

Emergence of localized specialized equipment providers



1. Pioneer partnership

FrieslandCampina WAMCO Nigeria PLC (FCW) is Nigeria's foremost dairy company and market leader. It is an affiliate of Royal FrieslandCampina in the Netherlands. For over 60 years, FCW has been providing Nigerians with high quality dairy products through its brands that are household names - Peak, Three Crowns, and Friso.

Linked to its mission is the Dairy Development Program (DDP), an inclusive business model with an array of community activities that encourages local economic development in milk production to meet the needs of consumers, farmers, local communities, the government, and FCW's business. Through the DDP, FCW supports farmers to expand their investment opportunities as the milk collected from the dairy farmers is used in the local manufacturing of Peak evaporated milk and yoghurt.

The partnership between FCW and 2SCALE was initiated in 2011 because of government regulations mandating the dairy sector actors to source at least 10% of raw milk locally. FCW and 2SCALE formalized their partnership in 2011 through a Memorandum of Understanding (MoU) with the objective of supporting FCW to develop local sourcing of raw milk for processing and sale, while at the same time offering new business opportunities to Fulani Milk Producers (FMPs), other small-scale dairy farmers and SMEs to thrive. The partnership was implemented from 2012 to 2018, in close collaboration with the Federal Ministry of Agriculture and Rural Development (FMARD), with which FCW also signed a MoU to develop the dairy industry in Nigeria.

FCW has developed a new DDP strategy for the next 5 years (2020-2025), after signing second phase partnership with 2SCALE in 2019. Top on the agenda for the partnership is further fine-tuning the dairy cooperative model with FMPs, replicate it in new areas/ States, and initiating an intervention to better reach BoP consumers with nutritious dairy products.

2. Replicable practice

Localized special equipment providers

FCW's business model encourages the emergence of specialized equipment fabricators. Small and medium enterprise artisans and companies like SMAP Nigeria Ltd show opportunities to invest in fabrication on light equipment for milk handling, animal breeding, and feed conservation as the case may be.

Milk handling from farm to milk collection centers required specialized equipment to maintain milk quality. The rationale for localized service providers is to build local capacities of indigenous technicians who are crucial to the success for sustainable maintenance of milk cold chain. The use of experts from foreign companies like Mueller cannot be sustained due high cost involved. The plan to handover the management of milk collection points/centers to dairy cooperatives made it imperative to train local technicians. FCW requires high quality raw milk with low bacterial counts to be able to produce wholesome dairy products. The collection of milk from dairy cooperatives and small-scale individual farmers and especially the milk harvesting setting at the Fulani milk producers' level is prone to contamination. Cooling of the milk is, next to hygienic harvesting and handling, an essential tool to be able to supply quality milk to FCW milk collection point/center. Once the milk leaves the cow, nothing can be done to enhance the

value (quality) of the milk, but much can be done to prevent microbiological contamination and growth, especially at the stages of harvesting, storage, and transport prior to the reception at the processing plant. 2SCALE support and knowhow transfer to the Fulani milk producers to secure a hygienic harvesting and handling, realization of the cold chain is a critical step in the complete (collection and value) chain of milk supply from Fulani milk producers till the processing plant of FCW (e.g., low bacteria count) - especially when considering the distance and transport time needed for milk collection and supply to the dairy plant in Lagos. Raw milk should be cooled within 2-3 hours after milk harvesting then chilled to 4°C and stored under hygienic conditions.

The objective is to have local technicians in close proximity to milk collection facilities that can easily provide immediate services and routine maintenance of equipment for smooth operation through the year. Local technicians with skills in refrigerator maintenance and have required tools for routine maintenance were selected and trained and coached by Mueller milk cold chain experts both in Nigeria and the Netherlands. The need for supply of necessary electrical spare parts for milk cooling tanks brought about signing retainership agreement with a local electrical spare parts dealer in Iseyin, whom 2SCALE facilitated his training in the Netherlands. Also, agreement was signed between SMAP Farms Nig Ltd and Mueller as Nigeria representative as milk cooling tanks distributor. This was done to ease access to required services and procurement of milk cold chain facilities for the dairy industry in Nigeria. The local technician could train and coach other technician on milk cold chain maintenance who can operate at dairy cooperative level when FCW finally hand over the management of milk collection facilities to the cooperatives.

The challenges foreseen is high cost of spare parts that have to be imported and the skills to fabricate good quality spare parts, to mitigate this challenge in the future companies producing refrigerators can be contacted to look at the possibilities around producing milk cooling facilities locally.

Animal breeding

Genetic improvement is considered as an option to accelerate progress in milk productivity. Natural mating will not produce the require number of offspring within a short cycle and it is also too expensive to maintain exotic bulls. Therefore, the use of artificial insemination (AI) as new innovation to support dairy farmers upgrade their cows. AI requires specialized equipment and skills which were not readily available, because of FCW inclusive business model localized AI service providers emerged and now provide AI services to dairy farmers including Fulani dairy cooperatives.

Feed conservation

Feed conservation is very important if adequate feeding of dairy cows is to be achieved. Fortification of cross residues and by-products are some the ways to improve feed quality and conserve it. Localized fabrication of the equipment required to carry out these activities are done by artisans that were doing something else before the business model of FCW was established. Now local technicians can fabricate corn stalk crusher, sickle for cutting grass, hay box, and feed mixers.

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

Access to nutritious food	<ul style="list-style-type: none"> • Availability: The localized equipment fabricators are available • Affordability: The equipment fabricated are affordable • Appropriateness: All the equipment fabricated are appropriate to dairy industry • Acceptability: The equipment are accepted by smallholder farmers
Inclusion	<ul style="list-style-type: none"> • Ownership: The technology and skills to fabricate the equipment is domiciled with the local artisan. • Voice: The artisans/local companies are given equal opportunity when it comes to decisions on specification of the equipment. • Risks: The most important risk is unfavourable government policy and the business champion that may not interested in localized equipment. • Rewards: There is patronage for localized equipment, fabricators and seller are comfortable with price offered based on demand.

3. Preconditions for replication

The willingness of relevant actors (smallholder farmers) to use local fabricated equipment, existing organizational structure especially for producers' organization and the support of public institution like ministry of Agriculture to support local equipment supply chain. Example, like ministry of Agriculture encourages the use of local fabricated agricultural equipment and support fabricators to access funds and skills.

4. Results achieved

- SMAP Nigeria Ltd supplies milk cooling tanks to private farms, provides AI services (over 500 cows inseminated)
- 5 cornstalk crushers constructed by local fabricator.

Want to know more?

If you want to know more about this practice, please reach out to Mohammed Zailani, mzailani@2scale.org, Dairy Partnership Facilitator in Nigeria.

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