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# Instruments to Increase Market Power of Farmers

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## Case Studies from East Africa

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## Acronyms

ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
DUS	Distinctness, Uniformity and Stability
EAFF	Eastern Africa Farmers Federation
EASCOM	Eastern Africa Seed Committee
ECAPAPA	Eastern and Central Africa Programme for Agricultural Policy Analysis
FAO	Food and Agricultural Organization
ICRAF	International Center for Research in Agroforestry
IFAD	International Fund for Agricultural Development
ISTA	International Seed Testing Association
KADFA	Kabale District Farmers Association
KAIS	Kenya Central Artificial Insemination
KARI	Kenya Agriculture Research Institute
KCC	Kenya Cooperative Creameries
KDL	Kinangop Dairy Limited
KEPHIS	Kenya Plant Health Inspectorate Services
KES	Kenya Shillings
KNFC	Kenya National Federation of Co-operatives
KSC	Kenya Seed Company
NARO	National Agricultural Research Organization
NUF	Nyabyumba United Farmers Group
OECD	Organization for Economic Cooperation and Development
OPV	Open Pollinated Variety
PAAP	Policy Analysis and Advocacy Programme
QPM	Quality Protein Maize
TOSCI	Tanzania Seed Certificate Institute
UNFFE	Uganda National Farmers Federation
USH	Uganda Shillings
SACCO	Savings and Credit Co-operative Society

## Preamble

Market power refers to the ability of a seller (or a buyer) to impact the price and the marketing conditions of a product. In a free market economy, as is the case of most agricultural-based economies in East Africa, prices are normally determined by the free forces of demand and supply (and the marketing conditions are determined by other factors). For most commodities, there are many producers who are too small to have, normally, an impact on the price or the marketing conditions of a commodity. However, this situation is different when the farmers join together in a group to sell their product or they negotiate with a specific buyer to produce and sell to that buyer.

In order for the producers to increase their market power so as to increase their bargaining power, and therefore their power to affect the price they receive or the marketing conditions, they need to change their marketing strategies and/or benefit from adapted policies. For example, farmers may benefit from supply management policies or organize supply management by themselves, organize collective marketing for their products, enter into a contract with buyers or involve themselves more in the supply chain through the setting up of cooperatives.

This report contains three interesting cases of farmers and farmer groups who utilize various instruments to strengthen their market power. The first case of Muki Dairy Cooperative Society illustrates how farmers collectively market their milk, under a cooperative arrangement. The second case illustrates how farmers multiply seed under a contractual arrangement with a local seed company, Freshco Seeds. The third case shows how a farmers' group, Nyabyumba United Farmers Group has successfully built capacity of its members to supply potatoes to a fast food restaurant located in Kampala, the capital city of Uganda. In all cases, the farmers are realizing higher prices and larger profits than previously.

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## Collective marketing by Muki Cooperative Society, Kenya

### Introduction

The two-storey structure in the middle of North Kinangop town does not stand out, except for the large sign in front, reading “Muki Savings and Credit Co-operative Society”. Muki started as a savings society by 10 dairy farmers to give loans to each other. The society has since evolved into a group of three cooperative societies. The 10 pioneers had one thing in common – milk. They all reared dairy cows and produced milk for sale. The society now has a membership of over 6,800 farmers in the Kinangop area, of whom 4,800 are active. The active members are the ones who deliver milk regularly. By the society’s by-laws, if a farmer does not deliver milk over a period of six months, (s)he is considered inactive. For a farmer to be considered active again, (s)he will have to first explain his/her absence.

This case study successfully illustrates collective marketing using the cooperative model. The case shows how opportunities for further innovation in this model can be exploited for the economic benefit of smallholder farmers.

### Dairy farming in Kenya

Kenya’s formal dairy industry dates back over 100 years, where dairy production was mainly the preserve of large commercial farmers, who were colonial farmers. The first major policy change in the industry was the Swynnerton Plan of 1954 which permitted Africans to engage in commercial farming and own grade cattle. This plan was complemented by the deliberate government effort to support small farmers through assistance in production and marketing. At the time, the Kenya Cooperative Creameries (KCC), the government-owned milk processing plant was the sole processor of milk in the country. Up until the 1970’s small holder farmers could only access KCC through contracts and a milk quota system, which had minimum quantity requirements. In 1964, the government appointed a Commission of inquiry (the Kibaki Commission) which recommended the abolition of the quota system and the opening up of KCC to all farmers.

The Dairy Development Policy of 1993 was the single most significant policy shift in the industry. In line with the increasing globalization of the world economy and the move towards free markets, the policy recommended the liberalization of the dairy industry. The policy decontrolled prices and revoked KCC’s monopoly on urban milk sales. As a result, there was a rapid increase in raw milk sales in the capital city, Nairobi. Currently, the industry is operating

under the revised Dairy Development Policy of 2000. This version is an update of the 1993 version and aims to ensure the orderly development of the dairy sub-sector through the collaboration and participation of all the stakeholders.

### *Milk marketing channels in Kenya*

There are estimated to be 3.3 million dairy cattle in Kenya with an annual production capacity of 2.5 billion liters of milk. Of this production, about 1.4 billion liters (55 percent) is marketed, while the remaining 1.1 billion liters is either consumed on the farm for subsistence or fed to the animals. There are five distinct channels of locally produced milk from the farmers to the consumers (See Figure 1<sup>3</sup>). The most significant channel is the *direct sales from the farm to the consumer*.

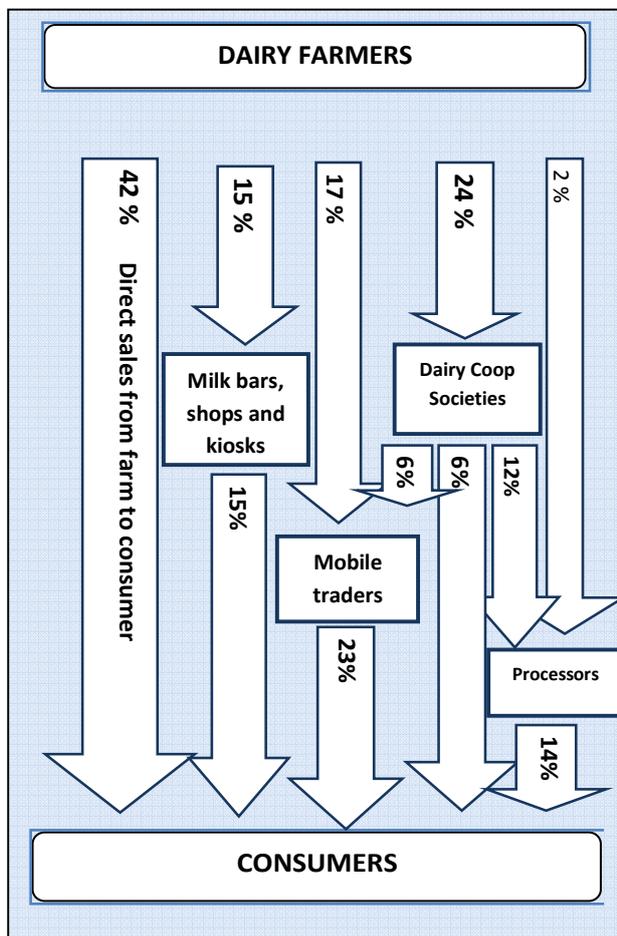


Figure 1: Milk Marketing Channels in Kenya

This is the milk that a farmer sells directly to his neighbor without the use of a middle man. These sales account for about 42 percent of all marketed milk. This channel is the predominant form of marketing in the rural and peri-urban areas for several reasons. The milk is perceived as fresh, creamy, rich and tasty by the consumer, and that is how most consumers prefer their milk. In addition, the milk is usually delivered to the consumers' door step, which is especially beneficial for women who are usually loaded with additional household duties. Further, milk sold in this channel is of flexible quantities, determined by the consumers' preferences.

Closely related to this channel is the milk sold *via mobile traders*. Traders on bicycles move from farm to farm collecting milk into aluminum milk cans or plastic jerrycans and then sell the milk to consumers. This channel accounts for up to 17 percent of total marketed milk and thrives for similar reasons.

The third milk channel is *through milk bars, small shops and kiosks* mainly located in the rural and peri-urban areas. This channel accounts for about 15 percent of marketed milk. According

<sup>3</sup> Source of Figure 1: Adopted from Muriuki et. al (2003)

to the Kenya Dairy Board (KDB), there are more than 300 licensed milk bars in Kenya, of which 120 are located in Nairobi. Most of this milk is procured directly from the farms and is raw. However, this unprocessed milk is usually sold alongside the processed milk from processing companies. Though most of these establishments are unlicensed, the Kenya Dairy Board is encouraging them to formalize their operations and adhere to hygiene standards for milk sales. To this end, some of the milk bars have installed simple technologies to pasteurize and package their milk before sale.

The fourth channel is *through dairy cooperatives*. Dairy cooperatives in Kenya are registered under Section 11 of the Cooperatives Act Cap (490). Currently, it is estimated that there are over 200 dairy cooperatives engaged in milk marketing. Milk from these cooperatives is either both processed and packaged (some cooperatives have their own processing plant, and sell pasteurized branded milk to consumers) before being sold to consumers, or sold to other processors.

The final channel is *through processors*. Milk processing in Kenya dates back to the 1920s after the establishment of the first processing company in the country, Kenya Cooperative Creameries (KCC). Prior to opening up the industry in the early 1990s, KCC monopolized the formal milk processing and marketing sector in Kenya. During the 1960s and 1970s, the company opened 11 processing plants and 11 cooling plants across the country. KCC collapsed in the late 1990 due to mismanagement which was evidenced by the late and irregular payments to milk suppliers. At the time, only one of the 11 processing plants and two of the 11 milk cooling facilities were in operation. The company has since been revived under the new name, New Kenya Cooperative Creameries. Following liberalization of milk processing and marketing, the number of milk processors increased significantly from 12 in 1992 to 45 in 2003. Aside from New KCC, prominent processors include Brookside Dairies, Limuru Milk Processors, Fresha Dairy, Delamere Estates, Premier Dairies, Aberdare Creameries Ltd and Meru Central Farmers Ltd.

### The story of Muki Dairy

Located in the Nyandaura area in Rift Valley province in Kenya, MUKI Savings and Cooperative Society Ltd was formed in 1989 by a group of about ten farmers. The farmers' initial purpose was to give loans to each other. The pioneer, a rich business man from the area realized that his fellow farmers were repeatedly approaching him for financial assistance. He then brought together nine other close friends and fellow farmers to start a savings society. These pioneers would contribute KES 500 (€ 4.63)<sup>4</sup> per month to the scheme and then advance money to each other as the need arose. The society grew to about 50 members in a few years, after which they

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<sup>4</sup> KES – Kenya Shilings. € 1.00 = KES 108 (January 2010)

decided to rent some space in the trading center, Kinangop, to be more accessible to members. Muki is a member of the Cooperative Alliance of Kenya (CAK)<sup>5</sup>, which is a member of EAFF.

After acquiring operating space, the organization was officially registered. As all the members were dairy farmers, the society started selling milk to processing companies. The main buyer at the time was KCC. However, shortly after milk marketing was liberalized in the early 1990s, KCC started facing management and operational problems. These difficulties resulted in the company's failure to pay its milk suppliers. Muki ceased to supply KCC with milk after the failed to make milk payments worth KES 9 Million (€ 83,300) to the society. The debt was referred to a court for settlement. Unfortunately, this reference was not successful.

At the time, Muki had only one department, savings and loans. In 2003, the society registered another organization called Muki Investment Cooperative Society which was aimed at providing more services to its members. Muki Group of Societies now consists of four institutions. The organizational structure of the group is presented in figure 2.

*Muki Savings and Cooperative Society (SACCO)* provides financial services to its members, who are predominantly farmers. The society has three divisions - a savings division. After farmers have deposited their money for six months into a savings account, they are eligible to borrow. The second division is for micro finance services. Eligible members may access loans either as individuals or as a group of between five (5) and 50. However, borrowers can only access as much as they have deposited in savings. The interest rate for borrowing is one (1) percent monthly on a reducing balance. The third division is for banking services. Muki SACCO now has four branches in three districts in the Nyandaura area, is headed by a General Manager, and has sixty two (62) staff.

*Muki Investment Cooperative Society* is the business arm of the group, and is responsible for all the investment related activities undertaken by the group. The investment society owns the building in which all the other three institutions are housed, and rents space to these sister organizations. Farmers pay an annual fee of KES 80,000 (€740) to the investment society, which has since purchased six tractors with trailers which are used in milk collection. The society has recently (January 2010) imported a processing plant, which is expected to be fully installed and tested by March 2010. The society is encouraging farmers to buy shares in the plant worth KES 250 per share (€ 2.30). However, Muki intends to hire a share valuer to assess the true value of the shares in the near future. The Investment society is headed by a Manager, and has eighteen (18) staff.

*Muki Farmers Cooperative Society* is the marketing arm of the group, which sells the milk to a processing plant called Kinangop Dairy Limited. The marketing society collects the farm receipts

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<sup>5</sup> CAK is the apex organization for cooperatives in Kenya

and enters the data into a database which is then forwarded to the bank for monthly payment. The farmers' society has five divisions – Finance; Milk procurement; Artificial Insemination and Field extension; Agricultural veterinary and farm merchandise; and Animal Feed production. The society is headed by a General Manager and has sixty eight (68) staff.

*Kinangop Dairy Limited:* Muki Group of Societies through the Investment Cooperative Society is in the process of setting up a processing plant located about half a kilometer from the main offices. This facility has been procured through a sister company called Kinangop Dairy Limited, which was set up entirely for this purpose. The processing plant will have facilities for pasteurizing, cooling, storage and packaging of milk, under the brand name "JAMAA".

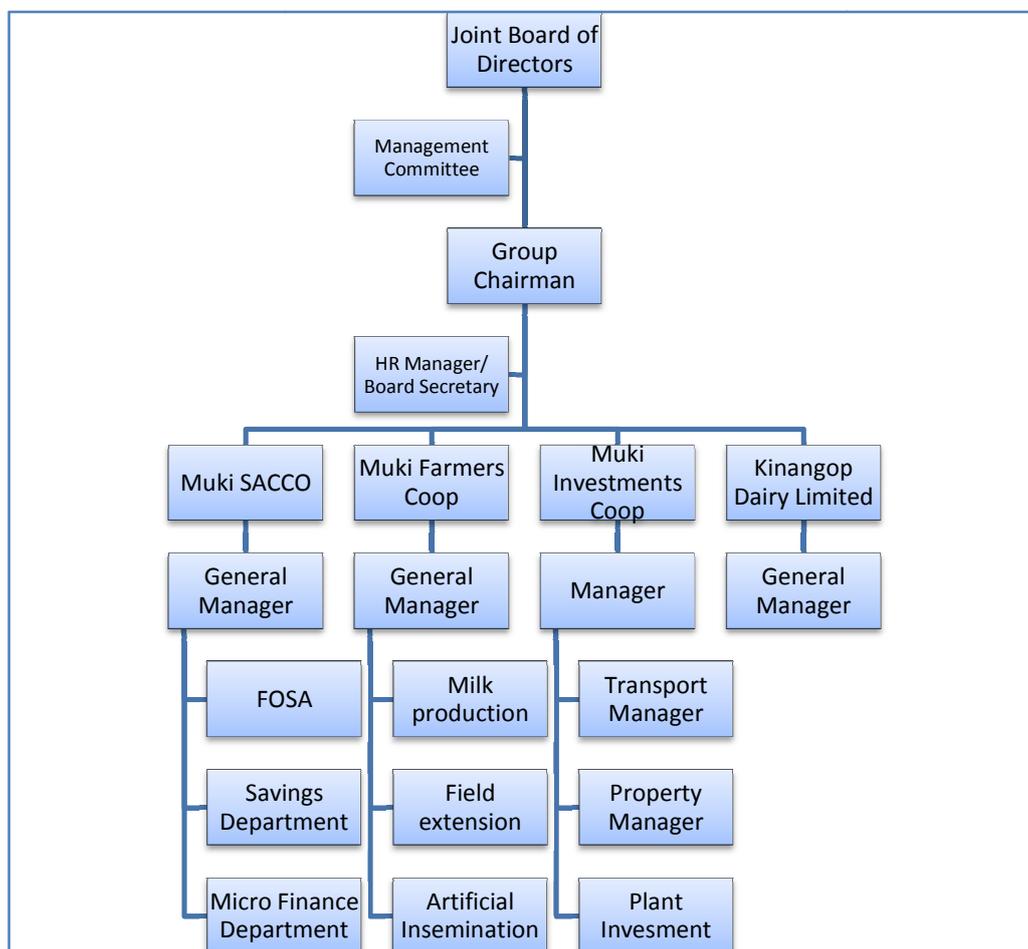


Figure 2: Muki Group of Societies - Organizational Chart

The day-to-day operations of the four institutions are headed by professional Managers who are hired by the Joint Board. In addition, the board appoints a Management Committee from within itself to monitor the activities of the institutions. The committee is appointed every year at the Annual General Meeting, and consists of farmers, who are members of Muki. The committee meets once every month to deliberate on various issues ranging from milk prices to the status of the processing plant and the input stores.

### Milk marketing at Muki

*Muki Farmers Cooperative Society* is registered under the cooperative act to market farmers' dairy products. The society collects milk from farmers who live within a 20-kilometer radius of the society. The milk is sold to Kinangop Dairy Limited (KDL), which cools, processes and packages the milk under the brand name "*Jamaa*". At the moment, Kinangop rents machinery

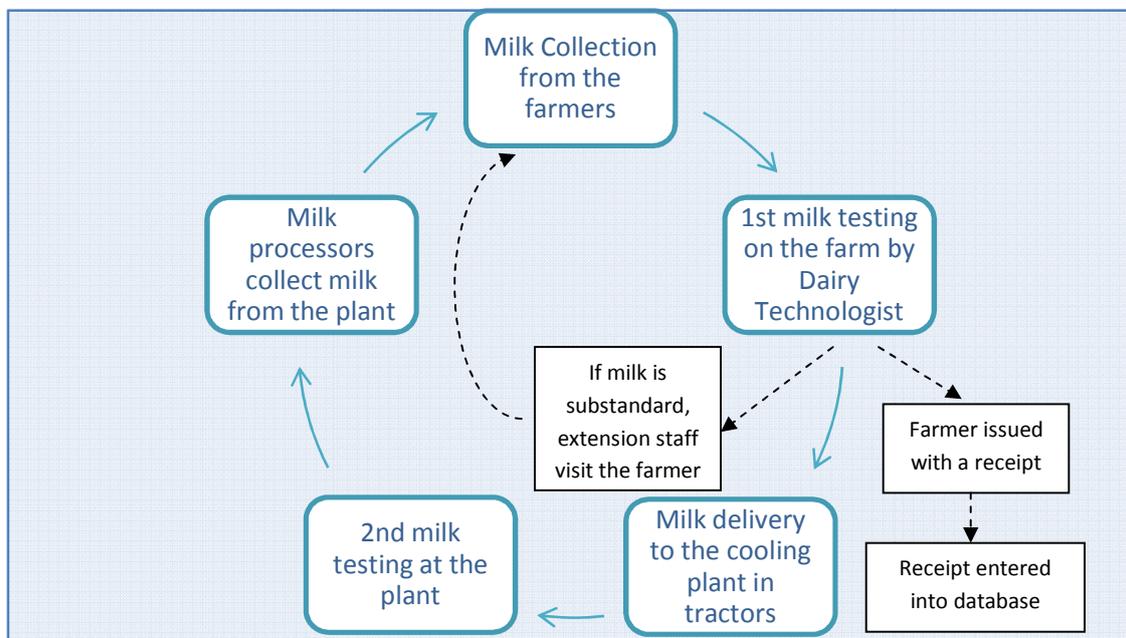


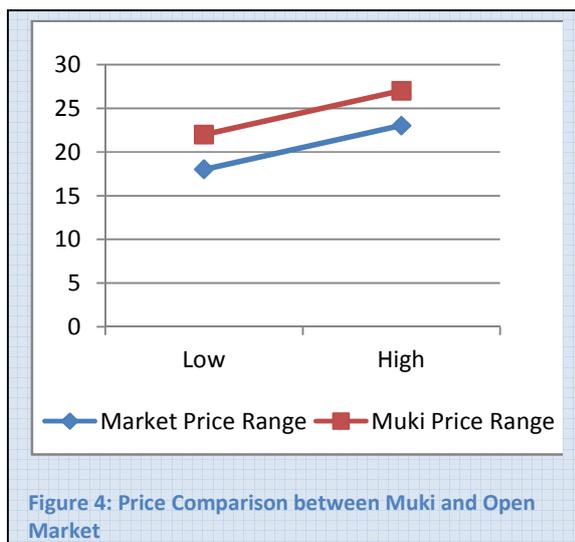
Figure 3: Milk Marketing by Muki Dairy

and premises for the cooling, processing and packaging of milk. This arrangement is proving to be very expensive. This is why the society is installing its own processing facility.

*Milk collection, testing and grading:* Milk is collected between 2:00 am and 10:00 am every morning using tractors and trailers owned by the group. The milk is tested on site for water content, density, and bacteria by a trained and certified dairy technologist or milk graders. The certificates are awarded by the government-owned Naivasha Dairy Training Institute after completion of a two year training course. After collection, the milk collectors then issue the

farmers with receipts indicating how much milk has been collected, the price per liter of milk, and the total revenue due to that farmer. The collectors retain a copy of the receipts. Milk collection also entails grading.

*Milk processing and sale:* The collected milk is then brought to the collection and cooling plant, called Kinangop Dairy Limited (KDL), in which farmers own shares. At the plant, the milk is tested again, graded and then packaged for sale. Currently, KDL is hiring machinery and renting the premises on which the plant is located. Muki Group is in the process of installing a processing plant at the same premises. The installation is scheduled for completion by the end



of March, after which the group will be able to process and package milk using its own facilities. This initiative in value addition is expected to increase the payments of milk received to farmers.

The plant is located in North Kinangop trading center, within close proximity of the Group's offices. The current product from the plant is whole milk. The plant has a capacity of 35,000 liters per day, although the operating capacity is only 23,500 liters per day.

Once the milk is delivered to the cooling plant, it is pumped into the coolers, where it is instantly cooled. The milk is then stored until the buyers' trucks arrive at the facility. The milk is sold in bulk. The main buyer of the bulk milk is New Kenya Cooperative Creameries Limited (KICC), one of the largest dairy processing companies in the East African region.

*Price determination and payment to the farmers:* The milk receipts are submitted to Data Managers whose offices are located in the same premise as the Savings and Credit Cooperative Society. The officers enter all the information into a database which shows the number of cows owned by each farmer, the weight of each cow, and the amount of milk collected from each cow daily. The records are updated on a daily basis. On the 10<sup>th</sup> of every month, each farmer's total revenue is calculated, and his/her account with the bank is credited.

Milk prices paid to the farmers are mainly determined by a combination of two factors – prevailing market conditions and agreement between the farmers and Muki. Milk supply varies according to the two seasons in Kenya – high supply in the wet and low supply in the dry season. Muki offers high payments to its farmers in compliance with good trading practices. The prices are agreed upon by the two parties. Both parties use a mark-up to determine their

reserve price. That is, they first calculate their total overhead, and then add a profit margin. The group pays farmers between 90 and 95 percent of the price that it receives from the processors. This translates to between KES 23 and 27 per liter which is above the prevailing market prices of KES 18 and 22 per liter<sup>6</sup>.

## Challenges faced by Muki Dairy

### *Competition from other buyers*

The major challenge faced by Muki Dairy is the competition for raw milk from the big processors. There are two main reasons why this competition is a significant threat. Firstly, the big processors at times offer better prices than Muki. Secondly, farmers prefer receiving a daily income as opposed to a monthly income which Muki offers. The big processors often pay cash at purchase. However this problem is not very significant since Muki only collects the morning milk from the farmers, leaving the evening milk for sale to other buyers or for home consumption.

### *Over production of milk*

The rainy season usually coincides with good pasture and increased milk production. This was evident during the months of January and February 2010. The good rains coincided with the government policy to encourage dairy farming. The two events combined to lead to an over production of milk country-wide. The increased production then led to a significant reduction of the price paid to dairy farmers, from KES 23 per liter (Nov/Dec) to KES 14 per liter (Jan/Feb). This reduced price can potentially discourage farmers from engaging in dairy farming, and induce farmers to shift to other farming activities. The management of Muki strongly believes that the price fluctuations can be addressed by adding value to the milk through processing. The group's investment in Kinangop Dairy may provide a cushion to the changing milk prices.

## Why Muki is a successful model

*Farmer ownership combined with professional management:* The group is owned and governed by farmers. Farmers run the four institutions through the Management Committee, which is elected by the Board. Because of this ownership, the group's direction is farmer-led. The professional managers of the four institutions provide technical advice to the board and the farmers make the final decision as to what direction to take. This combination ensures that the farmers' interests are taken into account.

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<sup>6</sup> Prices during the months of November and December 2009

*One-stop Shop:* In addition to marketing services, the Group also provides financial services, extension services, and an outlet for the purchase of inputs such as chemicals, all services under one roof. The Group owns a chain of four retail outlets that sell farm inputs such as pasture seed for growing animal pasture, chemicals and drugs for the animals. Farmers can either receive an advance from the bank to pay for these inputs or the money is debited from their accounts when their monthly payments are made. It is also useful to note that farmer also acquire inputs such as seed for other farming activities, since they are not only engaged in dairy farming.

Through the savings arm, Muki SACCO, farmers are able to access credit for other expenses outside dairy farming. The only requirement is that farmers must operate an account with the bank for a minimum of six (6) months. The SACCO also remits monthly retirement benefits to the National Social Security Fund (NSSF). However, this service is voluntary.

The Group offers extension services to the farmers. The most notable service is for artificial insemination (AI). Suppliers of semen are either private companies such as ABS, and World Wide Services or the government through the Kenya Central Artificial Insemination (KAIS). As an additional service, the group links the farmers to other services such as the national hospital insurance fund for health benefits.

*Community based ownership.* Muki group is an organic community based project. The project was initiated by members of the community and has grown with their full involvement, and as a result of their hard work and investment. Farmers are part owners of the society, and there is a general sense of wanting the society to succeed. Farmers feel obliged to sell their milk to the society instead of selling to other buyers. In addition, farmers are encouraged to buy shares in future investments such as the processing plant. The farmers are currently minority shareholders in KDL with 42 percent ownership, while the General Manager owns the remaining 58 percent. The GM intends to sell more shares until the farmers are majority shareholders with 60 percent stake in the organization. As a private organization, dividend is paid to all the share holders annually. The company paid out divided worth KES 26 per share in 2009 and is targeting to increase that payment by 30 percent in 2010 to KES 35 per share. The organization understands of the farmers' situation. For example, if a farmer came to the SACCO and reported that his/her cow had died, after assessing the situation, the SACCO would reschedule his loan repayments.

## **Conclusion**

For such arrangements to be successful, both partners need to nurture their relationship. The management of Muki believes that developing an understanding of the farmers' needs and seeking to address those needs is crucial to success of the program. Farmers are producers as

well as consumers, therefore, it makes sense to only buy the morning milk and leave the evening milk for either subsistence consumption or sale to other buyers. Further, farmers have domestic expenses to meet, and they appreciate receiving advances to cater for these expenses. However, there is also a need for the farmers to develop a culture of saving. This is why Muki insists on monthly payments to the farmer's account, as opposed to daily cash payments.

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## Contract farming by Freshco Seeds Ltd, Kenya

### Introduction

Freshco Kenya Limited, or Freshco Seeds, is a private seed company, engaged in the production, processing and sale of certified seed in the region. This case illustrates how a seed company works with a careful selection of farmers and trains them to multiply seed material that has been developed by research institutions. The farmers enter into a contract with the seed company, and are expected to produce exclusively for the company. Prices are negotiated at the beginning of the contract. If the partnership is successful at the end, a new arrangement is entered into the following growing season. The key to the success of this relationship is the realization of mutual benefit for both parties.

### The Seed industry in Kenya

Kenya's seed industry, like most in sub-Saharan Africa has two sub-sectors – the formal and informal sub-sectors. The informal sub-sector refers to the seed that is saved on the farm at the end of the harvest and used the following season. Users of farm-saved seed either source the seed from a neighbor or from a local market at a relatively low price, as compared to seed sold in the formal market. The informal seed sector is a dominant source of seed in the low potential agricultural areas in Kenya such as the coastal areas, low lying areas, around Lake Victoria and in the dry zones. Most of the crop in these areas is for subsistence. However, 'informal' seed is still the most significant source of seed for farmers in Kenya, accounting for 78 percent of all seed used at the time of planting (Ayiekho and Tshirley, 2006).

The formal seed sector is more organized and operates around an established legal and regulatory process. The formal sector includes various stages of activities and functions. Seed is first developed in research institutions by highly trained scientists. The seed produced at this stage is called breeder seed or foundation seed. After breeding, the seed is multiplied in a controlled environment by the seed breeder. At the end of this stage, the seed is referred to as

pre-basic seed. A second phase of multiplication is then undertaken, also under controlled conditions. The product at the end of this stage is basic seed. This multiplied seed is processed – which includes activities such as dyeing the seed to prevent pests, grading and then

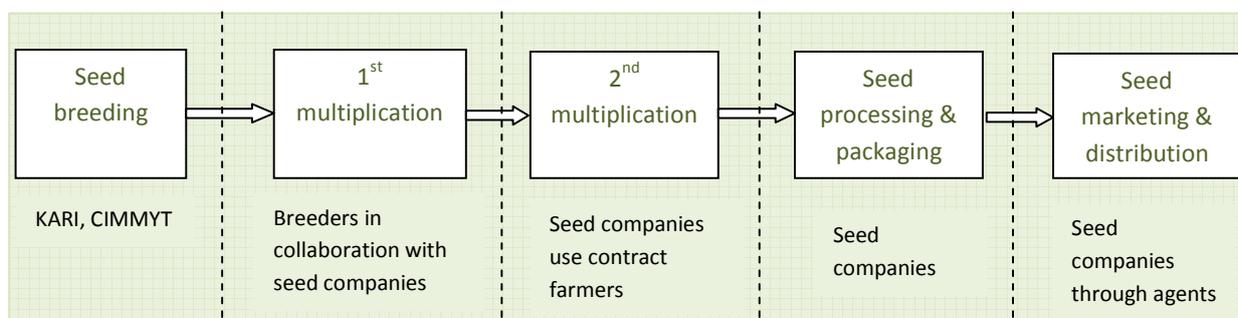


Figure 5: Seed Channel from Breeding to Marketing

packaging. The packaged seed is then marketed and distributed for sale to farmers and other buyers as certified seed.

In Kenya, the Kenya Plant Health Inspectorate (KEPHIS) is the government regulatory agency mandated to control the quality of all agricultural inputs and produce in the country. The agency is responsible for certifying seed before it enters the markets, issuing import and export permits to seed traders, and protecting the rights of breeders, among other functions.

#### *Seed breeding (production)*

The Kenya Agricultural Research Institute (KARI) is the main source of breeder seed in the country. The other source of breeder seed is the International Maize and Wheat Improvement Centre (CIMMYT) located in Mexico. KARI usually carries out the first phase of multiplication in collaboration with registered seed companies. These companies must enter into a contractual agreement with KARI either on an exclusive or non-exclusive basis. The companies are awarded the contracts on a competitive basis. Although certified seed are higher yielding than the OPV category, the kernels cannot be replanted the following year, as they will have lost their high-yielding characteristics. Commercial farmers have to buy new improved seed every year. This explains the low utilization of improved seeds among the predominantly subsistence farmers in the low yielding areas.

### *Seed marketing*

Prior to liberalization of the seed industry in 1996, the state-owned Kenya Seed Company (KSC) was the sole company engaged in the marketing and distribution of improved seed varieties. Though structured as a private company, KSC is still majority owned (52 percent shareholding in 2001) by the Kenya government (Nambiro et. al., 2004). Owing to the company's long history in the seed sector, KSC is the market leader with respect to seed sales, accounting for over 90 percent market share in 2004 (Mabaya et. al., 2004). In addition to KSC, there are 50 registered private seed companies and four other public organizations under KARI (called KARI Seed Units) engaged in the marketing of certified seed in Kenya. Maize is the predominant seed in the formal sector.

According to KEPHIS estimates, about 27,500 metric tons of certified maize seed is sold in Kenya annually, compared to 1,030 metric tons of beans and 300 metric tons of rice (ibid). Most of the maize seed that is sold is of the hybrid variety, compared to the open pollinated variety which is sold in the low potential areas.

The seed industry in Kenya is regulated by the Seed and Plant Varieties Act (Cap. 326), which clearly outlines the roles and responsibilities of the various organizations and committees with respect to seed development, seed trials and testing, release, certification, and trade. The most recent version of the act was published in January 2009 by the Ministry of Agriculture.

### *Harmonization of seed policies and regulations in Eastern Africa*

The East Africa region is currently undergoing a process of harmonization of seed policies and regulations. The process, initiated by the former Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA) in 1999, is currently being spearheaded by the Policy Analysis and Advocacy Programme (PAAP) of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). The efforts to harmonize the seed policies and regulations across the East African community stemmed from the high costs that seed companies face in meeting the different regulations in four East African countries – Uganda, Kenya, Tanzania and Rwanda. These costs were set up at a time when the seed industry was

entirely run by the public sector. Since private players are now engaged in seed trade activities, these regulatory barriers inhibit industry development.

The harmonization process revolves around five key areas: seed variety evaluation, release and registration; seed certification; phytosanitary measures; plant variety protection; and import/export documentation. Since 1999, considerable progress has been made in several of these key areas. The process of *variety evaluation and release* has been significantly simplified, and the testing period has been reduced from three years to two seasons. A regional variety list for Kenya, Tanzania and Uganda was produced in 2004, and is updated periodically.

Joint *seed certification* exercises have been carried out between Kenya, Rwanda, Tanzania and Uganda to build confidence and capacity on the ground since 2005. Of the four, Kenya is the only country that is both accredited to the Organization for Economic Cooperation and Development (OECD) and a member of the International Seed Testing Association (ISTA). Uganda acceded to OECD in 2005 and is a member of ISTA, but has not yet been accredited. Tanzania is a member of ISTA, and is finalizing the quality assurance manual and has applied for OECD membership. In July 2009, ASARECA Eastern Africa Seed Committee (EASCOM) trained 18 officers from seed companies in the region in the area of distinctness, uniformity and stability (DUS) testing for seed. Certification agencies use the DUS test to establish the characteristics that set apart one seed variety from another for purposes of official release of new varieties, seed certification, variety maintenance, commercialization and establishing plant breeders' rights. The DUS test is conducted for at least two seasons. Of all the countries in the region, only Kenya and Tanzania have appropriate seed testing infrastructure under their respective regulatory agencies, KEPHIS and the Tanzania Official Seed Certification Institute (TOSCI).

Further, seed trade associations have been formed in Kenya, Ethiopia, Madagascar, Tanzania, Rwanda, Burundi and Uganda, and the number of seed companies in Kenya has increased from 17 in 1995 to over 50 in 2009. The number in Tanzania has increased from 13 in 2000 to 19 in 2007. In Uganda, the number has increased from 5 in 2000 to 16 in 2008. These developments augur well for competitive growth of the regional seed industry (ASARECA, 2008).

### About Freshco Kenya Limited “Freshco Seeds”

Freshco Seeds is a private seed company in Kenya specializing in the production and marketing of hybrid maize seeds. The company was started in 1996 by Captain James Gichanga Karanja, the current Chief Executive Officer. At the time, Freshco was selling macadamia seedlings to growers for a processing company called Equatorial Nut Processors. The company entered the maize seed market in 1997 as a distributor for Pioneer Hi-Bred and later for Monsanto, both of which are foreign-owned companies. Freshco first engaged in seed production in 2002 selling branded “Freshso” certified seeds. Since then the company’s performance has improved in terms of output and profit. Though KSC is the dominant supplier and marketer of improved maize seed in Kenya, Freshco is still an important player, and is among the leading six private seed companies in the country (see figure 6), in an industry of about 50 private companies.

Freshco sources breeder materials from two sources – KARI and CIMMYT. Though the global headquarters for CIMMYT are in Mexico, the organization’s global maize program is located in Nairobi at the International Center for Research in Agroforestry (ICRAF). Freshco recently signed a ten-year contract with KARI to exclusively multiply and market the first hybrid Quality Protein Maize (QPM) varieties in Kenya. QPM is a variety of maize that is resistant to the deadly disease, *striga*, blight and leaf rust. The variety is preferred due to its high protein content which is of great nutritional value both for human consumption and animal feeds. Freshco currently markets three categories of QPM: KH600-31Q which is recommended for moist medium altitude

Seed company	Market share (%)
Pioneer Hi-Bred	3.00
Monsanto	2.00
Pannar Seed	1.75
Western Seed Company	0.75
Oil Crops Development Ltd	0.50
Freshco Kenya Ltd	0.25
Other	0.10
<b>TOTAL</b>	<b>8.35</b>

**Figure 6: Market share of Private Seed Companies in Kenya in 2004**

Source: Mabaya et. al. (2009)

areas, KH500Q, recommended for medium altitude areas and KDVI – 1, 3 and 6, which are drought resistant varieties and recommended for low altitude maize growing areas. The QPM varieties are fast gaining popularity among the maize farmers. Figure 6 illustrates the chain of activities involved when Freshco multiplies QOM seed from breeding to sale.

In addition to QPM, Freshco also markets bamboo seedlings, jatropha seeds and seedlings, legumes and pasture seed, and macadamia seedlings, where the company propagates seedlings in Kenya, Uganda, Rwanda and Burundi.

### **Working with farmers**

Freshco does not own farms but instead works with contract farmers in the multiplication of seeds. While in the process of acquiring the royalty for a specific seed variety, Freshco actively recruits farmers. The recruitment process of farmers is a very critical process, as it entails careful selection of farmers who will be given the responsibility to handle delicate plant materials that have taken years to develop. The farmers may also be recruited at the breeder stage. A total of 10-12 contract farmers are used. The number of farmers used depends on the product that is being multiplied. The farmers are mostly small holders with plots sizes of less than five (5) hectares. However, a few large scale farmers are also used. These farmers have land holdings of over five (5) hectares but less than 100 hectares. Freshco prefers to deal with small-scale farmers because the multiplication is done on small plots of land ranging from one (1) to four (4) hectares. The small-scale farmers are mainly located in the districts of Makweli, Iyata, Embu and part of Machakos. The bigger farmers are located in the North Rift Valley region in the districts of Kitale and Nakuru.

Freshco identifies the farmers through farmer groups. After going into an area, the company interacts with the leaders of the farmer groups, and other local and opinion leaders in the area to carefully identify farmers who could potentially partner with the company. The main characteristics of the potential farmer are that he/she should be trustworthy and able to comprehend and apply instructions. The quality of trustworthiness is critical because Freshco will entrust these farmers with sensitive and expensive materials for planting. The farmers need to be able to grasp instructions from the company's extension officers on how to plant and manage the material throughout the crop's growth. According to Captain Karanja, a good farmer is one who takes what he is told seriously.

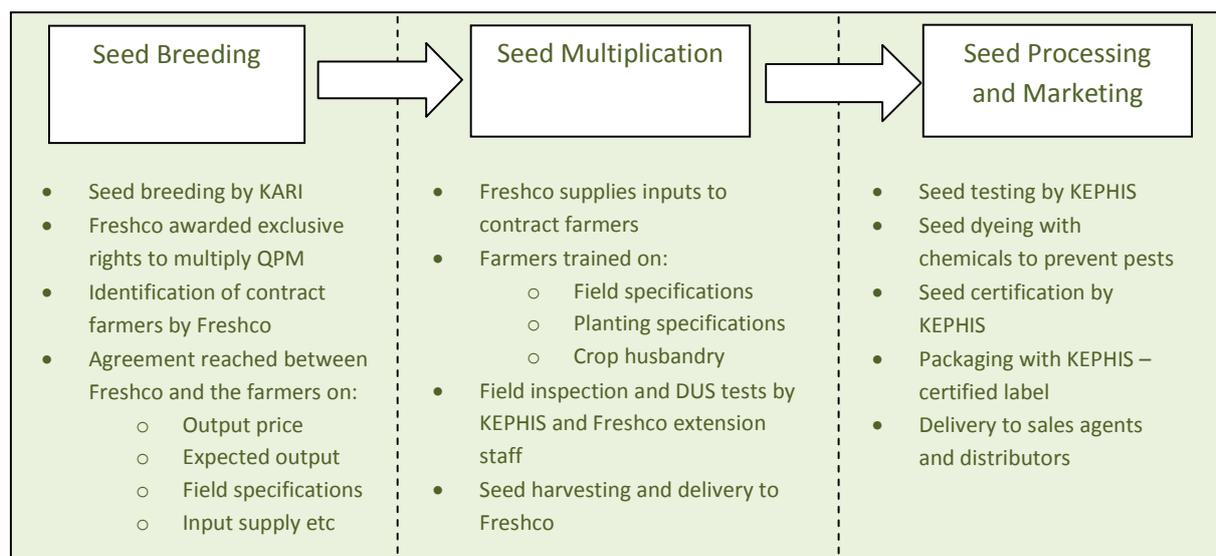
Due to the increasing unreliability of rainfall in the country, caused by climate change, the farmers are required to plant their crops under irrigation. Freshco emphasizes the use of irrigation so as to reduce the risk of losing the breeder seed due to crop failure caused by failed rains. Loss of breeder seed would cost the company dearly both financially and in terms of time, as it would set the company back two (2) to three (3) years. Figure 7 shows the various activities that take place when Freshco multiplies QPM seeds.

### *Price determination*

The prices paid to the farmers are determined through negotiations with the company. Before the contract prices are determined, both parties have a general expectation of their preferred price. The company negotiates with each individual farmer and signs a contract with each farmer. The company first proposes a price to the farmers, and then helps them to do a gross margin analysis, that is, an assessment of all the costs involved in the production of the seed, and the price being offered by the company. After performing this analysis, both parties agree on a price that is mutually beneficial.

On the farmer's side, not only must he realize profit, but the profit must be higher than the earnings from other farming practices such as selling maize on the cob on the open market or engaging in other crop production. The company is also interested in realizing a profit after the seed goes through the other stages before final sale. Equally important to the company is the quality of the harvested seed. The quality must not be compromised by poor crop husbandry; otherwise the seed's characteristics will be undermined. To the extent possible, Freshco prefers to use the same farmers ever season, because it takes time to develop the necessary skills for seed production. Therefore the company is very interested in building the capacity of its selected farmers, so they can become repeat contract farmers. Freshco is also keen to ensure that the farmer do not feel cheated financially.

For the final seed to be certified, the farm on which it is grown must be strictly monitored by the regulatory agency, KEPHIS. The fields for seed multiplication are first registered for inspection. Freshco then provides proof of the origin of the parent seed material that is being



**Figure 7: Chain of activities - Freshco multiplication of QPM varieties**

multiplied. The KEPHIS inspectors assess whether the farms are observing the minimum isolation distance. The farms are inspected at various stages of plant growth to check for any genetic or physical contamination, to check for the presence of any pests or diseases, and finally to monitor whether the seed that is resulting from the crop is of the intended variety.

### *Exporting seed*

In Capt. Karanja's opinion, the export process for seed is very clear. All seed material must meet the phytosanitary requirements of the importing country. Once these requirements are met, then the supporting documents are straightforward. To export to any country, Freshco would then be issued with a Phytosanitary certificate from KEPHIS. This certificate is issued once the agency verifies that the material conforms to those requirements. If the product is a new variety, then it must undergo all the relevant tests and approvals which may take between two to three years. Freshco exports macadamia seedlings to Uganda, Rwanda and Burundi.

### **Challenges working with contract farmers**

*Failure to follow instructions:* The main challenge faced by Freshco when dealing with the farmers is that in many instances they do not understand the planting and field instructions fully. On occasion, the company's field officers find this out in the middle of the season.

*Misuse of money:* Another challenge is the misuse of money. After contracts have been agreed between the two parties, Freshco advances money to the farmer for the purchase of inputs like irrigation pumps. Unfortunately, the farmers may misappropriate the money and use it for other activities.

*Contract defaulting:* Other farmers may negate on their contract and demand for higher prices close to the time for harvest. If the new demands are not met, the seed may be sold for direct consumption as green maize to other buyers. Some farmers reach the extreme of even abandoning the entire contract mid-way through the season. These challenges have heavy consequences on the company. This is why a lot of emphasis is placed on farmer selection and training at the initial stages of the partnership.

### **Driving factors for success**

*Mutual benefit:* According to Captain Karanja, the company has a successful relationship with its contract farmers, despite the challenges. The main driving force behind this success is the mutual benefit that the parties realize at the end of the season. Consistent with the company's commitment to increasing the wealth and wellbeing of small holder farmers, Freshco is very keen to ensure that farmers realize a considerable profit from the partnership. At the same time, Freshco needs to realize a profit.

*Clear regulatory framework:* Captain Karanja perceives the regulatory framework in the seed industry in Kenya to be clear. KEPHIS effectively plays its role in defining the rules and regulations to be followed by seed companies engaged in the processing and marketing of seed and seed farmers engaged in the multiplication of seed. In addition, KEPHIS works closely with the seed companies in monitoring the field activities and carrying out the relevant field tests. This collaboration builds the capacity of the company as well as the contract farmers.

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## Collective Marketing by Nyabyumba United Farmers Group, Uganda

### Introduction

Smallholder agricultural systems, particularly those in developing countries face a major challenge of poor access to better markets. Without access to profitable and rewarding markets and the skills to exploit such opportunities, most small scale farmers inevitably slip back to subsistence farming irrespective of whether they have access to improved agricultural technologies. Yet research often focuses heavily on production-related issues. In recent years, researchers have recognised the importance to look at the whole production-to-consumption chain and to adopt a multi-stakeholder and participatory approach to research. In this way, key market related production constraints such as issues of quality and timely supply to buyers can

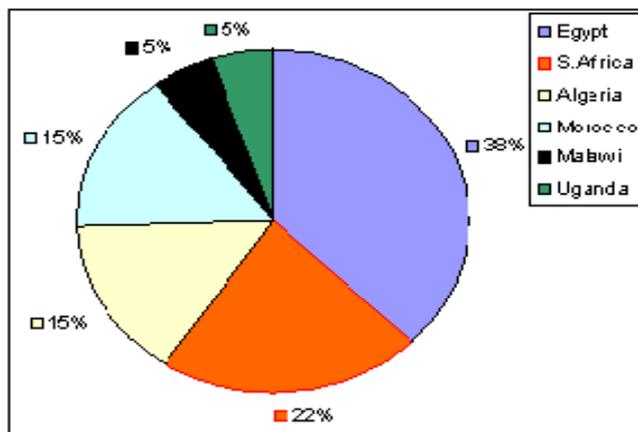


Figure 8: Major potato producers in Africa in 1997

be addressed as well as other smallholder marketing challenges. The case of potato farmers in Kabale, discussed in the coming sections of this study, validate the foregoing market chain narrative.

### Potatoes in East Africa

Potatoes were introduced in East Africa by the British in the 1880s. Potato production is increasing rapidly in the

tropics and subtropics and is declining gradually in the temperate zone. Between 1966 and 1980, potatoes in North America and Europe decreased annually by more than 2 percent but yield increased by more than 1 percent (Van Der Zaarg and Horton, 2003). In Africa and Asia, the area under potato production increased by over 7 percent and 4 percent respectively with yields increasing by 2 percent in Asia, while remaining constant in Africa in the same period (see

figure 8). In Uganda, potatoes are mainly grown in the highlands with Kabale and Kisoro districts of south western Uganda leading in production followed by Mbale and Kapchorwa districts on the slopes of Mt. Elgon. In the year 2000 Kabale district alone produced 60 percent of potatoes consumed in Uganda (Joseph Gichuru Wagome, 2008).

### **Potato marketing in Uganda**

Constrained by high product perishability and limited storage facilities, farmers do not harvest potatoes until they identify a buyer. Travelling traders/brokers also rarely buy from farmers before contacting their buyers in the capital city, Kampala. Therefore, potato trading is a demand-led business, that is, there has to be demand before supplies come to the market. This caution aims to reduce post-harvest losses that are associated with fresh produce.

For the production areas of central, western and southern Uganda, the focal destinations of the Potatoes are the Kampala markets namely Owino, Nakawa, Kalerwe, and Natete. Potatoes from Mbale and Kapchorwa generally go to the Mbale main market first. Although there are travelling traders who may directly supply other towns and urban centres, Kampala is the main wholesale market for potato traders from other towns such as Entebbe, Mukono, and Kayunga. The Mbale market is the main distribution centre for the Tororo, Iganga, Pallisa, Kumi and Soroti urban markets. A small number of restaurant operators and retailers in Gulu and Lira occasionally used to get their supplies from Kampala, but are now shifting their focus on Nebbi district that has become a dominant producer of Potatoes in Northern Uganda. For goods to move from their origin (production) to their final destination (consumption), there are various people who perform the physical functions (e.g. sorting, packing, transporting, loading and unloading) and others who undertake the economic activities of selling and buying. The stages through which Potatoes move from the farmer to the consumer are described below.

#### *Farmers*

Farmers are the first link in the Potato market chain due to the high level of people depending on agriculture in Uganda (over 80 percent). Farmers are both producers and consumers. A sizeable portion of output is consumed by farmers for subsistence and by buying from neighbours and village markets.

Farmers harvest their potatoes only when they have a buyer. At the time of sale farmers either seek the local village trader/broker or the trader/broker approaches the farmers. After striking a price deal, the farmer and village trader/broker agree on activities such as harvest date, sorting and packing. In most cases it is the farmer who harvests the potatoes from the soil while village trader/broker provides the packing bags and does the packing. It is rare that individuals or farmers groups harvest their potatoes, transport and wholesale them at urban markets. Most often, produce is sold at farm-gate and on a cash basis. Other than selling to village assemblers and brokers, farmers also sell their potatoes by the roadside and take them to the weekly village markets or sell them to the village retailer.

#### *Village traders/assemblers*

Village traders from the product areas know the farmers in their village and surrounding areas. They know what farmers have planted and when it is likely to be harvested. The village traders are in contact with transporters, wholesale buyers and financial service providers. After identifying farmers willing to sell and a price is agreed between the local farmer and wholesale buyers, village traders contact their buyers using mobile telephones. Once an agreement is reached, the deal is concluded on a trust basis. Trade can also be initiated by the wholesaler who requires urgent supplies. When the wholesaler requires potatoes, he will call his contact (village trader) agree on a price and other marketing arrangements and in turn the village trader will assemble the amount required by the wholesaler. To accelerate the process, village traders are given cash advances from wholesalers, in which case they at times regard themselves as brokers. Village traders/assemblers also sell to travelling traders from Kampala and to contacts in other towns.

### Seasonality of Potato Production in Kabale District

In Kabale, there are no clear-cut distinctive seasons for production of Potatoes. There appears to be a seasonal overlap depending on weather conditions, hence Potatoes are in production almost all year round. The main reason why Potatoes are produced all year in Kabale is due to the intensive use of all available hills slopes, swamps and valley bottoms (non-swampy) for cultivation. Farmers interviewed, said there are three Potato cultivation seasons in the year.

Figure 9 shows the potato cultivation calendar in Kabale in which the planting and harvesting times are presented. The first season starts from mid February during the short rains with planting on the hills slopes and ends June when most farmers have harvested. Harvests from this season are relatively small and the farmers consume a big proportion. Within this period of low rainfall, some farmers utilize non-swampy valley bottoms to plant Potatoes between December and January and harvest in March and April. This means that in the first season, Potatoes are harvested from non-swampy valley bottoms and hills slopes hence a reasonable market supply from March to June.

Area of cultivation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Hill slopes	Potato Harvesting	Potato planting			Potato harvesting			Potato planting				Harvesting
Swamp land					Potato planting			Harvesting				
Valley bottom	Potato Planting		Potato harvesting									Potato Planting
Mean monthly Rainfall 1990-2000	72.3	73.1	136.5	114.9	98.4	43.0	13.7	56.4	88.8	131.4	98.4	90.0

Figure 9 Potato Cultivation Calendar for Kabale district

The second season is the most important commercial season in the calendar. This season has a long rain period from September to December when most farmers again plant Potatoes on the

hills slopes and harvest mainly in January. Supply is highest during the period December to January, leading to the lowest seasonal prices.

The third season potato cultivation is done in the swamps using irrigation canals during the dry period. Commercially oriented farmers mostly exploit this season. Swampland planting is between May and July and a short harvesting season starts from August ending mid September. During the second season planting (September to November), there is very little supply of potatoes from western and southern Uganda (Kabale, Kisoro, Mbarara, Rukungiri and Rakai) to Kampala markets. During this period, a relatively high price of Potatoes is also recorded in Kampala.

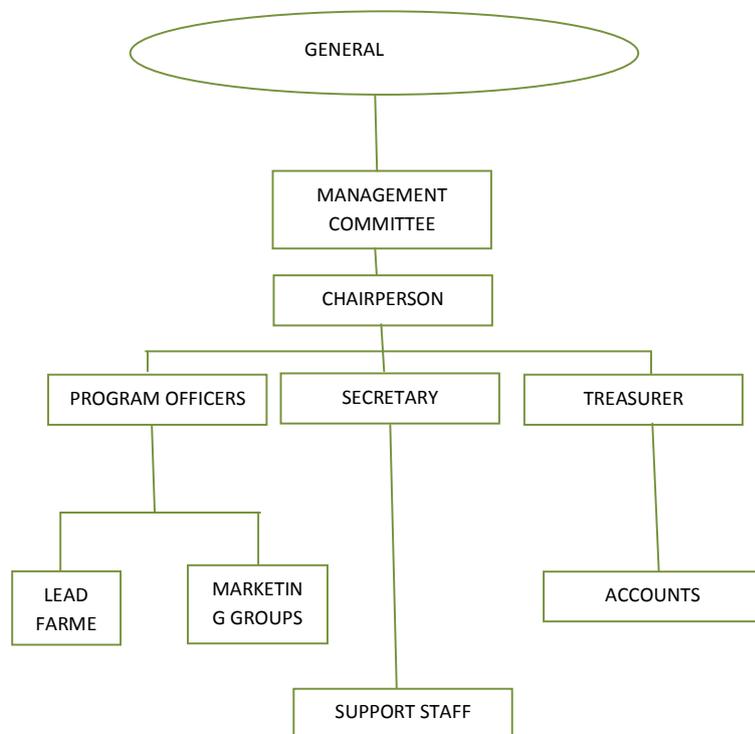
### **Evidence for demand**

Potato production soared following the period after 1999 with improvements in production practices in soil fertility and disease management. Steady urban population growth and an increase in the consumption of fast-foods particularly *French fries* and *chips* account for the growing demand for potatoes; placed at a growth rate of 4 to 5 percent per annum. However, there existed a knowledge and information gap in the marketing chain between the potato out-growers and end-buyers. This case illustrates how a farmer group successfully exploited this demand by bridging the information gaps and developing relevant networks to address competitiveness constraints.

### **The case of Nyabyumba United Farmers (NUF) group in Kabale district**

Nyabyumba United Farmers (NUF) is a farmer group located in Kabale district in south western Uganda. The members specialize in growing potatoes, in addition to other crops. The group was formed from six farmer field schools and comprises of at least 120 members with a high level of organization. Nyabyumba Unites Farmers Group is legally registered as a Community Based Organisation (CBO) and is an active member of Kabale District Farmers Association (KADFA), which is a member of the Uganda National Farmers Federation (UNFFE), which is a very active member of the Eastern Africa Farmers Federation (EAFF).

The day-to-day operation decisions of NUF are carried out by a team headed by the Chairperson of the



organization, reporting directly to the Management Committee of the organization that is appointed by the Annual General Assembly of the association. The General Assembly normally convenes once a year to review the performance of the association and the management committee. (See figure 10 for a complete organizational chart). Otherwise, there is great participation of key stakeholders (farmers and marketers) as they interact with NUF program officers on a day-to-day basis.

Figure 10 Nyabyumba Organizational Structure

The group entered into a business relationship with Nandos, a fast food restaurant chain located in Kampala, to supply potatoes for its fast food business. The potatoes are used to prepare *French fries* and *chips*.

Through the relationship, NUF members have acquired entrepreneurial skills including record keeping of production and marketing activities aiding them to keep track of profitability of their investments. Prior to contracting NUF to supply potatoes, Nandos was realizing losses of 40 to 50 percent owing to the purchase of poor quality potatoes from the open market. In addition, the supplies were inadequate in terms of quality and quantity. The premise of the relationship was to address the Nandos' supply side constraints, and NUF's demand-side constraints. To date, the business relationship is considered a success by both parties.

*“The contract farming strategy has been acknowledged as effective by different actors in the marketing chain and holds promise for wider up-scaling” Jimmy Besigye, the Chairperson of Kabale District Farmers Association (KADFA)*

*“The contracts with Kabale Irish potato farmers have ensured consistent quantities and qualities of potatoes and ensured consumer confidence. The relationship with the farmers has been mutually rewarding.”*

Mr. Andrew Balinda, Marketing Manager of Nandos Fast Food Restaurant

The NUF-NANDOS marketing chain is a three phase process comprising of three major actors; the producers, NUF and NANDOS. Each of these actors plays a distinct but coordinated role along the marketing chain, ranging from production, quality assurance, logistics and handling, and finally purchase of the product.

For five years now, NUF on average markets seven and one half (7 ½) metric tons of potatoes in 125-kg bags to NANDOS every two weeks through forward contracts. The group has registered a return on investments of up to 70 percent. The marketing approach adopted by NUF and NANDOS has presented various benefits to the stakeholders involved in the marketing chain ranging from team work, cooperation and mutual trust, flexibility in performing marketing roles to empowerment of the different actors in terms of knowledge, skills and business contacts. Equally important is the fact that the relationship is demand-driven, responding to a collectively identified business opportunity. Given the merits cited above, there is great potential for up-scaling to other potato producing areas of Uganda and elsewhere as well as an opportunity for exploration with other commodities under varied circumstances.

### ***The three implementation phases of the relationship***

#### ***Phase 1: Planning and preparing for the market***

The Nyabyumba group worked with the an NGO called Africare<sup>7</sup>, which served as a facilitator, to study the changes in demand for potato, the current production status, profitability, the group's organizational strengths, and the types of support they could obtain from their research and development partners. A marketing team was established, which comprised members of the farmers' group and service providers to evaluate market opportunities. See figure 9 for an illustration of how the business relationship evolved.

### Phase 2: Analysing the supply chain and designing the enterprise

The marketing team conducted a participatory supply chain analysis to assess the actors and services involved in producing, handling, and selling potatoes to various market outlets. The team identified several market opportunities for potatoes: the local market, the Kampala wholesale market (450 km away), small shops in Kampala, or a fast-food restaurant in the capital. The farmers decided to take on the most profitable market option, even though they knew it involved the biggest challenge. The offer was to sell potatoes to

Nandos, a multinational fast-food restaurant which buys 5 to 10 tons of potatoes a month. The farmers and market facilitator held further meetings with Nandos staff to undertake a cost-benefit analysis and confirm the viability of direct sales. The farmers and Africare then

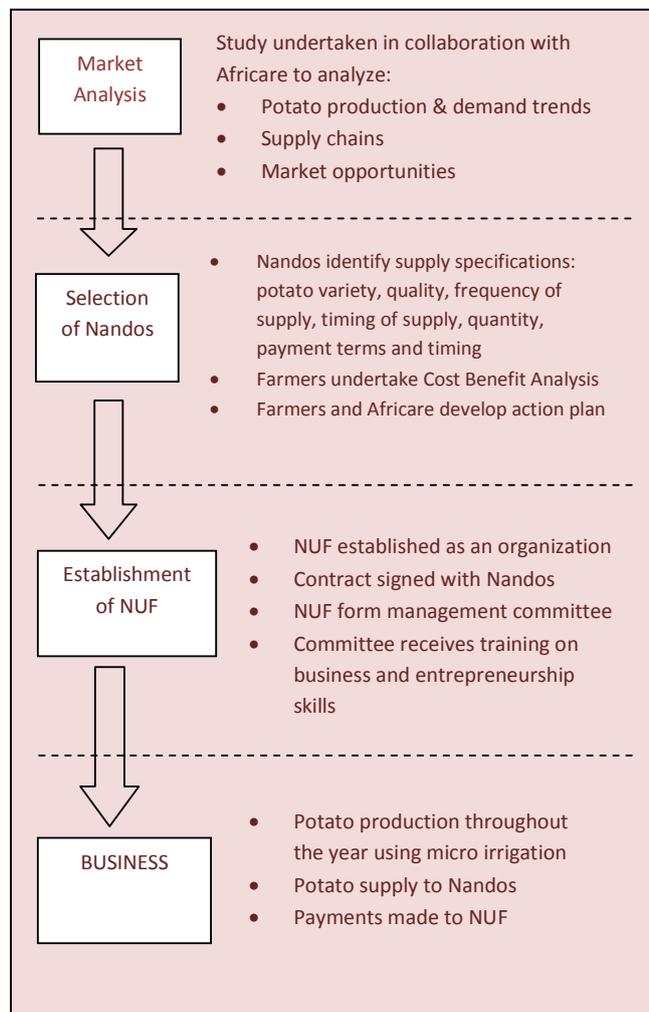


Figure 11: How the NUF-Nandos Business relationship evolved

<sup>7</sup> Africare, with support of the International Fund for Agricultural Development (IFAD) and the International Potato Center (CIP)

developed an action plan. This involved identifying critical points in the production–sales process, and making provisions for the types of actions and investments required to supply the Nandos contract.

### Phase 3: Establishing the enterprise

After developing their enterprise plan, the team returned to Kampala to negotiate contractual terms with Nandos. This included aspects such as price, variety, volume, quality, frequency of supply and terms of payment. This part of the process required careful planning and rigour in analysing costs, payments, roles and responsibilities. The market analysis and enterprise planning process revealed changes the farmers would have to make. These included the following.

Finance: Africare was willing to facilitate the process, but its policy of “no handouts” meant it would not finance them. So the farmers had to find the money themselves. They had to open a bank account so they could accept payments by cheque from Nandos. To bridge the first 3–4 months, they had to draw on their own resources and on savings. They also had to borrow about USH 3 million (€1,400) from within the community.

Organization: The group formed a management committee, and members received basic training in record keeping and accounting. To ensure quality, the group selected lead farmers to monitor production and to participate in marketing.

Communication: Nandos asked the group to buy a mobile phone to reduce communication problems. This was vital in maintaining links with Nandos and transport firms.

Consistency of supply: The farmers were used to two harvests per year, and had to make radical changes to ensure a regular supply of 10 tonnes per month. They did this through a

combination of adopting new varieties, staggered planting, planting in wetlands, using drip irrigation, building stores, and buying potatoes from other farmers when their stocks were low.

Quality: The farmers had to learn how to sort and grade their potatoes quickly. Potatoes transported to Kampala that did not meet the Nandos grade, had to be sold on the wholesale markets, where they fetched a much lower price. Failure to meet the grade was costly: 80 percent of the initial delivery of potatoes was rejected. This was a major loss in income. So over the next eight (8) months, the farmers worked hard to reduce the level of rejects. This effort paid off, and rejection rates fell from 80 percent to less than 10 percent. By December 2007, the farmers were consistently supplying potatoes that met Nandos' stringent quality requirements.

Experimentation and innovation: To achieve this performance, the farmers adopted several innovations, such as micro-irrigation in upland areas, which significantly improved the quality of off-season tubers. To synchronize production, members have taken on strict planting schedules specifying planting times, amounts to be planted, availability of planting materials, harvest date and expected yield at harvest. They changed the planting density to increase the size of the potatoes. Farmers also cut off the plants above the ground a few days before harvesting; this reduces the tuber moisture content and extends storage life. This experimental work was supervised by experts from the National Agricultural Research Organisation (NARO), Kachwekanao station in Kabale district.

### ***Outcomes of the partnership***

From July 2008 to April 2009, the farmers managed to deliver 76.5 tons of potatoes to Nandos, earning them USH 24 million (€11,000). By May 2009, they had supplied 190 tons of potatoes to Nandos, bringing their total income to USH 60 million (about €30,000). Deliveries and income are likely to rise, and more farmers will become involved. By May 2008, the group had expanded to 120 members, 80 of whom are women. More women are getting involved in production, and both the secretary and treasurer of the management team are women. The

group has progressed from serving an oversupplied seed market to being an active supplier of high quality, graded ware potatoes. It has improved its position in both chain activities and chain management.

### ***Chain activities***

The group was already involved in several chain activities, including supplying seed potatoes, organizing for land management issues, irrigation, production, financing of production, negotiating contracts, and delivering products to various buyers. The farmers have increased their control over chain activities. They grow high quality seed and have developed strong links with NARO. They have increased their ability to experiment with support of research and development partners. Transportation from remote Kabale District is a key issue. The management team has tackled this by arranging for empty trucks returning from Rwanda to Kampala or Mombasa to pick up loads of potatoes in Nyabyumba. This significantly improves their ability to deliver the product on time.

### ***Chain management***

The major innovations have been in the area of chain management.

#### ***Social capital and organization innovations***

- A small farmer group was accepted as a farmer field school and at first followed the FAO's field school approach. It morphed into a commercial farming association when the farmers learned new marketing skills.
- The organization has established various committees and elects members to the posts of chair, secretary, treasurer, marketing officer, and lead farmers, among others. NUF has developed a simple business plan and a longer term vision – one that members can articulate easily.
- Participatory approaches have significantly improved the group's ability to take collective action.

*Finance innovations*

- The group was able to save more than USH 1 million (€ 460) in the 2 years leading up to the business becoming profitable. They used this money to improve their ability to produce and market their product effectively.
- The group opened a bank account, giving them financial credibility.
- The group was able to access interest-free credit through the

*Technology innovations*

- The group has tested new potato varieties for local adaptability and market demand. The farmers have switched from a mix of varieties to one specific variety suitable for making high-quality chips.
- The group has improved its seed supply system to cover its own needs as well as supplying other farmers in the area with high quality, disease-free seed potatoes.
- The farmers are re-investing their profits into improving their production. For example, they have installed micro-irrigation systems so they can grow potatoes year round, enabling them to supply the buyer with a consistent volume each month.
- They maintain terraces on slopes to control erosion, and apply fertilizers to maintain soil fertility.

*Market linkage innovations*

- The group strengthened their links to buyers by buying a mobile phone, by being pro-active in seeking new trading relationships, and by making personal contacts in the market place and with other supply chain actors.
- The group continuously assesses its market options and is seeking ways to diversify its buyers.
- The group also continuously analyses its profit and the quality of its produce.

**Lessons learned**

The Nyabyumba farmers' enterprise is now firmly established. Although they face many challenges, they are seeking to develop strategies for growth. The group's experiences demonstrate that:

- The process of linking farmers to markets was based on a long-term (7 years) process to build social capital.
- The farmers have since moved from being chain integrators with an emphasis on seed potato production, to a highly organized supplier of quality, bulked product to a specific processor/retailer on an informal contractual basis.
- The major shift was to greater horizontal integration; they also increased their vertical integration through improvements in sorting and grading.
- The 7-year timeframe is important: groups with less social capital and leadership would have been unlikely to succeed in such a venture.
- The participatory market orientation enabled these smallholders to play a leading role in identifying a market and successfully linking themselves to a higher-value market option. This required strong support from the service providers, but it showed that farmers could learn rapidly not just how to supply, but also to innovate and respond to new challenges as they emerged.
- Taking a market orientation approach enabled the farmers to increase their income and to invest in better agronomic practices.
- The ability to test and adopt new innovations at critical points in the enterprise process, such as at production, post-harvest handling and marketing, are vital for success.
- Enterprises must be based on the collection and analysis of sound technical and economic information.
- Participatory approaches permit actors in the supply chain and service providers to achieve a better understanding of the challenges met by each actor in the chain.
- Farmers can gain confidence and improve their negotiating power by consolidating relationships with their buyers and establishing effective communication channels.
- In this case, women were able to play a key role in developing and sustaining the business.

### *Ambitions*

- The group is undertaking periodic analysis of the market. They have identified a new market to supply a potato crisps factory in Kampala.
- Many other people are now seeking to be involved in this new market area. This will increase competition for the Nyabyumba group.
- The group is considering diversifying into other products.