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SUSTAINING LINKAGES TO HIGH VALUE MARKETS THROUGH COLLECTIVE ACTION IN UGANDA

The Case of the Nyabyumba Potato Farmers

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ABSTRACT

Uganda's rapid urbanization, particularly in the capital city Kampala, offers new market opportunities for organized farmers to supply higher value produce for emerging growth markets such as multinational supermarket chains and fast food restaurants. Higher urban incomes allow consumers to shift from small shops and street food stalls to more formalized markets and modern food restaurants. These more formal market outlets provide both food safety and greater choice of produce. Supplying these outlets offers both higher income and improved business relations for farmers, but accessing these markets also requires significant upgrading in terms of product quality, more secure supply chains, and more efficient marketing and business management. To meet these conditions, farmers need to become organized for a marketplace that requires increased levels of bonding social capital to meet upgrade conditions and strengthened bridging social capital through partnerships with service providers and market chain actors to engage with these higher value markets in a long-term manner. One farmers' association in a remote rural area in Southwestern Uganda has successfully sustained market links through sales of high quality Irish potatoes to a fast food outlet in Kampala. To meet the volumes, frequency of supply, and quality parameters demanded by their client, the farmers have had to learn a series of new skills and integrate multiple innovations at the technical, organizational, financial, and marketing levels, and meet many of the classical conditions associated with collective action based on empowerment through social and human capital development.

This paper outlines how the use of collective action combined with strong leadership and an iterative market-led learning process have enabled a smallholder farmer's association to supply a perishable crop to a modern food outlet market with stringent quality parameters. Success in this market linkage was possible through effective support from both development and research providers and the strong entrepreneurial drive from the farmer association.

Keywords: Potato, high value markets, fast food, Entrepreneurial, Social Cohesion, innovation, quality, and competitiveness.

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1. INTRODUCTION

Improving smallholder farmer's access to markets and business services is a leading policy objective for most Government in Sub-Saharan African countries. To achieve this goal, the Government of Uganda has developed the Plan for Modernization of Agriculture (PMA), which places efforts on crop productivity, marketing, and value addition as a strategy to increase smallholder incomes (GoU, 2000). Over the past 20 years, the market opportunities for smallholder farmers have changed radically, with structural adjustment policies reducing Government's involvement in the provision of inputs, marketing boards, and advisory services. In many cases, this has left farmers without production support or financial services (Poulton et al. 1998). At the same time, market dynamics have changed as a result of population growth, urbanization, rising consumer incomes, and increasing global competition (Best et al. 2005).

In the industrialized countries of Europe, North America, and Asia, changes in the marketing of food products has led to a steady shift away from informal to formalized market channels. Standardized branded products and the use of efficient, integrated marketing, logistics, and financing processes characterize formal markets. The "rules of the game" in terms of product types, methods for production, processing, procurement, and payment are no longer set by producer groups, but by the more exacting requirements of international retail houses such as Carrefour, Tesco's, and Wal-Mart.

In the UK just four supermarket chains, Tesco, Asda, Sainsburys, and Morrisons, now account for up to 70 percent of all grocery sales (Queen 2006). The goods and services offered by these modern market chains are closely tied to the lifestyles of urban consumers who want year round access to high quality, trustworthy goods at consistent prices. These principles also apply to modernized food outlets, such as fast food restaurants, hotels, institutional buyers, tourism, and travel companies, essentially all markets where international food standards are in demand (Reardon et al, 2003).

Similar trends are emerging in Eastern Africa with the arrival of supermarket outlets from Kenya such as Uchumi and from South Africa (Shoprite, Metro and Game stores), and franchised fast food outlets such as Nandos, Steers, Pizza Hut, and Subway. Although market share is small at this time, it is likely that these more formalized market actors will play an increasingly important role in urban food consumption. Estimates suggest that already supermarkets control up to 30

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percent of the food retail trade in Kenya and 55 percent in South Africa, and these outlets are capturing the higher end income consumers (FAO, 2003).

For smallholder producers to take advantage of these new markets, particularly for high value products, research, development, and Government agencies are devising strategies to enhance their competitiveness. For example, the National Agricultural Advisory Development Service (NAADS) in Uganda is investing heavily in mass formation of farmer groups as a means of using social capital and collective action to improve the market performance of smallholder farmers. A critical question for such projects is whether the NAADS approach has taken into account the skills and social structures required for farmer groups and their service providers to select the most appropriate products, technologies, and markets to develop profitable and sustainable enterprises to supply dynamic markets.

Whilst there is substantial evidence indicating the benefits of collective action in enabling local organizations to manage common natural resources more effectively (Uphoff, 1996; Uphoff and Wijayaratna, 2000; and Meinzen-Dick et al., 2002), less attention has been given to the role of market forces on the outcomes of farmer-based collective action (Agrawal, 2001). The literature suggests that collective action is an important factor in improving the business performance of large organizations such as firms as documented by Johnson et al. (2002), and clearly, co-operatives rely upon collective action in both input and output markets (Jones, 2004); however, there are few studies which show how these factors improve the marketing performance of smallholder farmer groups (Barham, 2007).

This study reviews the factors that enable groups of smallholder farmers to engage more effectively with dynamic and higher value market opportunities. The findings confirm many of the collective action factors indicated in earlier studies and the need for "change agents" that can impart the skills required to engage with markets. The findings also highlight the considerable social and technical innovations that a smallholder farmer group needs to achieve if they are to develop long–term market linkages with a multinational fast-food restaurant. Whilst this may raise some concerns about the replicability of the process, it also underlines the incentives and collective purpose that long-term business relationships can forge.

CONTEXT

The Nyabyumba Farmers' Group (NFG), which is the subject of this study, is located in Kamuganguzi sub-county of Kabale District. Kabale District lies in South Western highlands of Uganda, where over 90 percent of the population is engaged in agriculture. Farmers work on average plots of 0.5 hectares, typically on steeply sloping valley sides. The district receives an average rainfall of 1000 mm yr-1 and can grow a range of tropical and temperate products from the valley bottoms to the upper hillsides. Most farmers in this area would fall below the poverty line and many would be considered as living in extreme poverty that is, earning less than $US1/ day.

The Nyabyumba Farmer Field School Group was formed in 1998 with support from Africare, an international NGO. The group aimed to produce ware potatoes---ware being the potatoes sold for retail---for sales into the local markets. Kabale district is the traditional production area for Irish potatoes in Uganda due to its higher altitude hilltop areas, which are mainly free from potato blight. However,

the rates of production per hectare were low because the quality of local potato stock was poor as it had not been refreshed for the past 20 years, a result of the neglect that has occurred in the Ugandan agricultural sector caused by the war. To address this issue, the farmers group started to focus their attention on the production of disease free seed potato production with support from the Regional Potato Research Network (PRAPACE) and the National Agricultural Research Organization (NARO).

In 1999, the Nyabyumba potato group received additional project support, which enabled the farmers to establish the Uganda National Seed Potato Producers Association (UNSPPA). Membership of the association grew to 20 farmers, and for 3 - 4 years, the association successfully produced seed potato. Most sales were made through NGOs in the Kabale district area who supplied seed to farmers at no cost. Increased seed potato sales led to expansion of the association, which grew to include six farmer groups with 120 members, 60 percent of whom were women.

Growth in the seed potato market floundered in 2004 when demand for seed potato suddenly declined. This occurred for two reasons. The first was that local NGOs were no longer buying seed as they had already supplied their clients with disease free seed potato. More importantly, the farmers who were now producing higher potato yields based on improved seed material had oversupplied the local market and were unable to sell the increased volumes of ware potatoes. Therefore, even the more progressive farmers were unable to invest in seed.

To re-stimulate the seed market, the farmers needed to develop new marketing strategies for sales of their ware potatoes. This provided CIAT (International Center for Tropical Agriculture) with an opportunity to work with the Nyabyumba Group and other service providers from PRAPACE, Africare, and NARO to test CIAT's participatory approach for agro-enterprise development.

2. METHODOLOGY FOR ACTION BASED MARKET RESEARCH

CIAT's participatory and area based approach to agro-enterprise development (Lundy et al, 2002) is based on the following basic steps:

1. The identification and strengthening of a local interest/working group composed of producers and farmers associations, research and extension organizations, NGOs as well as any other service providers that may be interested in the selected market chains.
2. The identification of market opportunities available in the target region or area and subsequent market chain analysis.
3. Participatory business plan development, analysis, and the design of a shared strategy between market chain actors leading to the implementation of agro-enterprise options and strategies agreed upon by the actors in the previous step.
4. The identification and promotion of relevant business development services to support market sustainability of the agro-enterprise / business.

The agro-enterprise approach is an iterative, participatory learning process that targets development oriented service providers. The aim is to build the "market facilitation capacity" of service providers so that they can in turn support the entrepreneurial needs of farmer organizations and local business development services operating within a defined project area / territory. The outcome of this investment being local organizations that are empowered to increase their market performance in selected market chains and be more responsive to dynamic market conditions.

The attention given to working within an area or territory is to focus market intervention efforts on opportunities that combine physical, human, social and business assets, skills and priorities within a defined area. This enables the intervention team to work with both public and private sector partners and provides an opportunity for intervention strategies to target specific communities, such as the poor, marginalized or shocked, within a geographic area (Ferris et al., 2006).

For this study, CIAT used an action research approach, which required applying the participatory methodology with the research team and then collecting and analyzing data as the process progressed. In most cases CIAT plays a more passive role so that when the partners are trained in the marketing methodology, they apply the process, and then CIAT undertakes a monitoring and evaluation role to assess changes in farmer market performance.

In this case, the CIAT team was more actively engaged, taking the market research team through the major steps in the process. At each stage of the process, CIAT undertook informal interviews with groups and individuals, and these interviews were later followed up through a series of field visits to monitor progress over time. The following section provides a step-by-step account of how the enterprise process was applied, as explained in the agro-enterprise good practice guides, which can be found at www.ciat.cgiar.org/agroempresas/ingles/index.htm

Market method

Step 1. Group development and partnership formation

The first step in CIAT's agro-enterprise process aims to bring together institutions and agencies working within a specific project area who share a common interest in supporting a market led intervention process from analysis to action. This "working group" typically consists of a lead agency that facilitates the agro-enterprise process and other actors from research, NGOs, local business and producers groups who provide specific skills and knowledge to support the success of the process. The first task of the "working group" is to evaluate local resources, identify comparative and competitive advantages, and prepare a basic action plan for agro-enterprise development. This plan would typically include developing a list of partner and local government capacity, infrastructural assets and status, potential client types and their location, potential product options, existing businesses and their competitiveness, local skills, and natural resources. An important element in the development strategy is to find opportunities that are suited for the poor or marginalized. In this study, stage 1 had already taken place: a "working group" had already been formed to support a seed potato initiative made up of the Nyabyumba Farmers' Group, UNSPPA, Africare, PRAPACE and NARO providing product research support, and CIAT providing market support.

Step 2. Product identification and market analysis

Stage 2 in the agro-enterprise process involves selecting a product and undertaking a rapid market chain analysis. The market opportunity identification method developed by CIAT (Ferris et al., 2006) was designed to assist intervention teams in making an objective decision on which product will provide the most suitable market option for investment, based on market information and investor's criteria. Product selection criteria will change according to investor's interests, assets, marketing skills, and market access.

In many projects, product selection is integrated into the design phase rather than allowing local actors to be involved in such decisions. In the Kabale case, the farmer group had already identified ware (retail) potatoes as the product that they wanted to develop. This decision was based on two important criteria: potatoes are a traditional higher value product of strategic importance in Kabale district; and recent increases in production had oversupplied the local market, and new marketing strategies were required to overcome the significant fall in prices for the ware potatoes and to re-stimulate demand for seed potatoes.

The second part of Step 2 was effectively the starting point for this study. To gain a better understanding of the market options for ware potatoes a rapid participatory market survey was undertaken. The study was based on gathering information from three sources: secondary data from the literature, primary data from existing farmer knowledge, and market information gathered from key informants in the market chain. The secondary data search focused on basic issues regarding the Ugandan potato sector including production levels, market price trends, market options, and previous market studies. This information was supplemented by recording local knowledge based on what the farmers could easily recall about market conditions, channels and quality of local service providers for potatoes. To facilitate this data gathering, farmers were asked to draw a basic map of their market chain, including the identification of production sites and links to market chain actors. The farmers were also asked to build on this information by providing production costs, sales prices, and assessments of service providers in the district. This process assisted the analytical team in identifying some of the critical points and problems within the existing market system as observed by the producers.

Where information was unclear or missing, such as margins, market volumes and preferred market traits, these points were documented and used to prepare a checklist for collection of primary data. The working group planned a simple market chain analysis to assess the conduct and performance of actors and services involved in producing, handling, and selling potatoes to a range of market outlets. The survey was implemented by farmers with support from their market facilitator from Africare and market analyst from CIAT.

Step 3. Business planning and enterprise development

The working group used results from the market chain analysis to formulate an agro-enterprise business plan. The farmer group financially supported the plan, and therefore they were responsible for decisions on matching market options with their

investment capacity. In some cases, service providers will support specific aspects of a business plan, but it is advisable that such investments should be limited to planning, research, and demonstration roles rather than direct investment in the target agro-enterprise / business. We propose that service providers should resist the temptation to buy capital items and provide free services. Whilst the provision of assets and handouts can accelerate progress, this approach is generally unsustainable and distorts market linkage rather than supporting market engagement. If projects cannot be undertaken without additional resources from an external agency, options should be made that are less distorting for marketing such as the facilitation with access to credit for capital purchases and or co-investments. Service providers should avoid handouts.

Step 4. Identifying and strengthening relevant business development services

The final step in CIAT's approach to agro-enterprise sustainability is to strengthen and in some cases to foster new business development services, in support of the core enterprise. These services may include rural finance, input supply, transport, market information, research inputs, and business relationship development.

3. RESULTS AND DISCUSSION

The Nyabyumba Farmers' Group was in a weak marketing position when CIAT's agro-enterprise intervention took place. The group had been working on the production of seed potato as a means of increasing potato productivity. However, their success in the input supply market had led to an oversupply in both the seed potato and ware markets, which had led to reduced income for their members and a rapid, fall in demand for their seed potatoes.

Given this situation, it may have been assumed that the marketing strategy the group was to embark upon would be relatively conservative. However, the results reveal that the group was prepared to take on considerable risk to maximize gains. The marketing strategy adopted by the group required a combination of strong leadership, collective action, learning new skills, and investment in innovation to be successful. In each section of the implementation plan, investment and innovation were required, and although managing multiple innovations clearly adds risk, these changes were all based on market requirements. In this study, step 1 and product selection have been omitted as these steps were undertaken prior to the intervention. The key results from the methodology were as follows:

Results

Step 2. Market analysis

The rapid market survey identified four main marketing channels:

- Selling potatoes into the local market;

- Selling potatoes into the Kampala wholesale market;
- Selling potatoes to small shops in Kampala;
- Selling potatoes to higher value, formal outlets such as supermarkets and restaurants.

The study systematically reviewed the marketing channels for "ware" potatoes from the production site in Kabale through the marketing intermediaries to selected market outlets in Kampala. Kampala is the capital city of Uganda, located 450 km from the production area. In Kampala, a number of market opportunities were identified including informal "wet" wholesale and retail markets, and more formal markets such as the Uchumi and Shoprite supermarkets, hotels, restaurants, and fast food chains. The analysis collated information on basic buying conditions including price, frequency of purchase, produce quality requirements, payment conditions and interest of the managers in receiving regular supplies of ware potatoes from the Nyabyumba Farmers' Group.

Based on the findings from the market chain analysis, the Nyabyumba Farmers' Group decided to focus on developing supplies for Nandos, a multinational fast food restaurant in Kampala. Nandos consumes approximately 10 metric tons of fresh potatoes every month. This level of purchase fell within the uppermost limits of possible supply by the farmers' group but offered an opportunity to develop a long term, higher value business relationship.

Step 3. Business planning and enterprise development

Following the survey and the development of a basic production and marketing plan by the farmers, a business meeting was arranged in Kampala, between the marketing team and Nandos management to negotiate a potential long-term business deal. Major issues of negotiation were the volume and frequency of supply, the conditions for quality, including size, shape and variety, the price per kg over the next 6 months, and terms of payment terms. Nandos advised the farmers that if they produced quality potatoes at a competitive price, Nandos would commit to a long-term relationship, but would not tolerate low quality or irregular supplies. The management also expressed optimism in working with the farmers so that they could both grow their businesses together.

There was no official contract signed between the farmers and Nandos, but the agreement laid out the following conditions that the farmers should meet:

- Nandos must receive 50 bags of 100 kg from the farmers every 2 weeks, to provide 10 metric tons per month.
- The farmers should not wash the potatoes before delivery, to extend shelf life.
- Potato variety: Nandos required supply of only one variety, Preferred Victoria, or NATPOT 2.
- Potatoes must conform to the required quality standards: large sized weighing approximately 80g / tuber oval shaped potatoes with few

eyes. These parameters were made to reduce wastage when the potatoes were transformed into chips.

- Payment of Uganda Shillings (UGX) 32,200 per 100 kg payable ($170/mt) on the 15th of each month after delivery (The average price at the Kampala market at that time was from UGX 25,800 – 28,800/100kg, with local Kabale market prices at an average of UGX 22,300 / 100kg).
- Payment was to be made by check; to facilitate this process, the farmers had to open a bank account.

Based on these conditions the Nyabyumba Farmers' Group with their service providers carried out a basic profitability analysis, which showed that the farmers could be profitable if they sold to Nandos throughout the year (see Table 1). All parties agreed upon terms, and the farmers moved to detailed enterprise planning.

Table 1 – Profitability analysis for delivery of 50 bags of 100kg bags every 2 weeks

Production Costs	**Sh/bag**	**Notes/ Assumptions**
Total[2]	**12,000**	
Post-harvest handling and transport	Sh/bag	2 persons for 1 day at 2500/-
Grading, packing, sewing	100	50 bags
On-loading	200	200/- per bag
Off-loading	300	300/- per bag
Bags	500	500/- per bag
Book keeping and accounting	40	2 days /month for 12 months at
UNSPPA charge	1,000	2000/-1200 bags
Transport to Kampala	6,000	1000/- per bag
Escort cost	800	6,000/- per bag
Rental of store Bad roads	100	Transport 15,000/25,000/- food and board per trip
		5,000/- rental / month and 5,000/-security /month
Sub total	**9,040**	Bank charges, depreciation,
Other costs (bank fees, depreciation, etc)	1,808	minor inputs
Total	**10,848**	
Total cost	**22,848**	
Purchase price at Nandos / bag	**32,200**	
Net profit 1 bag	**9,352**	**US$ 5.05**
Net profit 50 bags	**467,600**	**US$ 252.76**

Exchange rate US$1 = UGX 1850

A second workshop was held in Kabale where the partners assessed changes to be made in the production and marketing of potatoes. A visioning process was used to compare the current production and sales situation with the desired future

[2] Productions costs include seed, fertilizer, pesticides, and labor.

situation that was based on the buying conditions given by Nandos. Based on this participatory business planning method, detailed activities for implementing the potato enterprise were developed with outputs, responsibilities, time frame, and budget (see Table 2.)

Table 2 – Action plan for the start-up of the Nyabyumba Farmers' Group potato enterprise

Area of intervention	Activities to be developed	Expected outcome	Actors responsible	Timing
Production	Stagger planting schedule	Continuous supply of potato	NFG members, Africare	July 2003
	Adjust planting spacing practices to produce larger potatoes	Less rejections due to undersized potatoes	NFG members, Africare, NARO	July 2003
	Train group members on ware potato management techniques	Enhanced skills of members in ware potato production	NFG members, Africare, NARO	Sept-Nov 2003
	Arrange for research on seed of identified varieties for Nandos	Access to improved potato varieties	NFG management, NARO	Sept 2003-ongoing
	Multiply desired varieties	Sufficient seed to plant	NFG members	Oct 2003
	Identify and implement micro-irrigation	Stable quality production during the dry season	NFG management, Africare	Dec 2003-ongoing
Post-harvest handling	Rent warehouse for potato storage	Bulked product for collective marketing	NFG management	Jul 2003
	Purchase weigh scale	Control of sales	NFG management	Jul 2003
	Train group members on sorting, grading and packing procedures	New skills of members in post-harvest handling	NFG members, Africare	Jul 2003-ongoing
Marketing	Identify, contract and organize transport for potatoes to Kampala	Low costs of transport, and regular supply	NFG management	Jul 2003-ongoing
	Develop and maintain contact with purchasing department of Nandos	Established targets for delivery and future production	NFG management, Africare, UNSPPA	Jul 2003-ongoing
	Identify alternative market outlets for ware potatoes and for rejects	Strengthened sustainability of the enterprise	NFG management, UNSPPA	Jan 2004

Area of intervention	Activities to be developed	Expected outcome	Actors responsible	Timing
Business organization	Negote with Nandos and finalize MoU	Consolidation of the relation producer-purchaser	NFG management,	Jun-Jul 2003
	Register the group	Access to NAADS service provision and bank account	Africare, UNSPPA	Jul-Aug 2003
	Open a bank account	Safe management of resources, access to payments by Nandos	NFG management	Jul 2003
	Establish a group fund	Access to credit	NFG management	Oct 2003
	Train leaders and group members on enterprise management and administration	Effective management of the enterprise	NFG management, Africare	Jun-Oct 2003
			NFG members, Africare, CIAT	
Monitoring	Establish a monitoring scheme in support of the start up of the enterprise	Effective management and growth of the enterprise	NFG management, Africare, CIAT	Jul 2003-ongoing

These meetings enabled the marketing and production teams to formulate a business checklist (Table 3), which highlighted the issues of quality and frequency of supply being critical for successful market linkages.

Table 3. Business checklist for Nyabyumba Farmers' Group

1. Marketing	
• Buyer	Primary Nandos restaurant
• Sales targets	10 mt / month
• Product definition – What is quality class (A, B, C)?	Class A 80 80g / tuber, oval shaped potatoes, few eyes
– What are the alternative markets	Secondary Kampala wholesale markets
– Packaging	100 kg Nylon sacks not washed
– Labeling of farm produce for traceability	Not required, sole supplier
• Price – How will farmers / BDS be paid	Ugs 32,200 / 100 kg sac to be paid monthly by check to bank in Kabale
– Promotion (what will attract the buyer)	None required
– Distribution (what are the logistical needs)	3-5 mt truck from Kabale to Kampala 450 km
Production target	
• Production target to match sales target	
– Schedule of delivery (weekly, monthly)	5 metric tones every 2 weeks
– Production inputs needed	Seed and fertilizer, access to highland and low wetlands to provide continual supplies
– Technology requirements	Access to seed
– Upgrading of production	Staggered planting, irrigation, fertilizer, spacing
– Needs in postharvest	Storage facilities (already acquired)
Financial targets	
• Capital requirements for production target	
• What needs to be available for start up	USh 5 million ($2,700)
• What is needed for operations	
• Sources of capital – Local – External (grant , loan, conditions)	 Group savings 2,000,000 Required to borrow USh 3 million ($1,600)
Profitability	
• Target profitability	UGX 9,352 / 100 kg (US$ 5.06 / 100 kg)
• Financial evaluation compared with existing	Existing market price – 18,000 / 100 kg bag
• Sensitivity of the income and costs	UGX 3,752 / 100 kg (US$ 2.03/ 100 kg)
– Where is the critical point	Meeting quality parameters to gain premium price
Management	
• Who does what?	Detailed production to delivery enterprise plan
• How are farmers paid	Cash on monthly basis once check has matured
• What are incentives for farmers	Long term access to premium prices
Review process	
• Review the system every 3-6 months	Market team
• Compare targets: are they well linked	Market team
• What changes are needed	Market team
• More regular review process as product increases in value	Market team

Source: Authors

Step 4. Identifying and strengthening relevant business development services

The enterprise business plan devised by the farmer group required access to a number of services. The research group was required to provide technical input into designing a planting schedule and spacing regime that could provide the desired size of potatoes. The restaurant also required a variety that provided high quality chipping characteristics. To address these issues Africare arranged for NARO to undertake a series of trials with the farmers. These trials evaluated the use of micro-irrigation, spacing, planting in upland and lowland fields, and staggering to develop a consistent size and variety testing to improve the quality of potatoes being sold into Kampala.

Other services required for delivery of potatoes included transportation, access to finance, and communications. During this exercise, the only service provider that was identified for additional support was Africare, who received training in market chain analysis and business planning. This training was also given to the farmer group to increase their marketing capacity.

Factors affecting successful linkage to formal markets

As indicated by previous studies by Wade (1988) and Ostrom (1997), a cluster of social factors was important in enabling the Nyabyumba Farmers' Group to make the many changes required to increase their market performance. These included human capital development, increasing their bridging social capital,[3] upgrading leadership skills and integrating these social changes with new technology and market-led innovation. Below are the key factors that contributed towards the success of the process of social, technical and marketing integration, which supported a collective response to an identified market opportunity.

Quality of service provision and iterative learning

The ability of the farmers to organize, learn new skills, and innovate was highly dependent upon effective and long-term support from a number of service providers. For several years, the farmers had received social and agricultural advice from Africare, and potato expertise from NARO and PRAPACE, with CIAT providing support to strengthen marketing skills at a later stage. All the service providers were involved in iterative learning processes, and this "learning by doing" empowered the farmer group in developing skills and management capacity, and helped them to strengthen shared norms, interdependence, and trust through a

[3] 'Bonding social capital' refers to strong ties that connect family members, neighbors and close friends who share similar demographic characteristics. Weak ties, for example, among members of civic organizations such as clubs and other voluntary associations, constitute 'bridging social capital' (Gittel and Vidal, 1998).

series of learning experiences. The farmers built their social capital and technical skills over a 4-5 year period, which allowed them to rapidly link new organizational structures, technologies, and market opportunities together in their business planning process. Obviously, service providers can only pass on skills they possess, and, prior to the market collapse in ware potatoes, the local service providers had not considered marketing.

Group formation and marketing capacity

Although the capacity and competence of farmer groups to build and sustain complex social and market oriented networks is critical in linking farmers to markets (Barham 2007), few farmer groups in Africa receive basic marketing training. This often limits their ability to focus their investments and innovations in a way that capitalizes on their social strengths. A key reason for this omission is that traditionally, service providers were not required to build capacity in marketing, and when structural adjustment forced Governments to relinquish market control, many service providers failed to redress the imbalance with market support. Prior to the interventions by CIAT, the Nyabyumba farmers only received training in potato production through a farmer field school (FFS). FFSs typically consist of farmer groups that are clustered to study an agricultural technology, such as variety testing or integrated Pest Management (IPM) (Gallagher, 2003). Whilst there is evidence that FFS members have improved technology skills (Godtland, 2004), there is little evidence to show the link between technology-focused collective learning and improved use of resources such as economies of scale translated into profit through collective market performance.

Through the FFS, the Nyabyumba farmers had built large stocks of "bonding" and "bridging" social capital with respect to Africare, and NARO, but they had not extended their links to the private sector by strengthening their external social links to market chain actors. Nevertheless, the historical characteristics of the group lent themselves to collective marketing as the farmers had developed many of the positive collective action factors such as being clustered in small groups, having shared norms, past successful experiences, appropriate leadership, interdependence among group members, and homogeneous interests (Agrawal, 2001). Interestingly, most of the group members were also members of a local church, which further strengthened their network (similar to the findings in Meinzen-Dick et al, 2002). Given this profile, the NFG was well primed as a social unit to acquire and use new marketing skills. They had a clearly defined goal and were technically experienced in potato production. The chairman of the group also had an entrepreneurial flare and trust within the group, which was important for rapid decision-making in successful marketing.

The relationships between collective purpose, empowered leadership, quality of service provision, and exposure to risk are clearly important factors in improving the market performance of farmer groups. The information in Table 4 attempts to identify and prioritize these factors, as collective action may not be essential in all the steps towards improving market performance. Based on the views of the research team, strong leadership within the group was considered the most important factor in identifying and maintaining market links, followed by quality of service provision and then the collective purpose of the group members. Whilst all

of these factors are interrelated, this analysis suggests a hierarchy of factors that enable a group to improve the prospects of market success. Risk was also assessed to gain a sense of the risk factors associated with each marketing step and how they was addressed; in several cases, this group took risks that were high to very high. The group was able to do this successfully as they had considerable confidence in their capacity and the commitment to take on the risks. In many cases, we believe the outcomes would not have been positive, but these were generally collective decisions, and in this case, the governance within the group was strong.

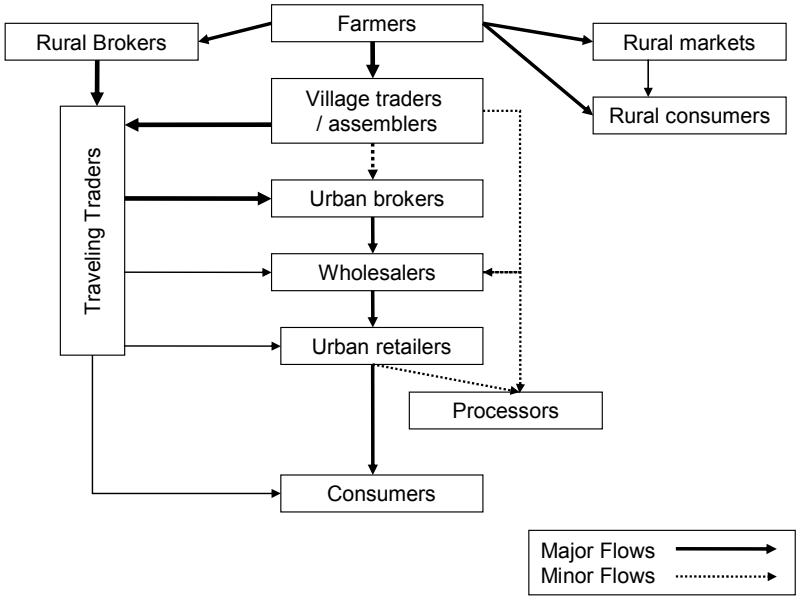
Product selection

In this case, the product was selected at the outset of the marketing approach as the farmers wanted to build on their previous experience in working with potatoes. The main shift, however, was to re-focus efforts from seed potatoes to ware potato markets. Therefore, the marketing study focused on identifying market opportunities for ware potatoes. Specific parameters of the product as stipulated by the buyer were potatoes of a specific variety, size, shape, and moisture content. This required that farmers shift production into a new variety and change their agronomic practices to meet the size and moisture content conditions required. In situations where the product has not been selected, the agro-enterprise approach starts with a review of products with market potential. This stage, entitled market opportunity identification, is a critical part of the enterprise approach and requires the participation of all members of the group or community in offering ideas and confirming the selection of a product, based on their review of information generated from a market analysis. High levels of participation are required during this process to confirm support for a product to build the basis of a common purpose. Farmers must feel that they have ownership of this decision, as subsequent investments by the group will be based on this collective decision.

Developing the market channels

The traditional marketing of ware potato in Uganda is informal, and trading links are characterized by seasonal production and opportunistic sales to random local buyers. Typically, potatoes are harvested in July and dumped onto the local market, where the crop is sold in mixed grades and maturity. Farmers sell from their farms through brokers or into the local village markets, where they receive low prices (Figure 1). Much of the value in the market chain is absorbed by numerous services and transactions between local collectors, brokers, traders, and retailers.

Figure 1. Traditional potato-trading chain

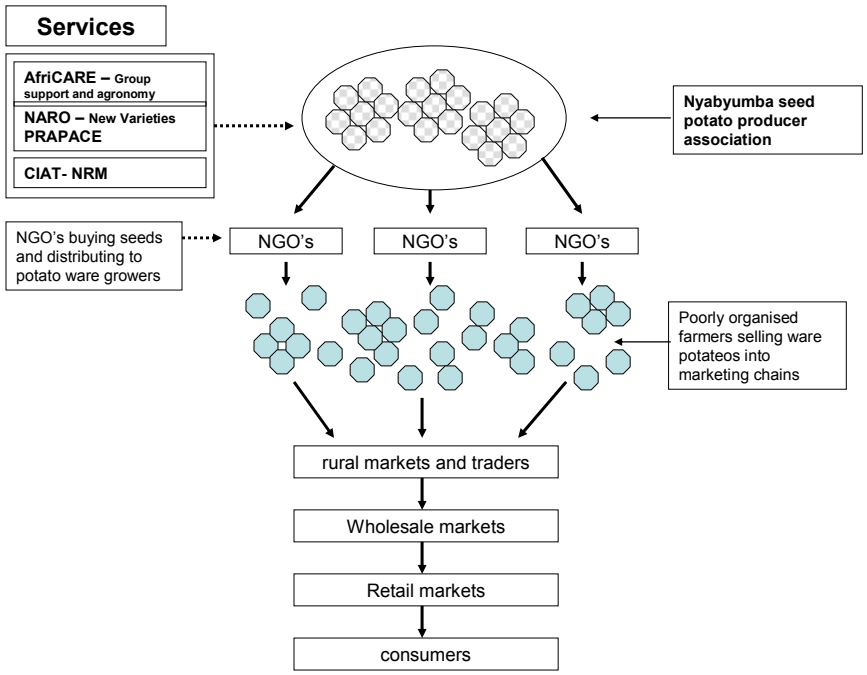


Source: Ferris et al., 2004

Through the participatory market analysis, several supply channels were identified and studied, each offering agro-enterprise opportunities with different quality requirements and price options, and the farmers decided to opt for direct supply of potatoes to Nandos. Nandos outlined very specific characteristics for the types of potato they wanted, to increase their ability to provide customers with quality potato fried chips.

Of all market channel options, the supply of "chipping" potatoes to Nandos was the highest value and highest risk. Supplying this market also required the highest level of innovation to their existing production and marketing systems. The market channel developed between the Nyabyumba farmers and Nandos required a fundamental change in the focus of the group, from their existing position of supplying an input market as shown in Figure 2 to a new scenario of supplying an output market as seen in Figure 3.

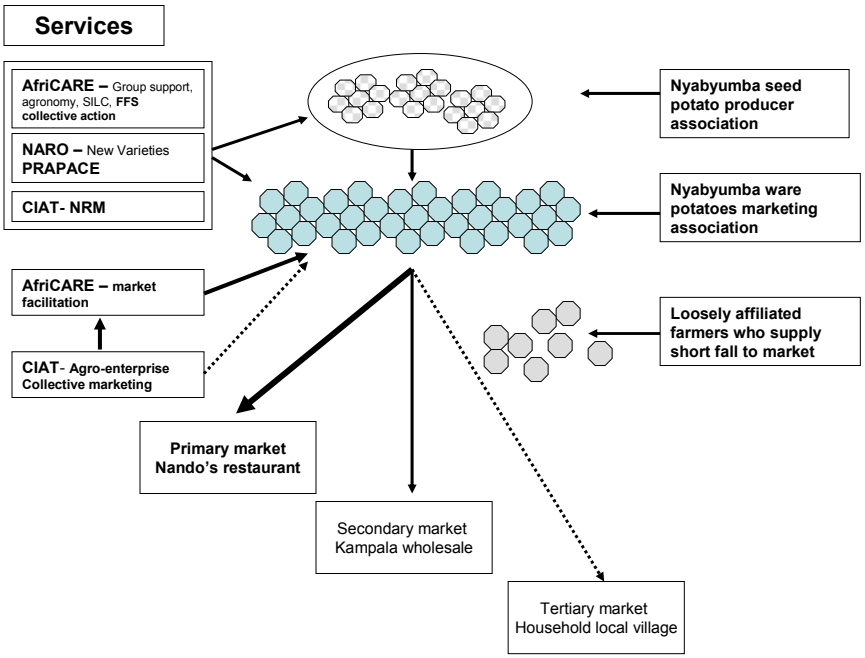
Figure 2. Original Nyabyumba farmers market channel to supply seed potatoes to local NGOs



Source: authors

In this more formalized market, the quality and supply parameters were stringent compared to informal market requirements. Therefore to offset this risk, the farmers identified alternative market channels into the Kampala wholesale markets, such that the produce that failed to meet the preferred market based on the Nandos grade could be sold rather than being discarded.

Figure 3. Upgraded market channel to supply ware potatoes to Nandos



Source: authors

Table 4 – The role of collective action, leadership and innovation in market linkage

Issue	Challenge	Innovation / *action*	Collective Action	Score	Leadership/ management	Score	Service providers	Score	Risk	Score
Group formation	Development support requires farmer groups	*prior to this process farmer group formed*	Essential	5	Low	1	Essential	5	Low	1
	Market decision making	*Chairperson dynamic and empowered*	Not required	1	High	5	Essential	5	Medium	3
Product selection	Market analysis	Participate in market study	**Required**	3	High	5	Not required	1	Medium	3
Channel selection	Select high value product in high value market	Participate in market selection process	**Required**	3	High	5	High	4	V. High	5
	Establishment business relationship	Negotiate and agree to contract	Not required	1	High	5	High	4	Medium	3
Production	Farmers grow the same variety	Select variety and multiply seed	**Essential**	5	Medium	3	High	4	Low	1
	Year round supply required	Stagger planting dates	**Essential**	5	High	4	High	4	High	4
Quality	Farmers need to test variety	Field trials established	Not required	1	Medium	3	High	4	Low	1
	Product quality changes during year	Use swamps and micro-irrigation in the dry season.	**Essential**	5	High	5	Essential	5	High	4
Market linkage	Aggregation including storage and holding	Use and rent available stores	Not required	5	High	5	High	4	High	4
	Systematic sorting, grading, and packaging tubers required	Agreement and establishment of new sorting methods	**Essential**	5	High	5	High	4	Medium	3
	Access to transport	First random then mobile phone	Not required	1	High	5	Low	1	High	4
	Building business relations	Need to meet buyer regularly	Not required	1	High	5	Medium	3	High	4
Finance	Required funds to buy initial seed	*Borrowed from Local lender*	**Essential**	5	High	5	Low	1	High	4
	Buyer only pay by check	Set up a bank account with all members on payment schedules	**Essential**	5	High	5	Medium	3	Medium	3
	Set savings / investment account	Set up and registered a SACCO	**Essential**	5	High	5	Medium	3	High	4

Issue	Challenge	Innovation / *action*	Collective Action	Score	Leadership/ management	Score	Service providers	Score	Risk	Score
Responsiveness	Re-invest in potato business	Commitment to long term vision	**Essential**	5	High	5	Medium	3	Medium	3
	Strengthening business skills and improve record keeping	*Seeking out service providers for key areas of support*	Not required	1	High	5	Essential	5	Medium	3
	Product volume insufficient	Buy from other farmers.	Not required	1	High	5	Low	1	High	4
	Require direct communications	Purchased a mobile phone	Not required	1	High	5	Low	1	Low	1
	Transport costs rapidly increase	Farmers buy Truck	Not required	1	High	5	Low	1	V. High	5
	Farmers hit by drought	Renegotiate with buyer	Not required	1	High	5	Low	1	V. High	5
				66		101		67		72

Score: 1- low, 5 – high (scores attributed by the research team)

Production

The contractual arrangement between Nandos and the farmers groups stipulated that farmers would supply approximately 10 mt of potatoes of a specific variety, size and moisture content to the Nandos restaurant every month throughout the year. Up until that time, the production system was based on seasonal production and sales of mixed variety and ungraded potatoes into the local market. Therefore, to shift from one harvest a year to a consistent supply of a specific quality required a series of changes in the production system. All the farmers who wished to be part of the Nandos arrangement were required to plant the same variety and use a specific planting density to grow tubers of the required size. To provide year round supply, the farmers used a combination of methods including staggered planting dates, planting in lowland and highland fields, the use of swamplands during the off-season, and storing potatoes in light diffusion stores.

Whilst most of the these methods were effective in extending the supply period, the use of swamp land was found to increase the moisture content of potatoes, and this led to high levels of rejection by the restaurant. The farmer group therefore investigated the use of micro-irrigation as a means of extending production into the dry season and maintaining the required moisture content. Nandos also requested that the farmers test different varieties to determine which variety would have the best "chipping qualities" when fried at the restaurant.

Although each of the changes created challenges for the farmers group, these hurdles were systematically resolved through a process facilitated by the Africare market facilitator who worked with the group to develop basic business and operational plans. In most cases, piloting of new technologies was undertaken first by the more experienced farmers working closely with the NARO research team. Wider adoption of the new methods was essentially driven by profit, as farmers selected methods that provided best returns.

Product Quality

To meet the stringent quality standards, the farmers had to learn how to sort and grade their potatoes as those that did not meet the Nandos grade were sold into the lower value wholesale markets. Failure to meet the grade was a costly exercise for the farmers: from July to September 2003, up to 80 percent of the potatoes were rejected from the primary market and had to be sold at a lower profit in the wholesale markets. To address this issue, all members of the farmer group were provided with clear guidance in quality standards, and the group worked hard to reduce the level of rejects. By March 2004, rejection rates were approximately 10 percent, and by December 2004, rejection levels were consistently less than 10 percent (Figure 4).

Market linkage and collective marketing

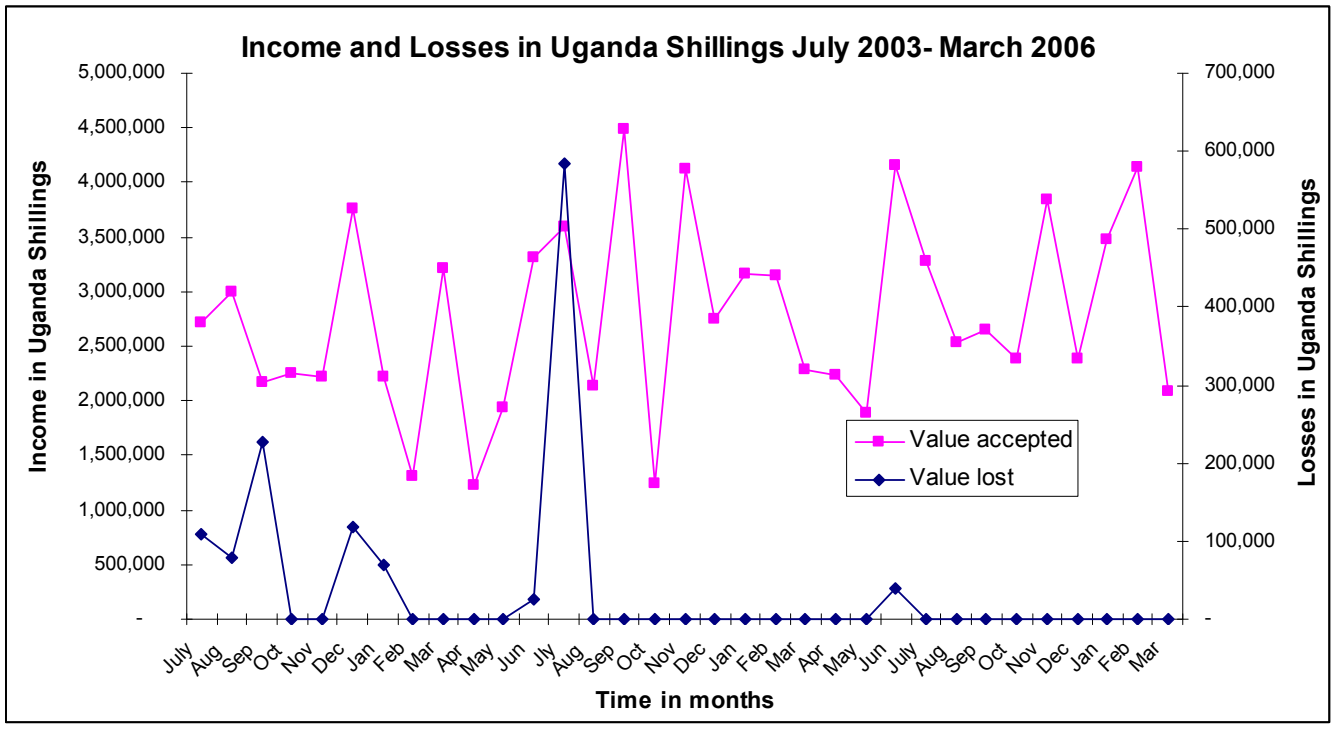
To supply bulked and graded produce, farmers were encouraged to produce as individuals, but to sell collectively. Collective production was discouraged, as this tends to reduce incentives and innovation. To ensure correct payment and detect

problems, each bag had a farmer's code so that farmers were rewarded for volume and quality supplied. Rewards were not given simply for being a group member.

Finance

Investment is critical for virtually all enterprise plans in the shift from analysis to action, and for most farmers, poverty is often an insurmountable barrier to implementing new ideas. Farmers such as those in the Nyabyumba group had no assets that could have been used as collateral to raise funding with a bank or micro-finance institution, and their only choice to kick start their new business was to gather the required working capital through a combination of savings, borrowing from family and friends, and taking a loan from the local money lender. The rate of interest from these operators is generally high (about 40 percent per month), but at least the money can be made available, and often conditions for repayment are more flexible than from formal financial service providers. In this case, the moneylender was a known member of the community, and the farmers only required a loan to support the first 3 months of supply. Whilst the loan exposed the farmers to a fairly high degree of risk, this venture paid off, as Nandos paid a premium flat rate price for the potatoes. By October 2006, the farmers had sold 287,425 kg of potatoes to Nandos with a value of USh 92,550,850 Shillings (US$ 50,027) (see Figure 4).

Figure 4. Changes in income and financial losses due to rejected potatoes



(US$1 – 1850 Uganda Shillings)

To address the financial issue over the longer term members of the Nyabyumba group established a savings and credit co-operative (SACCO) in September 2004. The Government was promoting this process, and therefore it was possible to access advice on this matter. The SACCO enabled individual members to save and receive loans to invest in potato production or to cover essential short-term needs as they awaited payment from Nandos. The advantage of this scheme is that loan interest is returned to the group fund, which in time will enable the group to have access to larger loan options or to purchase assets. For this savings scheme, each group member contributed at least UGX 2,000, or approximately US$1 per month, leading to saving of 3,500,000 Ug Shs, (US$ 1,891) by October 2006.

Innovation and Market Responsiveness

Other important marketing skills that emerged through the collective marketing approach were innovation and "responsiveness" to market change. The Nyabyumba farmers have proven to be extremely adept at recognizing and reacting to problems in production and market supply. This required the organization to monitor market conditions, identify problems and then find rapid practical solutions. The following are examples of market responsiveness.

(i) When year round rather than seasonal supply was required, the group immediately elicited assistance from the NARO potato experts to set up planting schemes and assist in investigations that led to the establishment of a low cost irrigation system.

(ii) When funds were required, the group borrowed the start-up capital and then introduced group saving schemes to reduce financial costs for their members and increase individual financial resilience.

(iii) When transport costs proved to be significantly higher than predicted in the business plan, the group decided to buy a truck.

(iv) To maintain regular contact with Nandos and discuss changes in supply or demand, the chairman purchased a mobile phone. The phone proved to be a critical business tool in maintaining supplies and building trust in their business relationships.

(v) As part of the relationship building, the chairman also invited the manager of Nandos to visit the farmers' village. This proved to be an extremely important meeting as it was the starting point in developing a longer-term relationship between the producers and the buyer.

These changes were made at critical points in the development of the business model, and the decision-making was helped to a large degree by the group's ability to access advice from a number of specialized service providers in their vicinity.

This combination of rapid assessments and access to services accelerated the innovation process. However, it required strong leadership and specialists within the farmer group to recognize what type of help was needed, test options, and then engage others to take on new ideas. The information in Table 5 lists the skill combinations of the service providers working with the Nyabyumba Farmers' Group, indicating that each of the players had complimentary skills that were all required as part of the social and business development process.

Table 5. Relative skills of the key service providers for the farmer's group

	Strong	Weak
Africare	Access to funding to support long-term community mobilization, ability to form and foster Farmer Field Schools, build farmer groups, and support processes of scaling up.	Experimentation, marketing, business development, links to private sector.
NARO	Research in potato improvement, new varieties, fertilizer usage, and irrigation methods. Long-term support in strategic crop for the region.	Limited financial resources, limited timeframe, and little experience with scaling up, no links to the private sector.
CIAT – NRM	Sustainable production techniques, participatory processes, including experimentation, innovation, participatory monitoring and evaluation, and gender support.	Business development, financial analysis.
CIAT agro-enterprise	Market analysis and basic business planning, and provision of tools for market evaluation.	Sustainable production systems and group mobilization.
Money lenders	Provision of finances at short notice with few diligence requirements.	Business advice, long-term business vision.

4. CONCLUSIONS

To a large extent, the relationship between the Nyabyumba community members and their collective interaction with the marketplace mirrors the rise in collective action in Indian irrigation systems, Agrawal (2001). As the role of Government declined in local Indian irrigation systems, local governance structures emerged, as they were required to fill the management vacuum and thus enable to the people to maintain access to productive water assets. In Uganda, as is the case throughout Africa, the role of government in commodity marketing has declined rapidly as a result of structural adjustment, decentralization, and globalization (Ferris and Robbins, 2003). Given this situation, the Nyabyumba farmers, who represent a typical smallholder farming community in remote areas, needed to acquire new marketing governance structures to fill the marketing role formerly provided by government. The rapid and profound process of market reform that is taking place will require farmers throughout Uganda and Africa, even those in remote areas, to take on new responsibilities and learn new skills if they are to engage with dynamic markets. For those more ambitious farmers seeking higher returns and wishing to engage with formal and higher value markets, the level of effort to reach the market standards is considerably higher than developing skills and plans to sell at local or informal markets.

Marketing competence

For service providers, it is clear that marketplace changes will mean that virtually all agricultural interventions, even those that start with a basic food security focus, should be firmly based on market demand and that sound market analysis should provide the basis for all investment decisions. For service providers to facilitate market-based interventions, it is essential that they must have marketing competence and if these skills are lacking, service providers should seek partnerships with agencies that have marketing skills.

Long-term processes and building social networks

This study also underlines that improving the market performance of smallholder farmers can be a long-term process that requires a combination of social, technical, and marketing skills. As found in this study, empowering client groups with these skills requires considerable time. Prior to the marketing support, Africare, the lead agency, had worked with the Nyabyumba group for 4-5 years, layering skills within the group. This work started with group formation and technical learning process through farmer field schools. This work built both bonding social capital within the farmer groups and bridging social capital through facilitating links with other external agencies such as NARO and PRAPACE. Africare also introduced the Nyabyumba group to CIAT, who initially focused efforts on sustainable farming methods and gender. The CIAT agro-enterprise team was introduced at a later stage in the process. We believe that one of the reasons that the Nyabyumba Farmers' Group was able to take on a high value high risk market option successfully was a result of the previous work and experience of the group; had the group not gone through a long term process of experiential learning, the likelihood of their success would have been much lower, and they might have not selected such an ambitious market option.

This supports our view that service providers should develop strategies that layer skills within farmer groups and facilitate the development of relevant social networks that support improved market performance. To undertake these tasks we suggests that service providers focus on support for specific markets rather than simply provide general production based support.

Specialized roles within groups

The increasingly competitive nature of markets also suggests that market performance of farmer groups may be improved by a combination of strong social cohesion within the group supported by specialized roles to interact with partners beyond the group. Typically, farmer groups include a chairperson, treasurer, and farmers. This study suggests that a fourth position could be devoted to marketing. Depending on the size or quality requirements of the market being supplied, this marketing position could be located within a farmer group or be a position that serves an informal cluster of groups or at an association level.

The need for a dedicated marketing position becomes ever more important with higher value markets, which carry more financial commitments and risk. In the Nyabyumba case, the chairperson and one of the lead farmers were given the responsibility of analyzing market options, making marketing decisions and building business relationships. This decision to empower certain group members in marketing, which may not have been a conscience effort, was proven critical in achieving the level of "market responsiveness" required to overcome new challenges, which, if left untreated, would have caused the business to fail. The role played by lead farmers in innovation was also key to taking on new ideas quickly so that it did not tax the entire group in testing new ideas.

Investment costs in new business options

For any farmer group with marketing ambitions, a major hurdle is the need for investment capital to put an agro-enterprise business plan into action. The advent of rural money transmission outlets has enabled some rural communities to improve their access to finances from family remittances, but such outlets are limited in numbers. For the foreseeable future, many rural communities in developing countries will be unable to access formal credit due to the inherent risks and challenges related to high unit / transaction costs of rain fed smallholder agriculture. An interesting alternative for farmers is therefore to adopt a savings led approach to building capital through mechanisms such as, SACCOs, saving and internal loan clubs (SILCs), self-help groups (SHGs), and internal savings and loan groups (ISLs). In this case, the NFG initially borrowed funds from a local moneylender, which worked well. However, with support from Africare, they also explored the option of savings and internal loan methods. This was done to provide farmers with short-term access to funds for covering emergencies, or building resiliency, but also with a view to building investment capital for new or improved enterprise options, at both the individual and group levels. Although savings methods realize capital slowly, this approach integrates a risk limiting mechanism, in that farmers can only invest at the level they save. Savings led interventions also mean that farmer group members learn practical financial skills and build social bonding and trust. This type of financial approach allows service providers to focus their interventions on analysis and training or advice rather than investing in capital items.

This point however comes with the understanding that as groups take on more financial responsibility, the issues of governance and transparency become more important. Uganda is littered with co-operatives, SACCOs, and farmer associations that were once successful but then failed due to financial mismanagement. Many of the problems in the co-operative movements are ascribed to political manipulation by government bodies, and, therefore, it is essential that groups are owned by farmers and that decisions are made by them (Mike Mailloux, personal communication, November 2005). Cooperative League of the U.S.A. (CLUSA),[4] a leading service provider that supports farmer groups and

[4] Founded in 1916, the Cooperative League of the U.S.A. (CLUSA)—the international program of the National Cooperative Business Association (NCBA)—provides technical assistance to cooperatives, civil

collective action in agriculture, places considerable emphasis on democratic processes and self-assessment within groups, as it suggests that financial mismanagement is a common reason for failure of farmer groups and especially cooperatives.

Innovation and profit linked to monitoring and evaluation

In this market oriented phase, the level of innovation increased dramatically, and the usefulness of new ideas and their performance was based on changing income that is, profit, which at times was negative. The need for change was transferred away from the concept of testing new ideas being introduced by an external agency, to one of testing ideas to meet the needs of the buyer. The incentive for success being determined by sales levels or reduced rates of rejection. In this case there was no need for a sophisticated monitoring and evaluation processes as both the effectiveness of the innovation system and the ability to meet the challenges of the market were reflected by changes in income, which was clearly a sufficient stimulus to focus the group on finding their own solutions and networking effectively with partners to introduce new ideas and put them into practice within their economic framework and limitations.

Marketing and gender

When taking a more business-like approach to agricultural interventions, many observers suggest that women may be marginalized as men seek to maximize their share of new profits. In this case, however, there was no evidence that women were either displaced or refused entry to this new market opportunity. As the business grew, more women were able to access this distant market through a well-organized market channel. The position of more women than men was further strengthened when the Nyabyumba farmers integrated savings schemes into their collective effort although this approach empowered both men and women to be more resilient in their financial needs.

We conclude that the success of the Nyabyumba farmers in identifying and maintaining market links was based on a combination of effective service provision, their strong social base, collective learning, sequenced skills development, access to new technology, and development of social networks acquired through long-term support. Over the years, the lead service provider, Africare, had used several approaches to building group skills and social capital to form a closely-knit cluster of farmer's group with an empowered leadership. The relationship with specialist service provider enabled the group to access new production technology, and the latest addition into the skills set was an emphasis on market opportunities. Once a market strategy had been developed, subsequent innovations and interventions came rapidly and were made according to market performance.

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society organizations (CSOs), nongovernmental organizations (NGOs), local governments, member-owned businesses, and village-level associations in the developing world.

This outcome highlights the importance of marketing strategies and the value of market linkage through collective action approaches. For reasons of quantity and quality, the Nyabyumba farmers would not have been able to access this high value market unless they acted together. In the future, as markets become more competitive and product quality more exacting, it is likely that many more market opportunities, particularly higher value options, will only be accessible through disciplined collective efforts.

Health warnings on farmer groups

However, having made these statements we have three important caveats, related to sustainability, silver bullets, and risk.

In terms of success and sustainability, we note that many service providers measure their project effectiveness based on increased farmer income and numbers accessing a market. Whilst these are important indicators, we suggest that projects should also consider the transfer of marketing skills as a metric to measure sustainable engagement with markets. Given that project cycles tend to last for 3-5 years and that service providers often intervene directly to support market supply rather than facilitate market linkages, it is often the case that farmer remain entirely dependent upon service providers to maintain market ties. When the project ends and the service providers withdraw their support, they often unwittingly remove the market linkages, and farmers are unable to benefit from the technology skills they have learnt. Farmers will remain vulnerable to such problems and to market shifts unless they learn the skills that would enable them to understand markets and how to identify and secure new market opportunities. Service providers could therefore use the transfer of marketing skills as a proxy for increasing the likelihood of more sustainable interventions.

The second point is that forming farmer groups is not sufficient on its own to enhance market performance and is not a guarantee for increasing profit. There are many situations where it is either more profitable or more convenient to sell as an individual rather than through a group. Collective marketing comes with many transaction costs and time impediments in planning and selling, and if the gains of selling through a group do not sufficiently compensate the producer, then it is likely that a collective approach will be ineffective.

It may also be the case that collective action is only required at the moment of sale to provide a buyer with a minimum lot size, for example, that is enough to fill a truck rather than selling 2-3 bags per farmer. Understanding and monitoring markets and the profits gained through individuals and groups will enable service providers and farmers to evaluate the merits of when best to use collective action in the marketplace and recognize when it will not be effective, as illustrated in the examples in Table 6.

Table 6. Positive and negative effects of being in farmer groups

Situation where collective action is effective	Situation where collective action is less effective
Where farmers can access lower cost inputs through bulk purchase or affiliation with larger member groups.	Farmers can access inputs at competitive prices.
Products are differentiated, and farmers receive premium prices for quality.	Farmers sell undifferentiated product into local market.
Products receive premium prices when available at higher volumes and/or specific grades of product supply.	Markets are highly competitive, where large numbers of traders are actively seeking product.
Poor farmers can only link to market by supporting efforts that attract larger buyers.	Barriers to entry are low.
Contract from buyer offers attractive arrangement in terms of price and continuity or regularity of purchase.	Market access is easy.
Buying company can enforce the contract.	Access to services is easy.
Farmers face poor market access.	There are no market grading, standards, or product differentiations.
High investment costs required to enter specific market, such as irrigation or storage, cold chain.	There are no premiums on product sales.
Only few traders operate in the area.	There are no contracts for supply, or contracts cannot be enforced.
Services including finance are limited in the area.	Farmers coalesce rapidly for sales with need for building trust and skills.

The third point relates to risk. Higher value products generally require greater investment and will expose farmers to higher levels of risk. Whilst higher value markets offer higher returns, it is essential that a service provider works with farmer groups and uses methods to match marketing skills and group competence with market risks. As farmer groups take on more risk, service providers should also place greater emphasis on developing transparent financial systems that are accountable to the members. Service providers should ensure that farmers are not encouraged to opt into inappropriately high levels of financial risk, which could make them significantly poorer if they are unable to meet the market standards. All parties in any collective arrangement should be made aware of the many problems associated with mismanagement and poor governance within groups that have financial commitments to each other. Therefore, integrity in the process and providing checks and balances to promote due diligence cannot be overemphasized.

Given these caveats, we believe that marketing strategies combined with collective action can accelerate innovation, streamline interventions, and improve the efficiency of service providers in raising the market performance of poor farming communities. We conclude that marketing skills should be considered of equal importance to technology when seeking livelihood development for the rural poor. Similarly, when designing a project or developing new policies that support smallholder livelihoods, emphasis should be placed on sound market analysis and empowering local actors with the ability to evaluate, monitor, and be responsive to changing market conditions, particularly in the case of high value and more formal

markets.

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