

Embedded knowledge services from agro-input dealers to SHFs: pre-competitive training, demonstrations and field coaching led by agro-input dealers or distributors



# 1. Pioneer partnership

Input dealers play a critical role in not only providing inputs to farmers but also offering extension services. The innovation in this case involved a partnership of four input dealers and rice cooperatives in two rice schemes in central (Mwea Irrigation Scheme) and western Kenya (Ahero Irrigation Scheme). The ambition of the partnership was to improve rice yields with a technology 'package' that combines efficient fertilizer technologies, new improved seed varieties, better agronomy, and mechanization and secondly, develop inclusive agri-business arrangements that will ensure each actor received a fair reward for their effort in the partnership. Below are profiles of the actors that formed this partnership between 2016 -2018 and a short description of the innovation.

**Afritec Seeds Ltd (Afritec):** Afritec is a Kenyan registered company based in Western Kenya that focuses on research, breeding, distribution, and sales of new varieties and hybrid rice seed products. The company has been involved in conducting research and development in Kenya for purposes of coming up with rice seeds that adapt well to the rice growing regions in Africa. Its role in the partnership was to carry out trials and promote a new high-yielding rice variety AT058, which is tolerant to yellow mottle virus which is a great threat to rice production.

**Nyabon Enterprises Ltd (Nyabon):** Nyabon is a Kenyan company founded in March 2014 located in in western Kenya, its primary objective is addressing farm mechanization needs of smallholder farmers in the region. Its role was providing wheel walking tractors and 4 wheel compact tractors, and associated attaching implements to the rice cooperatives. During the partnership period Nyabon also acquired a fertilizer briquetting machine with co-funding from 2-SCALE. Nyabon's good working relationship with rice cooperatives in Ahero was a huge resource to the success of this partnership. This cooperative aggregate and market the rice on behalf of the farmers.

**Athi River Mining Limited (ARM):** ARM is a large fertilizer producer based in East Africa which it started its operations in Kenya in 2003. The company blends and markets crop and soil specific fertilizers that contain 11 essential nutrients. Its role in the partnership was to promote use of Urea Deep Placement (UDP), which is an alternative to broadcasting and has an advantage that the nutrients are released more slowly and within the root zone of the plants. This reduces the high losses occurring, mainly through volatilisation of ammonia, when broadcasting the fertiliser, which is the most common practice. ARM has a well-established fertilizer distribution channel through the grassroots agro-vets.

**Toyota Tshusho Fertilizer Africa Limited (TTFA):** TTFA was established in Kenya in 2015 as a subsidiary of Toyota Tsusho Corporation. In Kenya, TTFA develops blended fertilizers suited to Kenyan soil and crops in collaboration with the International Fertilizer Development Center and the agricultural faculty of a local university. The role of TTFA in the partnership was to formulate a rice specific balanced blend of fertilizer and make it available to the farmers through local agro vets and ARM distribution channels.

**Mwea Rice Growers Multipurpose Cooperative Society (MRGM):** MRGM is a leading rice producer cooperative in central Kenya. The role of MRGM was to provide business support services in the implementation of activities on behalf of TTFA and ARM. This was done through establishment of field demonstration sites on use of fertilizers and facilitate field days to educate farmers on fertilizer use and good agricultural practices in the Mwea Scheme.

## 2. Replicable practice

Agro-input dealers at grassroots level often informally provide advice on the use of different inputs because they are closer to the farmers and interact with them on a day-to-day basis. With this understanding 2SCALE facilitated agri-business linkages between large input producers (TTFA and ARM), intermediary input dealers (Afritec and Nyabon), grassroots agro vets, and organized rice producers. The linkages were based on the strength of each of these actors in addressing production and quality issues in rice farming. A combination of various innovations consisting of the use of good quality seed, a specific fertilizer blend including essential micro-nutrients, deep placement of Urea as top dressing, mechanization and general good agricultural practices were found to increase rice productivity and profitability substantially.

A joint farmer /agro dealer training program was developed by all the partners with Afritec, Nyabon, and MRGM taking the lead in delivering farmers trainings through learning plots, field days, road shows, radio talk shows, print media, and exchange visits. On the other hand, TTFA and ARM offered trainings to selected local input dealers on agronomy, post-harvest handling and plant protection with the aim of building their capacity to assure they can advise farmers properly on the effective use of their products.

In all efforts 2SCALE focused on making advisory services economically sustainable. Either by assuring that individual or organized farmers would start paying for training services, or by embedding the training services in the business model of the input suppliers. The main strategy of 2SCALE was to select coaches from within farmer organizations and companies. These coaches received through the programme small field allowances and reimbursement of expenses to support them in the implementation of training and coaching activities. Throughout the programme the coaches were steered towards seeking opportunities for sustaining these costs in a different manner, either through direct payment by beneficiaries, or by absorption of the costs by their employers.

To summarize, this practice is addressing constraints in terms of:

### Access

- **Availability:** Collaboration with local agro vets to stock and retail the inputs has ensured that farmers can access these products in a timely manner. Besides the partner's products, in Mwea Irrigation Scheme MRGM in collaboration with the Ministry of Agriculture and the National Irrigation Board streamlined fertilizer supply through collaboration with the county government of Kirinyaga and set up an outreach programme of collecting subsidized fertilizers from National Cereals and Produce Board (NCPB). In this scheme four local agro dealers were capacity built to stock and offer agronomical services on behalf of TTFC and ARM. These are New downtown agro Vet, Farmer price, Mwalimu stores MRGM agro vet. This has ensured timely acquisition of this input resulting to timely planting and application which is key to improved production.
- **Affordability:** For the local briquette production, MRGM and Nyabon acquired briquetting machines, with co-funding by 2SCALE, and got their staff trained on its operation. They now produce the fertilizer briquettes on demand for its members and other out growers at a fee of between KES. 150 and 200 for a 50 kg bag of Urea. This is cheaper compared to sourcing from the ARM factory in Nairobi which is over 300kms from western Kenya. For Nyabon, they offer the service to the 12 rice producing cooperatives of the Ahero Irrigation Scheme. Demand for briquettes emerged after UDP training and running of trials with the farmers and is now spreading to other value chains in the neighboring regions. The price offering for briquetting and other inputs were negotiated making the inputs cheaper for the farmers.

## Inclusion

- **Ownership:** In this partnership farmers are in full control of the production process. The briquetting machines are fully owned by the MRGM and Nyabon while the local agro-dealers and the large input dealers in the partnership (ARM, Afritec & TTFA) are purely private investors. One of the farmer cooperatives; Gem Rae farmer cooperative in Ahero installed a new paddy processing machine during the partnership period to cater for the increased production from its members.
- **Voice:** The large input suppliers building the capacity of the local input dealers to provide gap training as well as distribution of inputs and other technologies has built their credibility with the farmers and now assume the role of agricultural advisors on effective use of inputs to the farming population. During the partnership period there were regular governance meetings that involved all the actors to check progress and address any emerging issues. During this meeting about 50% of the participants are farmer representatives. The Nyabon team together with three local agro vets also received training on fertilizer supply management through a 2SCALE facilitated consultant.
- **Risks:** As a result of the changed practices and availability of inputs, farmers are better able to plant in a timely manner, which is essential in their strategies for coping with shorter and less reliable rainy seasons as a result of climate change. As part of the programme, farmers in the Ahero were trained on vegetable production as a rotation crop to rice to supplement their income and have consistent income throughout the year. Afritec through their CSR project supported the women groups in the cooperatives with irrigation equipment's for the vegetables production during the hot season. The pre-testing of innovations through learning plots/trials reduces the risk of adopting ineffective and high-cost innovations by the farmers. Collaboration among the actors ensured that farmers received harmonized trainings avoiding the confusion created by input dealers while promoting their products for profits.
- **Rewards:** The combination of the package of innovations increased productivity, thus providing farmers with a higher return on their investment in fertilizer. During the partnership period farmers recorded up to 50% increase in production.
- Collaboration of service providers in this partnership addresses the challenge of duplication of interventions, fosters sharing of resources, and reduces supply chain costs by leveraging on existing input distribution channels. The practical trainings and promotion of different innovations among the farmers stimulated demand for the products thereby increasing sales for both the large and the local input dealers.
- New income generating opportunities for various actors in the value chain were created e.g. production of briquette by Nyabon and MRGM. For efficient briquette placement, special hand applicators are required. The applicators were locally produced and a team of local youth were trained on their use and they now offer UDP services to farmers at a fee.

# 3. Preconditions for replication

**Local testing and adaptation of technical solutions:** Smallholder producers are forced to be conservative and risk averse in changing their practices, as they are cash short, and cannot gamble with their household food security. As a result, the promotion of plant nutrition solutions first requires adaptation and testing under farmer control. Particular efforts are needed to demonstrate convincingly the added value in adopting new technologies compared to current practice. In this partnership learning, rice plots were used to demonstrate the innovations.

**Sustainable business networks to support the availability and use of the technologies:** For the sustainable production and retailing of inputs, private entrepreneurs need to see a business case, and make the effort to develop and sustain the for-profit service of producing and distributing the inputs. In some cases, for private enterprises a promising technology is not the same as a realistic business opportunity. Effort is needed to identify the business opportunity before getting into such partnerships. Additionally, the business networks do not develop automatically; they need to be facilitated. In this partnership 2SCALE has worked successfully in brokering linkages.

**Effective methods of training to accompany the technologies:** In all the innovations that were promoted, investments were made in agricultural advisory services. All of the solutions require behavior change by farmers, and additional investments, be it in acquiring inputs, or in the service provision to apply the inputs. The partnership integrated these services and a training curriculum was developed through a joint effort of 2SCALE partners. The training of farmers was done by 2SCALE coaches. 2SCALE coaches are mainly staff of farmer cooperatives who are dedicating part of their time to facilitating the 2SCALE activities.

**Farmer networks:** This model can only work best where there is a form of organization among the farmers, for example farmer groups or farmer cooperatives. In the two rice schemes, farmers are organized and produce under cooperatives

## 4. Results Achieved

- 12,500 farmers trained on rice agronomy, mechanization, and crop rotation through learning plots, field days, and exchange visits.
- Production increased by an average of 30%.
- Farmers purchased more than 10,000 bags of fertilizer and over 25 tons of AT058 distributed to farmers.
- 3 SMEs acquired briquetting machines to produce urea super granules for deep-placement application to supplement their income.
- Low-cost applicators distributed to 426 farmers in 4 cooperatives.
- Model farm established by partner firm Nyabon Enterprises (co-funded by 2SCALE), where cluster actors continually receive practical training on best practices.

## Want to know more?

If you want to know more about this practice, please reach out to Patrick Boro, Country Team Leader, Kenya on [pboro@2scale.org](mailto:pboro@2scale.org)

Furthermore, you can also read more on the case through the following resources:

- 2SCALE highlight paper [https://www.2scale.org/upload/76fe26\\_2SCALE\\_paper10.pdf](https://www.2scale.org/upload/76fe26_2SCALE_paper10.pdf).
- 2SCALE half year report by Gabriel Olengo
- 2SCALE Annual reports, 2017 and 2018.
- IFDC website <https://ifdc.org/2019/01/15/rice-technology-building-capacity-in-western-kenya/>
- 2SCALE Insight paper. A dairy processor expansion ambitions set in motion dairy development in Kenya by David Njenga

# 2SCALE

*A decade of promoting inclusive agribusiness in Africa*



2SCALE Consortium



Supported by



Ministry of Foreign Affairs of the Netherlands