

MANUAL FOR POLICY MAKERS: Awareness and adoption of SIMLESA technologies in Mozambique

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Introduction

Maize-legume systems are among the priority crops and sources of livelihood for the majority of farmers in Mozambique. Difficult access to seed of improved varieties that can make face to the actual climatic conditions and risks reduces the chances of improving crop yields. This situation lead farmers to continue using their traditional varieties and practices. As a result, crop yields remain low and households face food insecurity.

With Simlesas project there is a kind of light at the end of the tunnel, which can lead to yield increase and risk reduction. Through participatory research on new varieties and conservation agriculture practices, Simlesas aims to reduce downside risks and improve the yield of smallholder farmers. Farmers are exposed to the technologies through participation in demonstration plots, field days, and Innovation platforms. The concern in having more host farmers using the technologies beyond the demonstration plots and more people adopting these technologies were overcome by using IPs.

These crops have the potential to reduce poverty with technological change. Improved technologies promoted by SIMLESA can help improve maize and legumes productivity of smallholder farmers in Mozambique.

However, many factors contribute for the low adoption and use of these improved technologies and practices.

SIMLESA conducted two adoption monitoring surveys survey in five and four districts of Mozambique covering a total sample of 418 and 820 households respectively. The objective of the surveys was to monitor the adoption of new varieties and practices promoted under SIMLESA.

The studies indicate that despite farmer's awareness about Simlesas technologies, the number of farmers adopting the technologies is increasing although there are constraints to the adoption of these technologies.

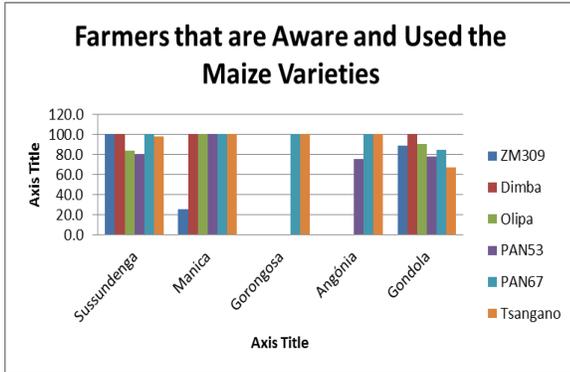
Awareness and use of maize and legume varieties

Many maize and legume varieties are promoted by Simlesas project. Among the maize varieties, *Tsangano* is the most known in all districts followed by *PAN67*, except in Gondola where *Dimba* is the most known. Angonia and Sussundenga had the highest percentage of farmers aware of *Tsangano* variety.

Calima is the most known beans variety in Angonia. IT 18 and IT 16 are the most know cowpea varieties in Manica, Sussundenga, and Gorongosa districts.

Few farmers were aware of soybeans and pigeonpea varieties, given that these are new crops.

Most of the farmers aware of maize varieties have planted the variety at least once. Manica, Sussundenga, and Gondola districts have the highest number of maize varieties.



Source: Simlesas adoption monitoring survey (2013)

Benefits of Simlesas project

Simlesas enabled farmer's exposition to the new varieties. Farmers in Mozambique were able to access a wide range of different varieties and practices. Almost all host farmers shared knowledge with other people and 48 % expanded at least one of the Simlesas CA practices beyond the demonstration plots.

The use of new varieties and practices improved crops yield. Farmers reported a 28% increase in maize yield due to the use of new maize varieties and a 25% increase due to the use of residue retention.

Adoption of SIMLESA technologies

Overall, the most adopted technologies by both male and female farmers are planting in row, residue retention, intercropping, and new maize varieties. Farmers in Mozambique like the most planting in line, new maize varieties, and intercropping. These technologies increase yield, are easy to use, and reduce pests and diseases. Residue retention, minimum tillage, and cowpea

varieties are the most disliked technologies. Farmers dislike these technologies because are labor demanding, require high technical skills, and has no market.

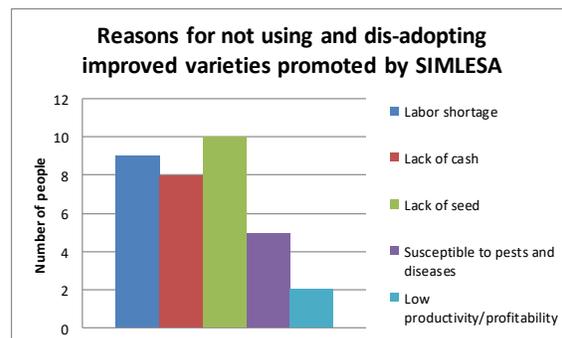
Constraints to new technologies adoption

To successfully attain the objective of Simlesas project, the new varieties and practices promoted have to be adopted by farmers across the districts. In order for farmers to improve crop yields, there is a need to ensure that the technologies are available at an affordable cost for the farmers. There is need for training and availability of the technologies in order to be effectively used.

The varieties used in the demonstrations plots come from Simlesas project, however, most of the farmers indicate that it is difficult to access the seed. Lack of seed of the promoted new varieties is the main constraint for adoption and expansion of the new varieties.

Additionally, some of the practices promoted are labor intensive and require high technical skills for the use. Labor shortage was also indicated as the second constraint for adoption of technologies.

According to the farmers, improved technologies and practices are expensive, it requires an initial investment for adoption. Given, that there is need for credit.



Source: Simlesha adoption monitoring survey (2013)

Solutions to the constraints for technology adoption

In order to overcome the low adoption of technologies, first, Simlesha project should continue working with farmers with the demonstration plots, field days, field tours, and innovation platforms in disseminating the technologies, which will result in increased awareness of the varieties and practices.

There is a need for a multi-disciplinary collaboration (researchers, extension, government, farmers, and other partners) in order to foster the development, distribution, and access to the new varieties and practices promoted. Farmer's access to different sources of information is important for technology diffusion and adoption.

Second, there is a need to work closely with seed companies. Seed companies have to grow and increase availability of the new varieties close to farmers, so that farmers can get the new varieties when needed. Seed companies and government can use the information from the studies for making decisions on which varieties and practices to promote in which region according to farmers preferences and local conditions.

In order for farmers to adopt the technologies that require high technical skills, government and partners need to provide training to farmers. Farmers need to understand the practices and how they work in order to adopt.

Seed of new varieties, other inputs, and equipment for conservation agriculture practices are expensive and require high investments from farmers. Access to affordable seed and other agricultural inputs is not easy for farmers, government can help farmers by providing credit services.

Organizing farmers into farmers associations where possible can help farmer's access inputs and equipment. Working in associations can help farmers reduce labor shortage and facilitate information dissemination.

References

- Cachomba, I., Mugabe, A., Nhantumbo, A., 2013. "Adoption Monitoring of New Varieties and Improved Practices Promoted by SIMLESA in Mozambique"