

Local Technology Systems (LOTS, 2013-18), GIF background notes from 2014/early 2015

The *Local Technology Systems* project of USAID's Feed the Future (FTF) initiative works in northern Kparba to "increase the competitiveness of **rice, maize and soy value chains**," while also improving the sustainability of agricultural technologies and practices. The International Soils Foundation has acted as the main implementer, but LOTS also relies on two universities in the U.S. and Europe, the National Agribusiness Board, Grassland Research Organization (GRO), and other public and private organizations.

Goals

1. Increase participation of private sectors in the distribution and dissemination of improved seed varieties and Integrated Soil Fertility Management (ISFM) technologies
2. Improve government participation in efficiently and transparently distributing seed, fertilizer and ISFM technologies
3. Increase the proficiency of "targeted agricultural research" in order to improve technologies that will lead to sustainable agricultural productivity.

LOTS supports various actors along the targeted value chains – producers, agro-input dealers, agricultural marketing enterprises, farm services providers, industrial food and feed processors, and private sector actors – to increase availability and use of agricultural technologies to increase and sustain productivity.

LOTS works to build both the supply of agricultural technologies & practices (focusing on improved seeds, fertilizer, and technologies for land preparation, planting, and processing) and demand for these technologies by working with smallholder farmers, local agricultural organizations, research facilities, and input dealers and end buyers of varying sizes. The theory is that by training farmers in new technologies & practices (often through the private companies), promoting local production of seeds and smaller technologies, and improving distribution systems, that inputs will be more available and accessible to small farmers in the long-term, small farmers' demand and ability to afford the inputs will also increase, and the private sector will view smallholder farmers as a valuable market.

How the project works

LOTS works with local farmers in over 20 districts in northern Kparba, lead farmers, farmer-based organizations, local agricultural organization staff workers, and agricultural input dealers. Trainings reached mainly farmers and there were 11,378 beneficiaries, 46% (5,234) of whom were women.

The project aims to increase sustainable agricultural practices among smallholder farmers who grow rice, maize, and soy. It introduces new seed varieties, multi-crop planters, and fertilizer practices, through training sessions and multi-day workshops. LOTS will facilitate conversations between public and private organizations. The project needs to promote demonstration farmers (demand) working with seed companies (supply) to make improved/certified seeds available as well as train extension agents to certify fields (including smallholder fields) used to produce seeds. The project's approach is to build demand for new technologies through trainings in early project years to encourage targeted beneficiaries to apply the technologies and management practices in subsequent years.

LOTS technologies & practices

- Releasing new seed varieties and labor saving-technologies, including tractors, shellers, planters, applicators & briquettes for UDP, line transplanting, "soy cow," Δ Γ Λ

- Training local farmers in new seeds, planters, fertilizer use, and other technologies & practices and working with demonstration farmers. (Year 1: 46% of persons trained were women)
- Increasing the availability of technology through grants
- Increasing the private sector's role & capacity to develop & disseminate ISFM technology
- Working towards a new irrigation facility

From FTFMS Performance narrative FY14

To increase the availability of high quality seeds, the project introduced seven hybrid rice varieties, 24 CIMMYT maize hybrids, 32 short duration pigeon pea varieties and maize hybrids from the private sector for testing with GRO during FY14 and FY15. A total of 41 technologies or management practices were under field-testing in FY14. Also, MOUs and grant agreements were signed with more than 40 private sector actors and NGOs to promote new technologies, of which seventeen local partners carried out 143 demonstrations on improved varieties of maize, rice and soybeans, and on ISFM technologies, to organize field demonstrations and farmer trainings.

Planting and Field Days were organized for each demonstration site, wherein 11,082 farmers participated in various trainings on technologies and extension messages delivered by trained field staff. Other trainings were also organized for government regulatory officials and extension agents, private sector actors, and workers in civil society (NGOs & CSOs). A total of 11,378 people were trained within the year, out of which 46% were women—5,234 women participated in LOTS trainings in FY14.

FY14 Annual Report

As is briefly touched on in the report,

- Women do not have equal access to as many household opportunities as men, which includes access to agricultural opportunities to increase income into the household.
- When women do not feel empowered to contribute to the household income, they do not get taught how to properly use agricultural tools and to grow necessary crops.
- Almost half (46%) of the participants trained were women. "Also, a very impressive success is getting a huge number of women farmers trained on the project. This will help to increase production and productivity, since women form a large proportion of farmers in [Kparba]."
- 12 of the lead farmers (established demonstration plots for the trainings) were women (10%). the report acknowledges that there is more that can possibly be done to improve gender disparities.

Selected Lessons/Accomplishments

- **FY14 ANNUAL REPORT**
 - Increased private sector actors' role and capacity in developing and disseminating improved seed and ISFM technologies
 - Supported release of 29 new varieties of seed; introduced labor saving technologies (bicycle-powered maize sheller, multi-crop thresher, multiple-crop planters); working towards establishing a new irrigation facility to help during the dry season
- **LESSONS LEARNED IN FY14**
 - Focus should be given to companies who are committed to investing their own resources as opposed to donor funds
 - Needs to be more activity between seed companies and other private sector actors to establish demand for new technologies

- UDP technology (“urea deep placement” → method of fertilization that decreases amount washed away by rain--involves super granule fertilizers known as briquettes) was positively received and will be promoted. Farmers were satisfied with the technology and yields. UDP reduces total fertilizer costs and the need for weeding (primarily done by women, children).
- Location of demonstrations for farmers was a problem, especially during the rainy season (less so during the dry season); need to select locations more strategically
- **SELECTED CHALLENGES AND CONSTRAINTS**
 - Size of seed companies, low level of mechanization, and lack of entrepreneurial spirit → low capabilities
 - Need to adopt climate smart practices to reduce impact of unpredictable weather & rain

Project newsletters + newspaper article

“The LOTS project is working with dry season rice farmers at the [B] Irrigation Scheme in the Northern Region to develop women groups from [S] Village on how to transplant rice seedlings in rows... The majority of the rice farmers in the scheme broadcast rice seed, as it requires less effort and cost. Transplanting 3-week old rice seedlings in 20 x 20 rows is a general best practice for rice farmers who have access to irrigation as it enables weeding, plant development, and is a recommended step in the process for introducing Urea Deep Placement (UDP) technology. The LOTS project is working with the [S Village] Women’s Group to provide a service of transplanting rice to other farmers in the scheme for a fee. If the Chief’s field does well this dry season, neighbouring farmers may become more willing to hire the women’s group in the future to transplant their rice seedlings ...”

LOTS is still working with lead farmers to set up all of its UDP demonstration sites for this dry season in the [B] and [G] Irrigation Schemes—these sites provide an environment to give farmers hands---on training in applying and observing the impact of UDP technology, as well as observing best agricultural practices such as good land preparation and line transplanting.

LOTS continued community night-time videos on UDP and other good practices to encourage adoption.

Feed the Future Monitoring System Data- FY14

persons trained with short-term TA: 7000 men, 3000 women

persons applying new technology/practices: 7000 men, 3000 women

Hectares under new technologies/practices: 3,277 ha by men, 2,185 by women

Conversation with COR

The project is concerned with how to train and disseminate on technologies and practices at scale. The project has reached the farmers that are easiest to reach. How do they reach everyone else?

Lots of large machinery will be moving into the area as a result of the project – tractors, threshers

A major gender-based constraint is that women plant the crops but do not make decisions around what inputs to use, buy, or how to apply them. Does the project reach out to these women and how? Does the project’s messaging help them to acquire or use the technologies or practices?

The concept of charging for your labor is new to the women planting groups.

The project team could spend some time thinking about potential unintended consequences of women and men farmers applying the technologies & practices.

Quick pre-GIF summary

LOTS's activities fall mainly in the Technology, Resource, and Human Capital domains of the GIF. However Workload and Control over income are potentially very affected by technologies that save time and increase yields. Regarding increasing technology use among women farmers, LOTS

- Offers technologies with different price levels, different weights/shapes/levels-of-effort-needed to be accessible to both women and men farmers and farmers with different areas and crops (examples: bicycle sheller, pushable planters/dibblers).
- Working with VSLAs and offering discounts on equipment.
- Works with a women's group to provide rice transplanting & UDP services ; building their capacity to charge for their labor
- Uses nighttime videos in local communities to spread information about and encourage adoption of technologies (especially UDP) as well as e-extension through SMS- and voice-based mobile phone services and radio programs in local languages regarding good agricultural practices.
- Has high attendance by women at farmer demonstrations
- 12 demonstration farmers are women

Sources: LOTS Project Fact Sheet, LOTS FY 14 Annual report, FTF Monitoring System, FTF & Partner press releases, LOTS weekly reports, article from major national newspaper, Conversation with COR