

Australian Centre for International Agricultural Research



THE UNIVERSITY OF QUEENSLAND AUSTRALIA



The Australian Centre for International Agricultural Research (ACIAR)

www.aciar.gov.au

