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# Chapter 6

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## The role of the private sector and the engagement of smallholder farmers in food value chains: initiatives and successful cases from Nigeria, Senegal, and Ghana\*

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\*Correct citation: Nuweli, N., A. Diaw, F. Kwadzokpo, and A. Elbehri (2013), ***The role of the private sector and the Engagement of Smallholder Farmers in food value chains: Initiatives and successful cases from Nigeria, Senegal, and Ghana***, In: *Rebuilding West Africa's Food Potential*, A. Elbehri (ed.), FAO/IFAD.

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## 1. Introduction

By the very nature of agriculture, most small farmers are entrepreneurs who make economic or business choices, manage risk, allocate resources, and combine farm and off farm activities to improve their livelihoods. Markets are essential for the economic growth of farmers and 60-80 percent of small scale farmers operate in traditional markets, while a smaller proportion participate in more modern markets and developed value chains.

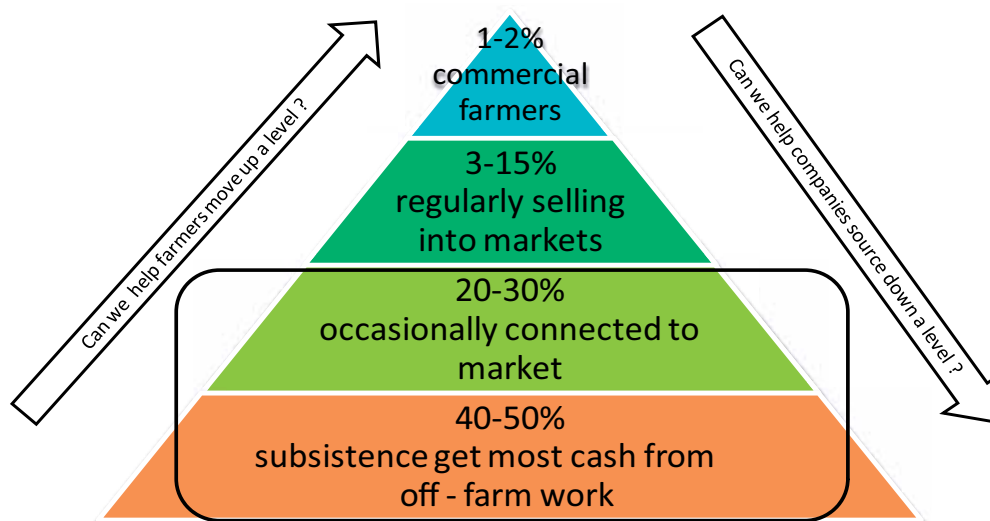
Agribusiness needs farmers. Growing demand in food in domestic and international markets means more food needs to be produced and supplied and hence there are new business opportunities. Having a market creates a business opportunity and hence the necessity of investing in farmers as suppliers of raw materials. Depending on context agro-business companies can engage trading or commercial relationships with farmers either as individuals or as groups, cooperatives or associations.

In addressing smallholder market integration and in analyzing the rationale for inclusive value chain development, two central questions need to be posed:

- (1). How can we help small scale producers move up the commercial and market integration ladder?
- (2). How can we ensure more agro-businesses source their raw agricultural products from small scale producers?

The issue is illustrated in Figure 1 below.

**Figure 1. Smallholder market engagement**



**Source :** Del-Pozo Vergnes, 2011; quoted from Ferris and Seville, 2010.

Answering the first question implies huge expectations of smallholders to be organised and build capacity to engage in trade and inclusive business operating in modern/high value markets supported by the right policies and market institutions. Emphasis on linking small-scale farmers to markets and business assumes that producer organisations will succeed by aggregating and upgrading their production.

Within the West African context, there is a clear need for producers' organisations to develop capacity and credibility in the market and become active players in value chain development. This assumes among

other things sustainable strategies to build internal capacity and acquire a strong leadership capable of meeting the economic and business needs of the members. The goal for a producer organisation goes beyond organizing, the ultimate aim is the capacity to leverage market opportunities for smallholders, by acquiring the knowledge needed to engage and design projects and negotiate contracts. The key prerequisite for success is the identification of the business or market opportunities for the group. This points to the need to develop great managerial, business and financial literacy, which are required to level the playing field and to create a more conducive environment for transparent and win-win negotiations between producers, buyers, processors and intermediaries.

For question (2) above, there is a business case for working with small farmers who benefit from their comparative advantage in terms of quality, in securing the supplies, in having better access to subsidized inputs and guaranteed corporate responsibility. However, they present some costs and risks such as the difficulty of complying with standards and traceability, some hazards linked to loyalty and fulfillment of commitments and issues of communication/coordination.

Among the factors that would induce agro-business firms to source locally from small scale producers is uncertainty in the global economic landscape resulting in firms sourcing internally for their agricultural inputs, population and economic growth, support from intermediary organisations, government incentives and favourable support and increasing pressures on companies to develop sustainable engagement strategies. There are opportunities for private sector organisations to engage across the agricultural value chain, from the provision of inputs, to financing, agroprocessing, packaging and even technology.

However, successful partnerships between agro-business and small producers hinges on many factors. The partnerships must be market-based, and the selection of partnering farmers must be based on merit, trust and ability to deliver on contractual agreements. This requires also pilot schemes for training farmers, the buy-in and alignment of all key stakeholders, clear standards and incentives and a conducive and supportive environment. From the private sector perspective, lessons for value chain development require a market-driven approach and there has to be clear benefit for everyone involved. An important measure in building trust between the producers (or outgrowers) and the private sector is to engage in transparent price-fixing mechanism inclusive of all the stakeholders.

Agro-business and small farmer partnerships bring their own risks that need to be understood and managed properly. There are also risks dealing with small scale suppliers. Some of the risks arise from a very unfavorable environment for local agro-business operating locally.

Inadequate physical and financial infrastructures and the reluctance of some government officials to support the activities of the private sector constituted a drawback to engagement with smallholder farmers. Other limiting factors included human resources, production equipment and marketing. Impediments include limited mind set focused on short-term gains, inability to meet the economic needs of all stakeholders, contract failures, limited access to affordable finance, poor enabling environment and interference from the public sector.

Side-selling illustrates the type of arising when agro-business and small scale producers contract to supply raw products under outgrower schemes. Side-selling poses a serious obstacle to processors financing/pre-financing the production of food staples and commodities. It also poses a challenge to commercial agreements between out-grower farmers and private sector companies providing agricultural input services. To mitigate against the side-selling risk, it is important to establish a transparent and fair mechanism at the contracting and price fixing phase that ensures a win-win outcome for all the principal stakeholders. This also requires stronger producer organizations with stronger credibility when it comes to negotiating. Investing in strong and credible producers' organizations is also a strong business requirement.

The few success cases of private-public partnerships, all start from actors who were able to self-aggregate and meet demand in order to better access markets. Also processing could be a key success factor when greater product value can be captured in meeting market demand, and if well managed, allow great access to consumers. The significance of leaders at each phase of the value chains, as well as programs and projects ownership cannot be overstressed.

There is more that can be done at the policy level to improve the business environment to foster a more inclusive value chain development. First, investment promotion should take into consideration the opportunity to support local medium and small enterprises and investments. Also critical are incentives for agroprocessing companies that process locally add value and create jobs. This has strong implications for appropriate trade policies that need to be fully harmonized with domestic policies aimed at promoting the development of staple food value chains. There is a strong need to design and implement solutions involving both government and the private sector with complementary roles for each.

The remainder of the chapter will present specific cases and initiatives from 3 West African countries: Ghana, Nigeria and Senegal.

## 2. Nigeria food processing and the trends towards smallholder inclusive food supply chains\*

Agriculture is the most important sector in the Nigerian economy. According to the Federal Ministry of Agriculture and Water Resources, the country has a land area of 92.4 million hectares, with approximately 79 million hectares suitable for agriculture; however, less than half of this available land is being utilized. The sector engages approximately 60 percent of the Nigerian population, including many rural women, and contributes 42 percent of the country's national GDP.

As in many African countries, agriculture in Nigeria is dominated by smallholder farmers, who cultivate an average of one hectare of land, with limited access to fertilizer, irrigation, improved seeds, storage and processing capabilities and markets. They typically experience poor yields, and significant losses.

As a result, Nigeria remains a net importer of food, spending over USD 4.2 billion annually on food imports. In addition, local food prices are prohibitively high for the average Nigerian family and the country continues to experience alarming rates of malnutrition.

Given the context, this chapter will outline key success factors for agroprocessor engagement with smallholder farmers and will use the case study of AACE Food Processing & Distribution, a start-up agroprocessing company. It will also attempt to outline practical actions that can be taken to improve the agriculture sector and enhance the lives of smallholder farmers.

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\* This section 2 was contributed by Ndidi Nuweli.

## 2.1 Engagement of agroprocessors in the sector

Historically, private sector investments in Nigeria have been limited to commercial agriculture producing export-focused crops, such as cocoa, rubber and sesame, and protected sectors that serve the local market, such as poultry and palm oil. This pattern of investment has been driven to a large extent by the availability of financing for commercial agriculture given the perceived financial returns associated with cash crops and exports.

There has been minimal private sector investment in sustainable smallholder agriculture and limited collaboration between the private sector and smallholder farmers. Most private sector companies, including agroprocessors and financial institutions, complain about the physical challenges and the costs associated with reaching smallholders, as well as the small scale of their operations. As a result, large agroprocessors and manufacturers in Nigeria have relied on intermediaries, aggregators or third parties to source from the farmers. In addition, given the high costs of local produce relative to imports, large food processing companies have opted to import produce instead of sourcing locally.

However, this context is changing. A growing number of fast-moving consumer goods companies, such as Nestle, Nigerian Breweries, and AACE Foods, are now starting to source raw materials in Nigeria.

## 2.2 Drivers of a changing landscape

There are at least five critical drivers propelling agroprocessors to engage with smallholder farmers. They include the following:

1. **Increased uncertainty in the global economic landscape:** The global food crises, rapid fluctuations in commodity prices, and increasing exchange rate risks associated with importing commodities have compelled more Nigerian companies to look internally for raw materials. In addition, the challenges associated with importing products and the cumbersome customs clearing process have encouraged more companies to source locally.
2. **Population and economic growth:** Given the growing population and increased economic growth, local and multinational agroprocessing companies operating in Nigeria have greater demand for high-quality, consistent supplies of raw materials for their operations. Engagement with smallholder farmers not only enables them to source raw materials, but direct communications and partnerships with the smallholders can ensure increased yields, lower post-harvest losses and enhance the ability of the farmers to meet the demand specifications of the private sector companies effectively.

In addition, forming direct links allows for more efficient information flow and reduces the delay associated with effecting changes and achieving results. It also reduces the transaction costs associated with interfacing through intermediaries or aggregators.

3. **Government incentives and favorable policies:** The Nigerian government has initiated a range of interventions and policies, such as the Agriculture Transformation Agenda (ATA) spearheaded by the Minister of Agriculture and Rural Development and the Central Bank's Nigerian Incentive-based Risk Sharing system for Agricultural Lending (NIRSAL). Both interventions encourage private sector institutions to engage in agriculture and to actively partner with smallholder farmers.

This trend has also influenced the activities of development partners such as the World Bank, Department for International Development (DFID), United States Agency for International Development (USAID), Alliance for a Green Revolution in Africa (AGRA), Japan International Cooperation Agency, and the German Agency for International Cooperation (GIZ), who are increasingly encouraged by the Nigerian National Planning Commission to invest in agricultural initiatives in the most disadvantaged parts of the country. This in turn has led to the emergence of donor-driven projects focused on priority agricultural value chains including maize, rice, sorghum, cassava, and soybean.

Regional agricultural policy initiatives such as the Comprehensive African Agriculture Development Plan (CAADP)/ Regional Agricultural Policy for West Africa (ECOWAP) of the Economic Community of West African States, (ECOWAS), and initiatives spearheaded by the United Nations Development Program (UNDP), the United Nations Industrial Development Organization (UNIDO) and the African Development Bank (AfDB) have also generated greater awareness about the need for private sector engagement in the agricultural value chain.

4. **Support from intermediary organizations:** Most private companies in Nigeria are reluctant to invest the time and energy required to engage smallholder farmers effectively. As a result, development partners have engaged international and local nonprofits such as Technoserve and the International Fertilizer Development Centre (IFDC) to bridge this gap by constituting farmers into groups, providing access to inputs and credit, as well as providing training and demonstrations, storage and transportation support, and then linking the smallholders to private sector customers.

In addition, credit guarantees from organizations such as AGRA have propelled financial institutions which ordinarily would not lend to smallholder farmers or to farmer-based organizations, based on the perceived risks of interfacing with these groups, to provide loans to them.

Each successful engagement has generated widespread interest and compelled more companies to invest the time, energy and resources required to work with smallholder farmers.

5. **Focus on the triple bottom line – pressure to move beyond corporate social responsibility (CSR):** There is growing pressure on companies of all sizes, operating in all sectors, to support critical stakeholders, especially those who need it most. This is especially relevant in northern Nigeria, which has alarming rates of poverty and is dependent on agriculture. Food processing companies are being increasingly challenged by civil society and public sector organizations to support farmers in these communities by sourcing locally and investing in programs to enhance the welfare of those who live in these communities.

### 2.3 Case example – AACE food processing and distribution Ltd.

The experience of AACE Foods, a start-up agroprocessing company in Nigeria, illustrates the challenges and benefits of engaging with smallholder farmers. The creation of AACE Foods in 2009 was driven by the urgency to tackle the following unsettling facts:

1. According to the 2008 Demographic and Health Survey, 41 percent of Nigerian children under the age of five are classified as “stunted”, 14 percent are “wasted” and 23 percent are “underweight”. This contributes to Nigeria’s high infant and maternal mortality rates.
2. Researchers at the University of Agriculture Abeokuta estimate that 40-60 percent of the fruits and vegetables grown and harvested by smallholder farmers across the county are wasted annually.
3. Ninety percent of the processed food consumed in Nigeria is imported.

AACE Foods directly addresses the first two challenges and capitalizes on the third opportunity, by processing and packaging nutritious and tasty food made from quality fruits, herbs and vegetables from West Africa. The company's business model is centered around sourcing its raw materials – fruits, herbs and vegetables – from smallholder farmers in northern Nigeria, in partnership with community groups and non-profit associations, especially the International Food Data Conference (IFDC). Using semi-automated manufacturing processes, the company transforms this raw material into spices, spreads, sauces and supplementary toddler food.

AACE has targeted institutional buyers, such as food processing companies, caterers, hotels, and fast food chains. It currently supplies spices (e.g. chili pepper, black pepper, ginger, and garlic) in 25 kg sacks to its commercial customers and in retail pack sizes to supermarkets. Through its innovative packaging, competitive pricing strategy and distribution approach, AACE has gradually displaced imports and improved its share of the domestic spice market.

### A. Experience Engaging Smallholder Farmers

From its inception, the management of AACE Foods was committed to sourcing raw materials from smallholder farmers. However, they faced some initial hurdles, which are described below.

- **Identifying the farmer groups:** Data on farmer groups/clusters and their products are not readily available in the context of Nigeria. As a result, agroprocessors essentially have to conduct their own research in order to find the farmer groups. AACE was fortunate to benefit from a DFID-funded Business Innovation Facility grant which enabled it to engage Technoserve to conduct a supply chain study. This allowed the organization to identify clusters of farmers that could support its raw material requirements.
- **Communicating with farmer groups:** Despite the deregulation of the information and communications technologies industry in Nigeria and the proliferation of cellular telephones, connectivity is still relatively poor, especially in rural areas. In addition, given the unreliability of power in Nigeria, even those farmers who have cellular phone connectivity cannot always charge their phones. As a result, it is often difficult to communicate with smallholder farmers. This propelled AACE Foods to cultivate relationships with IFDC field staff that support the key farmer clusters, and can physically meet the farmers or the leadership of the clusters to relay information about orders, pricing and payment terms.
- **Financial literacy:** As in many African countries, the average Nigerian smallholder farmer does not have a bank account and works exclusively with cash. As a result, the farmers typically prefer to sell their produce to intermediary traders who travel to the rural areas and pay cash upon collection.

Working with AACE Foods, which has a policy of paying 50 percent up front and providing the balance upon delivery in Lagos (which typically occurs 3-7 days after the first payment), proved difficult at first, because of the significant distrust that exists between smallholders and agroprocessors. However, with IFDC serving as an intermediary and guarantor to both parties, the smallholder farmers have accepted this arrangement. A farmer cluster can open a bank account, the leader receives the funds on behalf of the cluster, and eventually distributes the funds to the members of the cluster.

- **Determining standards:** There is often a significant lack of agreement between the standards of the agroprocessor and the output of the smallholder farmer. Most farmers sell their produce on a "per bag" basis, with minimal regard for standardizing drying and sorting practices in order to prevent contamination and reduce the microbial load. In addition, there is limited grading of the produce based on size, color, wholeness, cleanliness and other basic criteria.



Over time, through periodic meetings with its cluster groups, AACE Foods has been able to communicate its expectations and standards to the farmers, encouraging them to purchase scales and link prices to standard weights (e.g. per kg). AACE has also been able to train the farmers on cleaning and sorting practices. This, in turn, has enhanced the quality of the produce, reducing the production time at AACE Foods and enhancing the incomes of the smallholder farmers who are able to charge higher prices, because of their higher quality output.

## B. Impact on Farmers

With support from IFDC, AACE has been able to establish partnerships with farmer cooperatives. These partnerships are giving farmers better market information, informing their planning and harvesting processes and enhancing the predictability of their sales. In addition, by eliminating intermediate traders, these partnerships are raising the incremental household income of the farmers. To date, AACE has sourced from 5 000 farmers; 60 percent of these farmers are women.

AACE plans to increase the volumes that it purchases from these farmers, enhancing their household incomes by up to USD 400 per farmer household by 2015.

## 2.4 Key success factors in agroprocessor and smallholder partnerships

A study conducted for Oxfam West Africa as part of the GROW Africa Campaign provided an assessment of the experience of AACE Foods and a review of other examples of successful and unsuccessful agroprocessor engagement with smallholder farmers. The study reveals some key success factors. They include the following:

**Table 1. Links between smallholders and agro-industry: key success factors**

Key Success Factors	Best Practices - Considerations
<p><b>Relationship is market-driven</b>, not viewed as CSR but as a mutually beneficial relationship with clear and sustainable value addition – and economic benefits.</p>	<p><b>From the private companies' perspective:</b></p> <ul style="list-style-type: none"> <li>Engaging smallholders is in response to an economic need – market demand must exist for the product and the company must have a good understanding of the market needs and dynamics</li> <li>Clear systems and structures exist which ensure that quality produce is delivered on a timely basis</li> <li>Clear, transparent and timely pricing and payment systems are established</li> </ul> <p><b>From the farmers' perspective:</b></p> <p>There are tangible benefits associated with engaging with the private sector – in terms of access to inputs, credit, extension and a guaranteed market. More specifically, where applicable, there will be:</p> <ul style="list-style-type: none"> <li>Timely delivery of inputs for production</li> <li>Adequate provision of technical and managerial support</li> <li>Credible and transparent payment arrangements</li> </ul>
<p><b>Merit-based farmer selection</b></p>	<ul style="list-style-type: none"> <li>The best farmers are selected to participate or, if possible, farmers choose to be part of the program</li> <li>There is a transparent process for farmers who are unable or unwilling to meet standards to exit the program</li> </ul>

**Table 1. Links between smallholders and agro-industry: key success factors (Cont.)**

<b>Key Success Factors</b>	<b>Best Practices - Considerations</b>
<b>Merit-based farmer selection</b>	<ul style="list-style-type: none"> <li>• There is support of farmer-based organizations, clusters or cooperatives that enhance farmer commitment and minimize non-performance and defaults on the part of the farmers.</li> </ul>
<b>Pilots for learning; nonprofits/development partners play a key role</b>	<p>Pilots are critical because they allow for proof of concept and tweaking of the model before a full roll-out which can prove to be expensive and ineffective.</p> <p>Nonprofits/development partners engage and support pilot programs to demonstrate proof of concept and reduce the barriers to effective partnerships from the perspective of both the farmers and the private sector. More specifically, they:</p> <ul style="list-style-type: none"> <li>• Organize farmers and prepare them to work in groups.</li> <li>• Provide inputs, technical assistance and access to financing for the farmers.</li> <li>• Provide information and support to the private sector companies.</li> <li>• Have clear roles and responsibilities at different growth points of the scheme.</li> <li>• Have a clear exit strategy which guarantees that the relationship between the smallholders and the private sector company will continue even after the exit. (Given that most of the nonprofit/development partner interventions are donor-funded, they are tied to specific deliverables within a predefined time frame, which makes this exit strategy a crucial factor.)</li> </ul>
<b>Buy-in and alignment from all key stakeholders including the community leaders, civil society, NGO partners, FBOs and the private sector</b>	<p>It is imperative that there is broad-based buy-in from all the key stakeholders. This can only be achieved through:</p> <p><b>Private sector:</b></p> <ul style="list-style-type: none"> <li>• Senior management buy-in and support.</li> <li>• Capable staff employed and fully dedicated to managing the relationship.</li> </ul> <p><b>All stakeholders (private sector, FBOs, farmers, nonprofits, community leaders):</b></p> <ul style="list-style-type: none"> <li>• Broad-based consultations in the planning and pilot phases.</li> <li>• Transparency in all aspects of engagement.</li> <li>• Regular communication, which is critical for building trust.</li> <li>• Clear systems and structures for conflict resolution and problem-solving.</li> </ul>
<b>Incentives available for increased quality, yield and scale</b>	<p>Clear standards must be set and communicated. In order to enhance farmer productivity and encourage greater commitment, successful private sector companies ensure that:</p> <ul style="list-style-type: none"> <li>• Farmers are paid more for better quality and increased production.</li> <li>• Economies of scale allow farmers to make higher margins.</li> </ul>
<b>Conducive and supportive environment</b>	<p>Partnerships between smallholder farmers and private sector companies thrive when the LGA/district, region or state in which the partnership is taking place is supportive. A few examples of support that surfaced during the study include the following:</p> <ul style="list-style-type: none"> <li>• Government creates an enabling environment and does not serve as a stumbling block.</li> <li>• Farmers are not penalized for their engagement in groups or in the formal financial systems via levying of multiple taxes.</li> <li>• Extension services and other public sector interventions support program implementation.</li> <li>• Land tenure issues do not limit farmer expansion.</li> <li>• Feeder roads and other infrastructural developments exist, thereby reducing the cost of doing business.</li> <li>• Courts at the district and local government level enforce contracts.</li> </ul>

### **Measuring the Impact of Agroprocessors' Engagement with Smallholder Farmers**

There is limited research on the most appropriate criteria for measuring the impact of agroprocessors' engagement with smallholder farmers. Some early ideas for impact measurement include the following:

From the farmers' perspective:

- Quantities of produce purchased
- Increases in household incomes
- Anecdotal evidence of improvements in the lives of the farmers, in terms of their ability to send their children to school or the weight of their children
- Ability of the farmers to withstand shocks
- Value addition and resulting increases in income at the farm/community level
- Sustainability of the partnership after the development partner/nonprofit organization has withdrawn and the public/donor-funded intervention that created the linkage has formally ended

From the agroprocessors' perspective:

- Improved profitability due to reductions in transaction costs, reductions in storage costs, improvements in the quality of the produce and enhanced reliability of produce

Clearly, there is a need to further refine and standardize criteria for measuring agroprocessors' engagement in smallholder agriculture to ensure sustainable improvements in the livelihoods of the smallholder farmers and improvements in profitability of the private sector companies.

## **2.5 Conclusion**

The Nigerian, and indeed the entire African, agribusiness landscape would benefit immensely from more sustainable partnerships between smallholder farmers and agroprocessors. However, key actions have to be taken on the part of both the agroprocessors and the smallholder farmers to ensure that this occurs. More specifically:

- **Agroprocessors** need to:
  - Increase their commitment to engaging smallholder farmers, shifting their perspectives from a CSR lens to one that views smallholder farmers as a critical part of their supply chain, and a key component of their long-term competitive advantage. This will require senior management to be committed to developing and executing comprehensive supply chain strategies which engage smallholder farmers.
  - Engage development partners/nonprofit organizations with expertise in market linkages who can serve as critical partners in the design and piloting of strategic partnerships with smallholder farmers.
  - Partner with research institutions such as the International Institute of Tropical Agriculture to equip farmers with knowledge about improved and high yielding varieties of crops.
  - Develop transparent engagement terms, including product specifications, pricing and payment structures, and share these with key stakeholders to obtain buy-in.

**Farmers and Farmer Based Organizations** need to:

- Strengthen their clusters, associations or groups to ensure effective governance structures with clear and consistent leadership, empowered to represent the interests of farmers effectively in their engagement with private and public organizations as well as with development partners.

Several factors contributed to the success and growth of the LdB enterprise. These can be separated between:

- Empower and educate themselves through business training, adult literacy classes, mentoring and coaching, to ensure that more farmers are able to engage effectively in the formal economy and deliver on their commitments to private sector companies.
- Work with nonprofits, development partners and key public sector institutions to enhance their capabilities to adopt the industry standards required for success in a particular value chain, increase their yields, minimize their post-harvest losses and engage in more value addition at the farm level.

### 3. Initiatives to develop local-milk based dairy markets in Senegal\*

#### 3.1 Background and context: the milk paradox in Senegal

With more than 12.5 million people in a territory of about 196.722 km<sup>2</sup>, Senegal is strongly dependent on food imports, as only 39 percent of the country's food consumption comes from local production (EDS, 2007). Consumption of dairy products is deeply integrated into local dietary practices, with 90 percent of households consuming yoghurt every week. However, local fresh milk is largely consumed by breeders or occasionally sold on traditional markets. Indeed, 90 percent of the milk being traded is imported, mainly as powdered milk.

The livestock sector in Senegal is sizable – more than 3.25 million cattle and 11.25 million sheep and goats (DIREL, 2010) – but it produces only 40 percent of the national milk consumption. According to the Ministry of Livestock, consumption of milk and dairy products/by-products is estimated at 360 million litres, of which 60 percent are imported and 40 percent of local origin, representing FCFA 60 billion and FCFA 51 billion, respectively.

The livestock sector contains mostly traditional activity and involves 30 percent of the population. Most of the local milk production (98-99 percent) comes from agropastoral and extensive pasture systems; the rest comes from intensive farms.

In 2010, a value chain analysis showed that collection and processing are the weakest links of the value chain, with only two percent of local milk (around 2.5 million litres) processed into higher value products. Clearly, the milk sector in Senegal has huge growth potential.

#### 3.2 Case study: Laiterie du Berger

The **Laiterie du Berger (LdB)** is private company established in 2006 by a few young Senegalese entrepreneurs, including a veterinarian and a food engineer. Its objective is to increase the local production of milk and milk products and to supply urban centres with good quality and competitively priced milk and dairy products. Its main factory is at Richard Toll, a town about 400 kilometres from Dakar, which is where the commercial, marketing and administrative arms of the enterprise are located. There are six milk collection centres and the company employs approximately 100 people.

LdB processes milk into yoghurt and fresh cream. In 2009, the company released its own branded dairy product, DOLIMA (yoghurt), which quickly propelled it to third place in Senegal's dairy products market. LdB is currently the only factory/industry in Senegal processing local milk into dairy products.

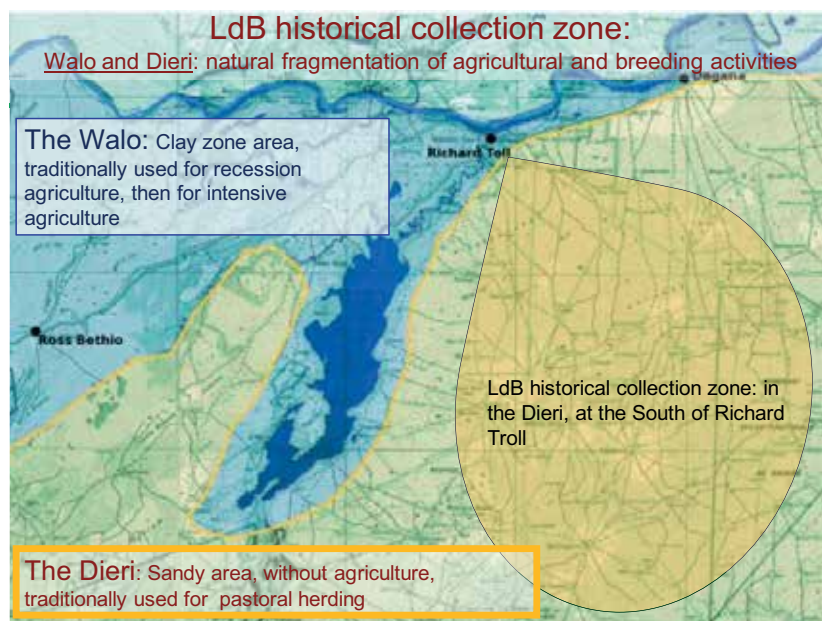
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\* This section 3 was written by Arona Diaw.

## A. Collection of milk

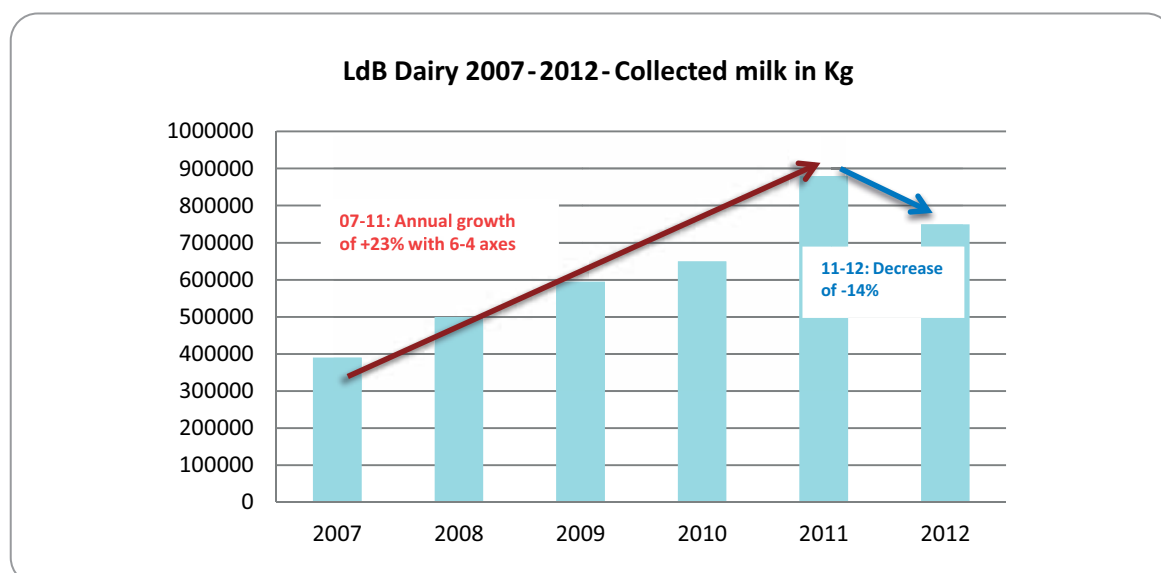
Collection of milk from breeders is organized along two axes, twice a day, collecting average amounts of 2000 and 6000 kg per day in dry season and winter, respectively. There are two collection zones: the 'Dieri' (sandy area) and the 'Walo' (rice producing region) (see map below). Milk collection consists of 3 to 5 axes with collection rounds of about 50 km radius and a collection zone of 600 to 1000 km per day. Each collection axis is serviced by one driver, one collector and one pickup vehicle with a capacity of 1.5 tonnes.

**Figure 2. Milk collection centers for LdB**



Milk collection has continually grown since the start rising from 100 initially to 600 breeders and providers by 2011. About 2000 persons are involved in the collection. Until 2011, there was 23 percent annual growth of collection levels. However, in 2012, winter deficit combined with lack of pasture led to a 14 percent decrease in spite of efforts in terms of service provision to breeders (see Figure 2)

**Figure 3. Evolution of milk collection at LdB center (source: LdB)**



- **Internal:** quality staff, adequate logistics, quality service provision (inputs, advice) to breeders.
- **External:** quality and availability of natural pasture, access to water, incentives for breeders to manage and keep dairy cattle.

However, there were also some limiting factors, including:

- Seasonal nature of the collection (winter vs. dry season)
- High dependency on the winter season collection (e.g. 2012 vs. 2011)
- High transportation cost of the milk when it is about a horizontal growth by opening new axes

Looking forward to 2016, collected milk volumes are expected to show an annual deficit of about 30 percent, while the factory's need for milk will grow 15 percent.

### **B. Service provision to breeders/milk providers**

Beyond the external factors cited above, the increase in volume of collected milk is closely linked to the accessibility of basic services (food, water, advice) to targeted breeders. LdB provide a variety of services to the breeders that supply milk. Among these services are:

- Cattle feed – industrial products and local by-products (rice bran): 320 tonnes in 2012
- Transportation of feed with collective purchase
- Fodder (rice straw and sugarcane straw) with delivery to breeders: 600 tonnes in 2012
- Veterinary consultations and basic care (pesticides)
- Advice on feeding and milk-related hygiene

#### ***Ancillary services:***

- Artificial insemination – in collaboration with the Ministry of Livestock
- Rural hydraulic systems and services provided to breeders – in collaboration with the NGO Groupe de Recherche et d'Échanges Technologiques (GRET).

### **C. The LdB business model**

The business model for linking up with milk producers and suppliers consists of a system for collection of milk from two collection zones with about five collection axes per zone, each axis having one vehicle. Both internal and external factors contribute to the success of the operation. Internally, the company ensures the quality of its personnel, adequate logistics and quality of services offered to the farmers; externally, the company enhances both the quality and availability of pasture and access to water.

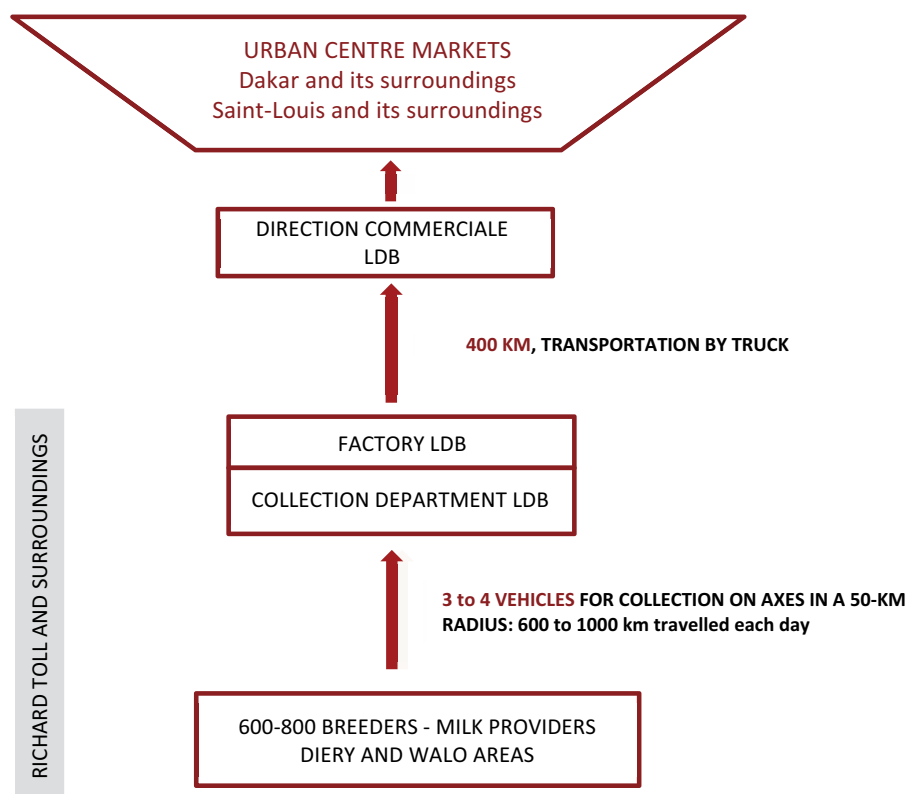
The milk collection system has effectively reduced the amount of spoiled milk received at the factory. The use of harvest residues (of maize, rice, groundnuts, etc.) as animal feed has increased milk yield during the dry season. The curdling of milk collected from the smallholder dairy farms was considered an important element in the operation of LdB because it affects the quality and profitability of its products. An ongoing issue is how to determine criteria for assigning responsibilities between the company and the smallholder dairy farmer. The small farmers' capacities should be enhanced, not only in good agricultural practices but also in management, so that they can improve the financial operations of

their farms. LdB is considering including producers in the governance of the company once they receive adequate training.

The development strategy of LdB is aimed at increasing the market penetration of its products on the basis of their quality and competitiveness and easy access to the market in Dakar. The company has focused primarily on the mass consumption segment and less on improvements in technological development, commercialization and distribution. The company has also developed a partnership with an NGO (GRET), as a vehicle to build relationships with milk producers and suppliers, which number around 600 smallholder farmers. The company ensures that its targeted milk producers have access to basic services in return for supplying milk and for increasing their milk production. Using dedicated, qualified staff, the company has provided the following services to its target dairy farmers: (a) group purchase and distribution of animal feed, including rice and sugar cane harvest residue and concentrates; (b) delivery of animal feed; and (c) veterinary consultations.

These services were supplemented by those offered by GRET, which supplied rural water services to cattle farmers, and by the Ministry of Animal Husbandry, which provided artificial insemination services. The objective of the partnership between the company and GRET was to facilitate improvement in the conditions of life for free range cattle farmers through a synergetic set of interventions in the Dagana district. This successful case demonstrates the potential effectiveness of a privately led multi-stakeholder partnership involving a private company, well organized small scale producers, an NGO and government, all collaborating to improve agricultural value addition and value chain development, as well as income, employment and food security at the local level. However, before such an initiative can be promoted for replication and scaling up elsewhere, its sustainability in the long run has to be fully ensured.

**Figure 4. Milk supply chain for LdB**



## 4. Public and private support services to farmer-based organizations: The case of Ghana\*

### 4.1 Introduction

Farmer Based Organizations (FBOs) have been heralded as leading contributors to poverty reduction and food security (FAO, 2010). However, despite their potential, the performance of FBOs in Ghana, especially those in the horticultural sector, has been constrained by poor access to markets, low production volumes and quality of produce, lack of group cohesion, and limited business and entrepreneurial skills for value addition. The FBOs require significant upgrading in all these areas. Agriculture research and development organizations have now recognized that improving market access and enhancing the ability of FBOs to diversify their links with markets are among the most important interventions needed to change the fortunes of the farmers (IFAD, 2001, IFPRI, 2002).

Recently, the Government of Ghana, through the Food and Agriculture Sector Development Policy (FASDEP II) has been promoting the commercialization of agriculture, transforming subsistence agriculture to a market-oriented sector by instilling entrepreneurial culture in smallholder farmers. Farmers are encouraged to produce for markets rather than simply trying to market what they produce.

### 4.2 Market Oriented Agriculture Program (MOAP) in Ghana

To promote the development of FBOs, given the important roles they play, Ghana's Ministry of Food and Agriculture (MoFA), in collaboration with the German Agency for International Cooperation (GIZ), began implementing the Market Oriented Agriculture Program (MOAP) in July 2004. The goal of MOAP is to increase the competitiveness of Ghanaian agricultural producers, processors and traders in the domestic, regional and international markets by offering support in the following ways:

- a. promoting, strengthening and upgrading selected commodity value chains (pineapple, mango, citrus and chili pepper) to achieve greater value in production, processing and marketing;
- b. improving the effectiveness and efficiency of public service delivery to agriculture and agribusiness; and
- c. strengthening public and private service delivery in agriculture, especially to FBOs.

Over the life of MOAP, the program has supported the achievement of its objectives in diverse ways, through intense development of FBOs and support for the various commodity value chains across the regions. Currently, the program is working with over 200 FBOs – comprising over 8 000 members, 30 percent of whom are women – across the four commodity value chains in four regions of Ghana, namely Central, Brong Ahafo, Northern and Volta Regions.

#### ***MOAP's Approach to FBO Development***

Given the multiplicity of constraints that simultaneously confront FBOs, it is essential to develop appropriate strategies to maximize their effectiveness and deepen their participation in the marketplace and in the agricultural development process. To address this concern, Ghana government (with GIZ

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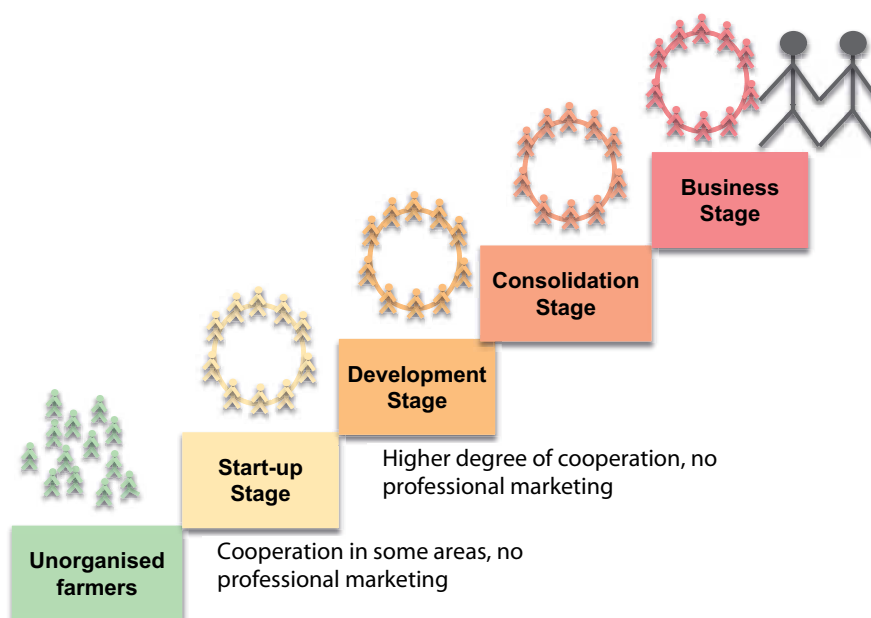
\* This section 4 was written by Festus Kwadzokpo.



support) has introduced an initiative for strengthening FBOs in selected value chains. The approach is targeted at developing the capacity of the organizations to understand, develop and effectively link to markets in a business-oriented fashion. The focus is on building the capacity of FBOs, with emphasis on organizational development, technical agronomic training and market orientation. This is done through a four-stage process, designed to ensure that the FBOs develop a business-oriented vision for effective participation in the market. The process is described in Figure 4 below and the rationale behind its development is as follows:

- To tailor support according to the actual needs of the FBOs;
- To systematize incentives for FBOs' development based on performance;
- To provide orientation for grant and credit suppliers to increase their opportunities to reach business-oriented FBOs; and
- To measure progress in the FBO development process.

**Figure 5. FBO Development Stages**



Each development stage consists of three elements:

- criteria** indicating when an FBO has reached a specific development stage;
- a **toolbox** of organizational development, business and agricultural technical training measures to promote the FBO to the next development stage; and
- an **incentive system** to propel the FBO to a higher level of organizational development.

Unorganized farmers constitute the target group for starting the FBO development; the associated criteria to identify each development stage are outlined as follows:

An FBO in the **Start-Up Stage** meets the following criteria:

- Has updated membership list
- Has group members who know each other
- Carries out meetings attended by at least 70 percent of group members

An FBO meeting the following criteria is regarded to have reached the **Development Stage**:

- (d). Has a clear vision and mission defined by members
- (e). Has clear objectives, which are understood by members
- (f). Has an acceptable constitution, known by all
- (g). Has a bank account
- (h). Has elected, functional leaders and decision-making procedures that follow the regulation of the constitution
- (i). Has a minimum of 70 percent of members paying dues
- (j). Has business training and skills in planning and record-keeping
- (k). Has external relationships and linkages
- (l). Has good records on income and expenditures, meetings and activities
- (m). Has market for produce

An FBO in the **Consolidating Stage** is defined by the following criteria:

- (n). Is officially registered and has an office
- (o). Has defined services and/or business activities for members
- (p). Has income from services and/or business activities at FBO level
- (q). Has certificates for the produce
- (r). Has strategic and business plans (budgets)
- (s). Has contracts for produce
- (t). Has sufficient knowledge for implementing the development/business plan
- (u). Is networking with similarly-oriented FBOs

The **Business (Mature) Stage** is achieved by an FBO when the following criteria are met:

- (v). Has employed a professional manager to run the business
- (w). Has an ongoing contract and guaranteed market for produce of its members

The prospect of higher income is the driving force for farmers to gradually develop their FBOs to a higher organizational level. So far, the experience of MOAP indicates that the primary incentive for commitment by individual farmers and FBOs is the availability of market for their produce. To motivate farmers to be more committed to the FBOs and encourage the FBOs to become more cohesive, MOAP's advisory support combines advice on good agricultural practices, business training and organizational development support and has found this combination to be very important. Because marketing plays a crucial role for achieving higher income levels and sustaining membership commitment, the link to the market is crucial and starts from the development stage.

To make the approach more meaningful to the FBOs, the development classification system is communicated and explained to the rank and file members, allowing them to track their own development process. This communication creates a concrete perspective for development.

Each of the development stages is provided with the needed support measures to promote the FBO to the next development stage. Basically, three different types of service combinations are involved in these measures:

- **Unorganized farmers** are provided with basic organizational development to mobilize and motivate farmers and their leaders and to link to extension services; this basically corresponds with the participatory rural appraisal (PRA) approach.

- Farmer groups in the **Start-Up, Development, and Consolidation Stages** are provided with a combination of extension services for good agricultural practice leading to certifications such as GlobalGAP, organic and fair trade certificates, as well as farmer business training and organizational development support.
- In the **Business Stage**, extension activities for improving agricultural practices (focused on income generation) continue for the individual FBO members. At this stage, the FBO ensures that individual members strive to meet production volumes and overcome quality problems at the farm level. The organizational development element for the FBO at this stage becomes a specialized business support.

Sustainable FBO development requires systematic, long-term training, advising and coaching. These activities are therefore combined with agricultural extension, business training and organizational development support systems to enable FBOs to develop to the stage where they have quality produce and sustainable market penetration capabilities.

MOAP views the availability of marketing channels as a vital driving force for FBO development, so before an FBO is linked to the market, its readiness is critically examined in advance of any recommendation. Recommendation is contingent on the readiness of the FBO to meet the demands of the market according to its stage of development. It was observed that overly ambitious market linkages for FBOs at lower stages of development can lead to disappointment for both the buyers and FBOs, because they do not have the competence, quality standards and quantities demanded by the buyer. Market linkages are therefore used as an incentive for FBOs to reach the next stage of development.

The combination of agricultural extension support with organizational development training and business advisory modules is offered to FBOs that show promise when the specific criteria for a development stage have been fully met. Specific services are offered to FBOs that have met the criteria for a particular development stage. For example, support in accessing credit is provided to FBOs that have reached the **consolidation** and **business** stages, and access to improved and sustainable markets is provided to FBOs that have reached the **development** stage. The FBOs that have reached the **business** stage are provided with advanced business development services.

### 4.3 Some successful initiatives with MOAP

#### A. The case of Mid-Ghana Commercial Mango Growers Association (COMANGA)

COMANGA was formed by a group of business-oriented mango farmers in the Brong Ahafo and Ashanti regions of Ghana. Before the formation of the association in 2008, the farmers were members of seven district mango associations in the Brong Ahafo and Ashanti regions with little knowledge about cultivation of mango. Through the training received and interaction in the regional mango value chain committee, the business-oriented members in the district associations decided to come together to form their own association to promote their common interest. MOAP, using its FBO development approach, supported COMANGA through good agriculture practice training, business and organizational development training. At present, COMANGA has 27 members, including four women, and it has reached the consolidation stage in the FBO development process. COMANGA has hired the services of an agribusiness manager who runs the association and ensures that linkages are established with buyers. In 2011, COMANGA members sold 197 mt of mango to fruit processing companies in Ghana and the association has set a goal of selling fresh fruit to fruit exporting companies in Ghana and outside. The mangoes produced by members are considered some of the best in Ghana because of their colour, taste and quality.

## **B. The case of Central Region Citrus Farmers Association (CROCFA) – Ghana**

CROCFA is the largest organic citrus producers' association in Ghana, with over two thousand members – about 40 percent of them women – from over 60 communities. The association's head office is at Abakrampa, in the Abura Asebu Kwamankese (AAK) district, Central region, Ghana. Before the formation of the association, members had no guaranteed market for their produce. They would sell to market women, and to buyers within Ghana and the neighbouring West African countries such as Côte d'Ivoire and Togo. Often, buyers would collect the fruit on credit with the promise of coming back to pay, but then did not follow through. Because of the unorganized nature of the association, the buyers had difficulty in choosing fruit from the suppliers whose membership of the association was not clear. Through the intervention of MOAP, the association has been reorganized and all the member communities are linked to the parent association. It has a governing body, a constitution and the office at Abakrampa. More importantly, it has a contracted buyer, the Pinora Fresh Juice Processing Company, in the Eastern region of Ghana. As a result of the training provided to CROCFA and the reorganization of the association in all the communities, the association is now in a better position to negotiate prices with the buyer and agree on many issues which are paramount to the development of the association. The association has placed a levy on all sales made by members to Pinora and this has become the main source of income for the association. The financial difficulties of the association are now over. Financial independence has become a major empowering tool for the association.

### **4.4 Challenges and recommendations for FBO support in Ghana**

The attempt to develop FBOs on a sustainable basis is not without challenges:

- In a market-driven economy, FBOs must strive to operate in a business oriented fashion or they will cease to exist.
- Government extension services are limited in scope; thus FBOs will have to assume more of the responsibilities themselves through self-reliance and networking.
- Private extension services come at a high cost and the culture of paying for extension services is still low.
- Market entry demands (e.g. quality and grading standards, credit, transportation, quality control, volume) are still difficult to meet for many under-resourced FBOs.
- The costs of inputs (e.g. farm machinery, tools, fertilizers) are still high for many smallholder farmers.

Strengthening and empowering FBOs in a developing country like Ghana requires significant effort, through a structured, sustained and long-term program of training, advising and coaching. A phased program of technical agronomic training, followed by organizational development and business training support based on trust, transparency and mutually agreed terms of engagement, is recommended for any sustainable FBO development intervention. This is a process of trial and error as there is no foolproof recipe for success. The process requires patience and willingness to learn and relearn from mistakes, successes and failures.

Mechanisms for tracking progress and for documenting lessons and success stories within FBOs and their development partners are necessary, given the dynamic environment, clouded with many uncertainties. MOAP's work on FBO development so far has shown that capacity development of FBOs should be handled with caution, resisting the natural impulse to get impatient and try to force the process. It is important not to forget that the environment is complex and regulated by socio-cultural norms, traditions, sometimes contradictory social behavior and broader policy regimes.

## 5. Other public-private initiatives for engagement with smallholder farmers in Ghana

### 5.1 The Outgrower and Value Chain Fund (OVCF) for agricultural financing

Agricultural development in much of Africa is hindered by a lack of accessible finance. The traditional channels for access to capital and finance rarely work in agricultural sectors, especially for staple products, and innovative approaches are sorely needed. A recent initiative in Ghana – the Outgrower and Value Chain Fund (OVCF) – was started with German cooperative support. Its objective was to improve access to medium- and long-term financing of investments by small-scale farmers as part of outgrower schemes, thus facilitating the integration of smallholder farmers into commercial agriculture.

The OVCF facility brought together the outgrower/farmer, the technical operator (processor, exporter or aggregator) and the financial operator/participating bank to collaborate in development of the agricultural value chain. The project was initiated as one method to support implementation of the Government of Ghana's agricultural policy instruments, such as METASIP, FASDEP, and the Ghana Shared Growth and Development Agenda.

Factors contributing to the success of the project include the tripartite contract arrangement, the provision of quality technical and financial services, access to information, and transparent pricing and knowledge of value chain financing by participating banks. Participation in the program is subject to specific eligibility criteria for each of the three main categories of stakeholders. To ensure long-term sustainability of the program, technical assistance, training and organizational development support for the three main categories of stakeholders (outgrower, technical operator and financial operator) are critical. Good governance (through establishment of a steering committee to engage with all stakeholders) is critical, as well. Success also hinges on resolving such challenges as agreeing on appropriate and reasonable interest rates for both the outgrowers and the financial institutions, and implementing innovative approaches to risk management. Implementation of the project required intensive preparation. The OVCF initiative became operational in April 2011 and the disbursement of funds was expected to start in the third quarter of 2012.

### 5.2 Commodity chain development and facilitating access to finance: Northern Rural Growth Program (NRGP)

The Northern Rural Growth Program (NRGP) is managed by the Ghanaian Ministry of Food and Agriculture with funding from IFAD and the AfDB. NRGF is a private sector-led agricultural development and investment strategy for poverty reduction that seeks to facilitate smallholder farmers' access to finance. The program focuses on northern Ghana, a region facing multiple constraints, including weak market linkages, high transport costs, poorly motivated producer organizations, inadequate infrastructure and weak financial services. The program was designed to address the constraints of agricultural production and the productivity value chain in four commodity groups: (i) industrial crops (soybean, maize, groundnut, sorghum); (ii) export fruits and vegetables (papaya, okra, chili); (iii) crops grown especially by women (shea, sesame, moringa, African brown rice); and (iv) animals (Guinea fowl, small ruminants).

The NRGF business model for facilitating smallholder access to finance can be characterized as a producer-driven value chain model working through associations of nucleus smallholder farmers operating as outgrowers. The nucleus farmer registers a company as a special purpose vehicle (SPV) which can then access commercial bank financing for equipment and working capital for SPV<sub>2</sub>, with outgrowers paying for the services offered through the SPV. The nucleus farmer then provides the outgrowers with facilities such as input credit (fertilizers, herbicides, etc.), tractors and other mechanical services, and training in group cohesion. Under this model, market for the outgrowers is assured through the lead firm (SPV) model, with the smallholder farmer selling his/her produce to an aggregator. The services provided by the aggregator include quality assurance and training of farmers on improved agronomic practices and farm management, as well as the provision of cashless credit facilities.

An interesting feature of the program is the governance structure, which brings together the various value chain stakeholders at the district level through the District Value Chain Committee (DVCC). The DVCC includes representatives of agro-input dealers, FBOs, financial institutions, mechanization service providers and marketing companies. The purpose of the DVCC is to encourage the private sector to contribute its assets and know-how towards the public good. The role of the DVCC is considered crucial to the success of the program, highlighting the importance of good governance for the success of any type of multi-stakeholder initiative.

Key prerequisites for successful operation of the DVCC linkage model are the existence of an end market for the commodity, as well as the active participation (which implies self-interested motivation) of the value chain producers, traders and processors, business development service providers and financial service providers. An initial challenge to implementation of the program in northern Ghana was that financial services penetration in the region was low, which had a negative impact on the operation of the program. To remedy this weakness, an effort was made to link up with a sister project and other local government authorities to establish rural banks, as well as to encourage some existing commercial and rural banks to establish agencies in the operational zone. The remaining crucial element for the initiative's long-term prospect is availability of funding on a sustainable basis. One option is to encourage the DVCC to institutionalize revenue mobilization measures, such as commissions on businesses leveraged by it, and creating an incentive package for the DVCC for successful loan leverage. One encouraging sign is that, as a result of business generated by the DVCC, the number of banks involved in the scheme increased from 2 to 24, demonstrating an increase in services offered to smallholder farmers.

### **5.3 Initiative to enhance market linkages: experiences from cassava processing in Ghana**

The Root and Tuber Improvement and Marketing Program (RTIMP) in Ghana focuses on cassava production and processing. Its goals are to improve market linkages, reduce post-harvest losses, facilitate use of the produce to reduce spoilage, promote technologies for the packaging and storage of cassava products and promote marketing. The main shelf-stable forms of cassava byproducts include gari, cassava chips, high quality cassava flour and *Agbelima* (a fermented cassava product). The RTIMP's approach to enhance market linkage supports multiple activities: multiplication and distribution of improved planting material, technology generation and capacity building, establishment of Good Practice Centres, exposure visits, financial analysis of chain activities, access to a Micro Enterprise Fund (MEF) and an Initiative Fund, district stakeholders' meetings, radio discussions and Esoko, a technology platform for information management and improving the transparency of markets.

A network of small plots belonging to participating farmers was dedicated to growing improved varieties giving high yields, suitable for processing and for producing quality products. Continuous supply of these high quality planting materials was necessary to facilitate continuous operation for farmers, processors and traders. The program also set up Good Practice Centres, where selected tuber and root processing enterprises with standardized equipment were located. As part of the program's technology generation and capacity building goals, RTIMP promoted the use of standardized cassava processing equipment and facilities, as well as training the main implementing partners to construct the standardized equipment. RTIMP provides training services to farmers based on their needs. There is no free service and smallholder farmers pay for the services offered.

The MEF was established to enable processors to acquire processing equipment and to market their products. However, its matching fund requirement constituted a barrier to access, as the processors lacked the resources needed to join. The district stakeholders' meetings provided opportunities for all stakeholders in the cassava value chain to exchange ideas and discuss possible avenues to promote and market their cassava commodities. Consequently, they enabled farmers within a specific zone to exchange information about raw materials and transport availability, as well as about idle processing facilities, thereby promoting the effective integration of all the processes.

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