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Nafaka Project-Tanzania
STTA Report
IFDC Supervisory Mission (February 15-17, 2012)

IFDC Agribusiness Consultant

February 21, 2012

List of Acronyms

ASA	Agricultural Seed Agency
OPV	Open Pollinated Variety
QDS	Quality Declared Seed
TOSCI	Tanzania Official Seed Certification Institute
UDP	Urea Deep Placement
USG	Urea Super Granules

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The purpose of my visit to the Morogoro office of Nafaka was to:

- Review progress in implementation of the Nafaka work plan that is under the responsibility of IFDC
- Finalize arrangements for importation of drought-tolerant rice from India with the Tanzania Official Seed Testing Agency (TOSCI) and the Agricultural Seeds Agency (ASA)
- Make arrangements to secure 500 kg of urea super granules for demonstration purposes, and meet with Intermech Ltd, an agricultural equipment manufacturer, to explore possibilities for fabricating UDP equipment locally.

Nafaka work plan implementation

IFDC has two staff in Morogoro; Dr Moses Mnzava (Key Personnel/Irrigated Rice Specialist) and Filbert Mzee (Seed Specialist). Both are housed by Nafaka and have been provided with laptop computers, office space and have access to the Nafaka transport pool for their work. Nafaka management expressed their satisfaction with the work of the staff and their reporting.

IFDC is waiting approval of an Input Market Linkage Specialist whose work will support the development of an enhanced agro dealer/agent network needed to supply farmers with productivity enhancing inputs in the project area. It was proposed that once this position is approved Josefynne Kaiza, who has been working on input market development in Tanzania, provide STTA to speed up input market development work and as she is already approved she can be mobilized at short notice.

Nafaka is appreciative of the short-term technical assistance assignments undertaken by Dr H B Singh to assess the input sector and Dr B Fofana on UDP, and is interested in further assignments as the combination of local staff supported by specialized and focused STTA at strategic times in the project cycle works well.

Agricultural Seed Agency (ASA)

ASA was established under the Executive Agencies Act No 30 of 1997. The Agency was launched in June 2006 as a semi autonomous body under the Ministry of Agriculture, Food Security and Cooperatives. The Agency took over the responsibilities that were performed by the Seed Unit of the Ministry of Agriculture Food Security and Cooperatives. The aim of establishing ASA is to ensure high quality agricultural seeds are available to farmers at affordable price. The key functions of the Agency include:

1. Expand seed production and distribution networks so as to facilitate seed accessibility by farmers,

2. Promote increased private sector participation in the seed industry development through establishment of public-private partnerships or joint ventures in seed production and distribution,
3. Promote increased demand of certified seed by farmers,
4. Strengthen research capacities for breeding and producing varieties that address farmers' specific demands.

All rice varieties that are officially released in Tanzania are open pollinated varieties (OPV) that were developed by the public sector. Open pollinated varieties are less attractive to commercial seed companies than hybrid varieties because once farmers have seed of an OPV they can save their own seed from season to season while for hybrids they need to purchase fresh seed for every planting otherwise they will suffer lower yields and variable grain quality. Commercial seed companies further differentiate seed from grain by the application of seed dressings that improve crop performance.

There are a number of paddy rice varieties being used in the Nafaka project area including the improved varieties TxD 306 (Tanzania Cross Dakawa), TxD 88 and TxD 85 as well as several "local" varieties. ASA has the responsibility for maintaining the Tanzanian public varieties and draws on the expertise of rice breeders based at the Agricultural Research Institute - Katrin - under the Agricultural Research and Development Division in the Ministry of Agriculture, Food Security and Cooperatives – to fulfill its mandate. ASA also produces both foundation and certified seed of selected crops/varieties including rice. We were informed by the Chief Executive Officer of ASA that three commercial seed companies are marketing certified seed of TxD 306; SATEC in Mtwara, Kipato Seed in Mbeya and BRAC in Morogoro although BRAC is apparently contravening the law as it is not a registered seed company.

In Tanzania there is provision for both quality declared seed (QDS) and certified seed. It is illegal for QDS seed to be traded outside of the village where it is grown while certified seed can be marketed nationally. ASA contracts seed growers to produce certified seed from foundation seed that it sells to these growers at 3,000/- per kilogram and purchases the seed crop from these growers at a price of 800/- per kilogram. The purchased seed is then processed, stored and marketed by ASA. The Nafaka project had planned to produce 25 mt of QDS seed in Kilombero and Dakawa using a mixture of 22 farmers/farmer groups/progressive farmers each planting 0.4 ha using foundation seed procured from ASA. It was proposed by the CEO of ASA that these farmers be contracted by ASA to produce certified seed rather than QDS because unless there is an assured market for the latter farmers quickly lose interest and abandon further efforts to use quality seed.

ASA has as one of its objectives, to promote increased private sector participation in the seed industry development through establishment of public-private partnerships or joint ventures in seed production and distribution. The reason that it also markets certified seed of selected crops/varieties is to ensure that farmers have access to certified seed in the absence of commercial seed companies.

The development of a formal seed industry in Tanzania is at a relatively early stage, and most commercial seed companies are focusing their efforts on more profitable crops like hybrid maize.

Nafaka can play an important role in facilitating the development of commercial rice seed production and marketing through the following interventions:

1. **Exposing farmers to the benefits from using certified rice seed through on-farm demonstrations.** It is essential that Nafaka staff not assume that certified seed in the market is of high quality as quality control by commercial seed companies is variable, and even if seed is officially certified by the Tanzania Official Seed Certification Institute (TOSCI), seed companies including ASA, with poorly developed internal quality control processes will not be in a position to consistently market quality seed. Nafaka staff needs to visit the operations of those companies marketing certified seed and determine whether quality control is adequate and consistently applied. This can also be verified by evaluating certified seed from different companies in the field over time.
2. **Use of seed dressing.** Seed dressing helps differentiate seed from grain and is beneficial to crop performance. All certified seed promoted by the project should be dressed, and as part of the quality control described above Nafaka staff need to ensure that seed dressings used are officially registered and comply with USAID rules and regulations as determined by the forthcoming PERSUAP.
3. **Introduction of superior OPVs.** A strong incentive for farmers to purchase seed is the desire to access a superior variety. Although Tanzania has a rice-breeding program, no new paddy varieties have been released for several years. Rice varieties developed in other countries both by the public and private sector can potentially be imported and tested to expand the choice of superior varieties available to farmers. The Rockefeller Foundation has supported the development of drought-tolerant rice varieties in Asia that have been selected for those areas where flood control is sub-optimal, and independent impact assessments of this work has shown significant benefits in terms of yield and reduced need for irrigation. Large areas of flooded rice production in Tanzania are under poorly controlled water management not only because irrigation schemes have been poorly managed, but also because farmers have expanded production beyond the boundaries of such schemes. Informal contacts have been established with research institutions in India that are producing seed of these drought-tolerant rice varieties, and it is proposed to organize a study visit to these institutes to observe these materials and if seen to be promising, to import seed for evaluation and official release.
4. **Introduction of hybrid varieties.** In both India and China there is a rapid increase in the production of hybrid rice. Hybrids are generally not only more productive than open pollinated varieties, but the possibility to market hybrids provides a strong incentive for commercial seed production and marketing. It is proposed that Nafaka contact commercial seed companies at African Seed Trade Association (AFSTA) 2012 Congress, to be held in Zanzibar from March 5-8, 2012 to explore possibilities for Nafaka to import and evaluate commercially available hybrids in the Nafaka project areas.

The importation of seed into most countries is carefully controlled for phytosanitary reasons. The Tropical Pesticide Research Institute (TPRI) based in Arusha is the official institution responsible for controlling seed imports, and has established protocols for seed importation.

Miscellaneous

IFDC was requested to assist with technical expertise on how to better manage rice harvesting, post-harvest processing, and irrigation management.

Lachlan (TZ) Ltd has reportedly just started importing Urea Super Granules (USG) into Tanzania from Athi River Mining Ltd in Kenya, and it was suggested that I contact Geoff Burelle to confirm this and to support their marketing efforts.

There is increasing incidence of fake crop protection products, seeds and fertilizers being marketed in Tanzania that is potentially damaging to increasing the use of agricultural inputs. IFDC is working with the Croplife Africa/Middle East office to pilot a product authentication system using a unique code printed on the product label and only revealed at the time of purchase by the buyer by scratching a panel as done for mobile phone top-ups. The revealed code is sent by SMS to an indicated number and the database responds with true/false. If the Uganda pilot is successful it would be straightforward to expand the system to Tanzania. Nafaka management expressed interest to evaluate a legume rotation crop after rice as an important component of integrated soil fertility management (ISFM) to improve rice productivity and make use of residual moisture in the rice paddies. The main rice crop is planted in march and harvested towards the end of June with most rice paddies being left fallow until the following season even though there is often sufficient residual moisture left in the paddies. Potential legume crops include chickpea, green gram, soybean and cowpeas. It was agreed that IFDC look into the different options and also identify potential constraints to legume production including seed availability and the presence to rhizobium bacteria needed to support biological nitrogen fixation. The Bill and Melinda Gates Foundation funded N2Africa project is addressing the issue of rhizobium availability for specific crops and they might be willing and interested to collaborate with the project.