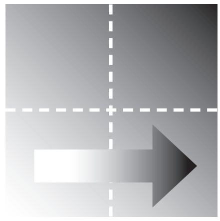
5

Building market institutions



THIS CHAPTER TURNS OUR attention to building market institutions – the "rules of the game". This is represented by a horizontal movement in our framework.

The chapter presents five cases:

- **Market information system in Ghana and Burkina Faso** This case illustrates how farmers in Burkina Faso and wholesalers in Ghana have used a computer-based market information system to develop a thriving trade in onions.
- **Warehouse receipt scheme in Tanzania** Getting credit is a perennial problem for farmers. This case shows how warehousing, an oft-neglected function in the value chain, has been used to give coffee farmers the credit they need.
- **Yams in Ghana** How to manage the marketplaces in Africa's cities? This case shows how a traders' association has established ways to overcome disputes with the local authority that is responsible for the market.
- **Wool in Lesotho** It is very difficult to provide extension advice and veterinary care to large numbers of scattered, small-scale producers. This case from Lesotho shows how it can be done – by working with a small number of traders.
- **Commodity exchange in Kenya** It is not enough just to provide market information, this case from Kenya shows. A range of other services are needed if farmers and traders are to be able to use the information effectively.

Market information system unites producers and traders in Ghana and Burkina Faso

Cabbages and carrots, beans and bananas, plantains and papayas, oranges and onions, sweet potatoes and pears… From avocados to yams, the range of fruits and vegetables in the district markets in Accra is overwhelming. The produce is fresh. Prices are low, too. Customers can find most types of produce all year round.

At the other end of the chain are the producers – millions of small-scale farmers, predominantly women working on farms of less than 1 ha – who grow most of the produce. Many of them are in neighbouring countries – Burkina Faso, Mali, Niger and Nigeria – separated by hundreds of kilometres of bumpy roads from from the consumers in Accra.

How does this system work? The housewife doing her family shopping, the office worker in search of some fruit for lunch, the chef from the local restaurant looking for today's ingredients – few of them understand how the traders manage to get such a rich variety of produce onto their counters day after day.

Traditional trading practices

In between producers and consumers there is a network of retailers, wholesalers and travelling traders who bring the produce to the market. The traditional practice is for traders to travel abroad in search of commodities to buy. The traders have to find sellers and negotiate deals individually. Each trader has to organize the transport, credit, and so on, alone.

But this approach has problems. The traders do not have reliable information. They do not know how much they should pay, and they do not know how much the product will fetch in the market in Accra. Transactions are *ad hoc*, and producers and traders lack stable, long-term relationships.

Governments collect a great deal of information on market prices every day, but this is mainly used to gauge long-term trends for food security purposes, and it is almost never made public quickly enough for traders' needs. It is almost never made available outside each country. In the jargon, "the market information system is inadequate".

Producers face similar problems. They do not know what a fair price is, and they do not know if the trader is creditworthy. They have to sell their perishable produce quickly, or risk watching it rot in the fields. Speaking different languages, the Accra traders and the farmers are forced to use unreliable interpreters to translate. Cheating, mutual suspicion and distrust are rife.

GAPTO

The Ghana Agricultural Producers and Traders Organization (GAPTO), based in Agbobloshie market in central Accra, is an umbrella organization of 16 commodity groups and associations. Some 12,000 traders (wholesalers, retailers, distributors, etc.) are members of GAPTO's member associations. About 500 individual farmers are also members.

GAPTO is the formalization of longstanding traditional commodity associations. It was established in 1992 as a result of a World Bank-funded research project involving the Ghanaian government, universities, NGOs, and farmers', traders' and transport organizations. It offers various services to its members:

- It provides them with basic trading information.
- It advocates for a favourable trading environment.
- It settles disputes among members.
- It assists members to access loans from financial institutions.

GAPTO's member associations and individual members pay a membership fee – GH¢ 1 (about €0.74) per member per month.

Improving market information

GAPTO worked with IFDC, a US-based agricultural development organization, and partners in other countries in West Africa to design a project to improve the market information system. The result was MISTOWA, which stands for "Market Information Systems and Traders' Organizations of West Africa". This USAID-funded project created an internet-based trading platform, www.tradenet.biz, to provide up-to-date market information throughout the region (see Box 5.1).

As part of the MISTOWA project, GAPTO set up an agribusiness information centre in the middle of the Agbobloshie market in Accra. This centre has eight computers with internet connections. Producers and traders can come to browse the internet, use the Tradebiz.net platform, or sign up for price information or alerts on their commodity on their cell phones.

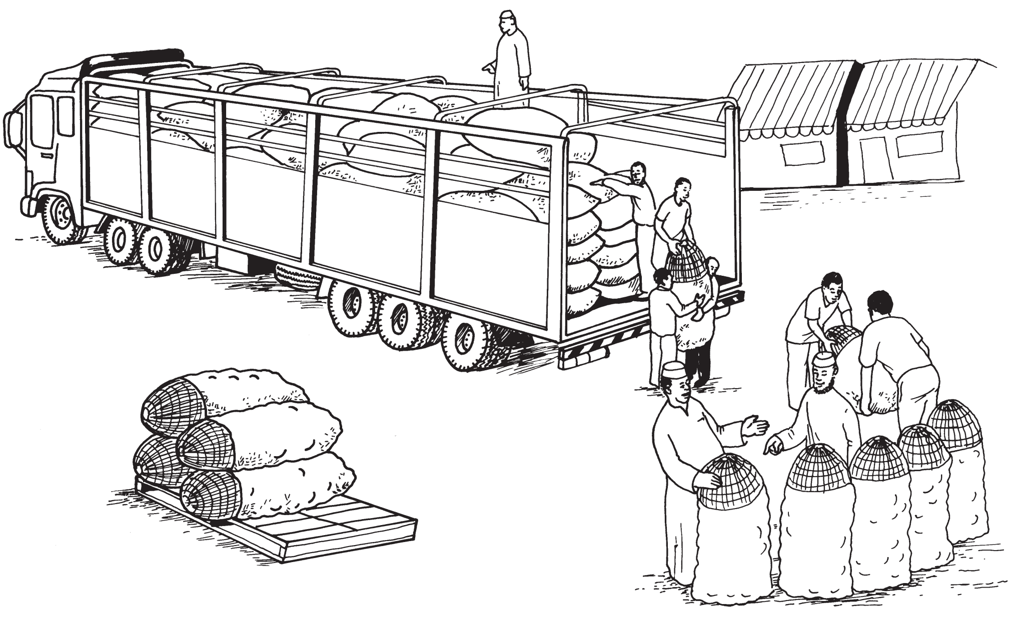
Every day, GAPTO staff scan the prices on Tradenet.biz and post them on a big board outside the centre, where everyone can see them. That allows traders to see the current prices and offers to buy and sell for eight major commodities in six markets in Ghana. They can come into the centre to get further details from GAPTO staff.

Tradenet.biz enables GAPTO and its members to identify profitable market opportunities and anticipate expenses. GAPTO has used the system to link with several of the other 150 or so agribusiness information centres throughout the region. Improved access to market information and better communication has enabled GAPTO to reduce the risk of price fluctuations and produce surpluses, and to find reliable trading partners. Producer groups also have access to the same market information via Tradenet.biz.

8,000 tons of onions

Ghanaians love onions. But onions do not grow well in Ghana because of the climate, so the country imports lots of them from Niger and Burkina Faso. But the trade was poorly organized and suffered from many of the problems described above. In addition, cross-border trade involves special problems (see Box 2.1, page 14).

A farming cooperative group in Burkina Faso called Société Coopérative Agricole et Maraîchère de Débé (SOCAMAD) was looking for a buyer of its onions. The farmers used to sell their produce to Côte d'Ivoire, but political instability there had cut them off from their traditional market. Using Tradenet.biz, SOCAMAD identified GAPTO as a potential buyer. A delegation of four SOCAMAD representatives visited GAPTO and met with the onion traders in Accra, and a team from GAPTO and the onion traders visited farms in Burkina Faso to check the quality and quantity of the produce. Everyone agreed that they should reach a deal.



Box 5.1 Tradenet.biz

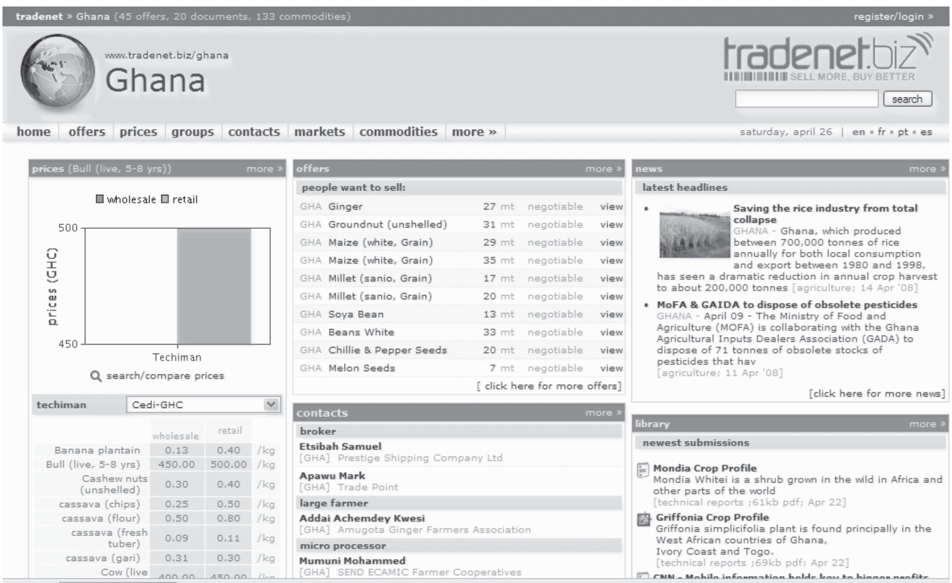
Tradenet.biz is a web platform designed for associations of farmers and commodity traders in developing countries. It provides information on prices of 100 farm commodities in 350 markets around West Africa. It offers news updates and a library of reference information on agricultural commodities in West Africa. It gives contact information for traders, producers and transporters. It allows traders and producers to offer commodities for sale or purchase.

Market enumerators, employed by national governments throughout West Africa, feed data on prices and quantities into the system. Associations like GAPTO also collect information on prices to supplement the official data. MISTOWA has trained them how to use the Tradenet.biz platform.

The information on Tradenet.biz can be accessed through the internet. Users can also get information on prices and buy and sell alerts via SMSs on their mobile phones. Certain organizations such as member associations can use the service to send SMS messages to registered users. The site is heavily used: in July 2007, it recorded nearly 70,000 separate visits by users.

Tradenet.biz was developed for MISTOWA by Busylab, a private company based in Accra. At the end of the MISTOWA project, Busylab will continue running the platform. It plans to continue offering some types of information for free, but will charge licensed members a fee to access premium content.

More information: www.tradenet.biz



Acting on behalf of the Accra onion association, GAPTO entered into a formal agreement with SOCAMAD for the supply of 8,000 tons of onions in the 2007 season. The agreement covered the quality of the produce, the credit terms, mode and terms of payment, roles of each partner, the exchange rate between cedis (the Ghanaian currency) and CFA (used in Burkina Faso), and the means of settling disputes. They agreed on a fixed price of CFA 10,000 per a 110 kg bag of onions during the off season, and CFA 8,000 per bag during the peak season.

SOCAMAD negotiated with the Burkina trade authorities for an export permit to reduce the delays and payments at the Burkina Faso border posts.

Transport

Eight thousand tons is a lot of onions – 161 big articulated truckloads. Every day or so during the season, a lorry brought onions from Burkina Faso to Accra.

The onion traders in Accra were organized into groups, which would take turns to send a representative to Burkina Faso. This trader would take with him empty sacks to fill with onions, check the quality of the produce, and supervise the packing and loading. He hired a lorry in Burkina Faso and rode with the lorry to Accra. Once in the Agbobloshie market, the lorry was unloaded and the onions distributed to the participating traders, who sold them to their customers.

Many lorries ply the route from Ghana to Ouagadougou, the capital of Burkina Faso, bringing goods from coastal ports. They often return empty. So transport firms are glad to find a load to bring the other way. The Accra trader would hire one of these lorries in Burkina Faso, and make a down-payment of 25% of the cost of the transport. The driver received the rest of the money 2 weeks later in Accra, when the traders had sold the produce. Because the drivers are based in Accra, they had no problem with this arrangement.

Financing the deal

How did the financing work? The Accra onion traders agreed among themselves how many onions each would take. They collected money from each trader to cover the transport down-payment, the cost of loading, custom duties, and other immediate expenses. The trader took this money with him when he travelled to Burkina Faso to supervise the loading (Figure 5.1).

SOCAMAD agreed to supply the onions on credit. Three weeks after the onions had arrived in Accra, and after the traders had sold their onions, the traders paid GAPTO. GAPTO deducted a 3% service fee, then transferred the money to SOCAMAD's account in a bank in Burkina Faso. Armed with its purchase agreement with GAPTO, SOCAMAD had persuaded this bank to provide loans to the farmers to produce onions. The bank deducted the outstanding loans plus interest from SOCAMAD's account. SOCAMAD then paid the individual farmers.

Benefits

The new arrangement works because everyone benefits: producers, traders, GAPTO and the bank.

Producers

- The producers, organized into SOCAMAD, are assured of a ready market for their produce.
- The producers deal with a respected organization (GAPTO) instead of an individual trader, so are sure of payment.
- The agreement with GAPTO gives SOCAMAD the collateral with which to get a bank loan.
- The producers are assured of a stable price, even during the peak season.

Traders

- The individual traders do not need to travel, make separate transport arrangements, or bargain on prices in Burkina Faso. GAPTO does this on their behalf.
- The traders know how much they are going to pay for supplies over a period of time.
- The traders have a credit facility through GAPTO. They do not have to pay for their onions until 3 weeks after delivery.
- The traders are spared of harassment and extortion along the road.

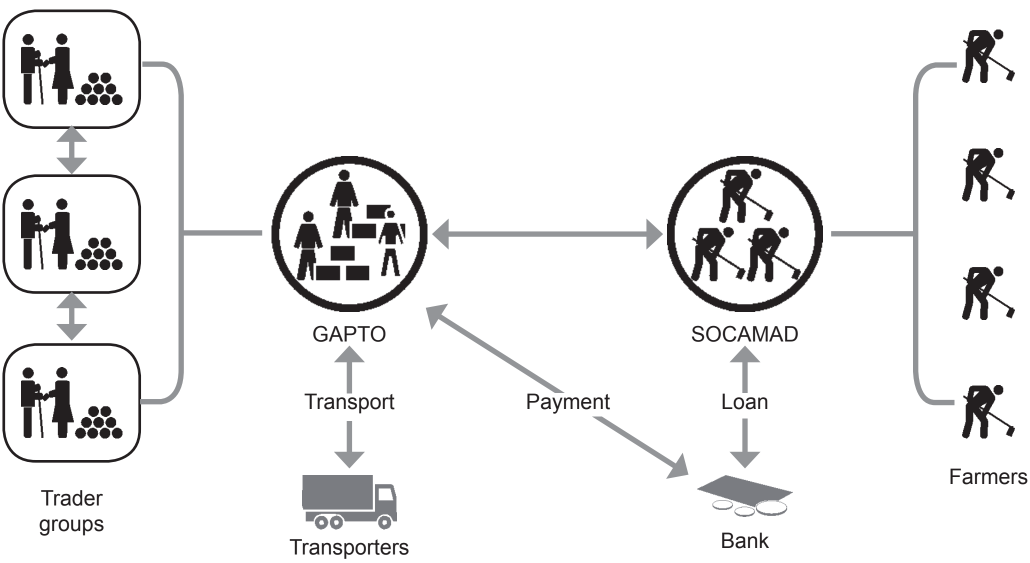


Figure 5.1 Financing the onion trade

- The traders are spared of the risk of armed robbery they used to face when carrying large amounts of cash to buy onions.
- The traders do not have to deal with translators, who may cheat them and the producers.

GAPTO

- GAPTO charges the traders a 3% service fee on each sack of onions. This generates funds to run the organization and the information centre.
- GAPTO has a tangible and value-added service to provide for its members. The deal acts as a bait to attract other traders to join the organization.

GAPTO and SOCAMAD have negotiated a similar deal for the 2007–8 growing season. GAPTO has reached similar arrangements on potatoes (with a growers' cooperative and a development project in Mali) and beans (with a traders' association in Nigeria). It is hoping to develop similar agreements to cover other commodities. GAPTO is focusing on cross-border trading opportunities in order to promote regional trade and to capitalize on the Tradenet.biz market information system.

The bank

- When granting a production loan to SOCAMAD, the bank requires that GAPTO pay through the bank. This assures the bank that the loan will be repaid.
- The bank now has a reliable method of granting loans during future production seasons.

Challenges

Through Tradenet.biz, traders and producers can now get the information they need to make informed decisions. But challenges remain:

- Prompt payment by the onion traders is crucial if GAPTO is to meet the payment terms. If traders do not pay, GAPTO may default. When this occurred once, GAPTO took the wayward traders to court to force them to pay. The existence of a legal contract between GAPTO and the traders enabled GAPTO to enforce the agreement.
- Other commodity groups under GAPTO are pressing the organization to negotiate similar deals on their behalf. GAPTO must ensure that it selects its partners carefully and negotiates deals that are profitable to all concerned.
- GAPTO faces the challenge of disseminating market information more efficiently. Currently producers and traders must visit the information centre in Accra (or they must have their own internet connection) to get detailed information from Tradenet.biz. GAPTO is looking for ways to remove this barrier, bringing the information to the doorstep of each producer and trader.

Table 5.1 Value shares of actors in the onion value chain, Burkina Faso and Ghana

GH¢ per 110 kg sack of onions (€1 = GH¢ 1.35)

Chain actor	Variable costs	Revenue Selling price	Gross income Revenue – Costs	Added value Revenue – Previous actor's revenue	Gross margin Gross income x 100 / Revenue	Value share Added value x 100 / Retail price
Farmer		19.00		19.00		48%
Wholesaler	31.40	37.00	5.60	18.00	15%	45%
Retailer	37.85	40.00	2.15	3.00	5%	8%

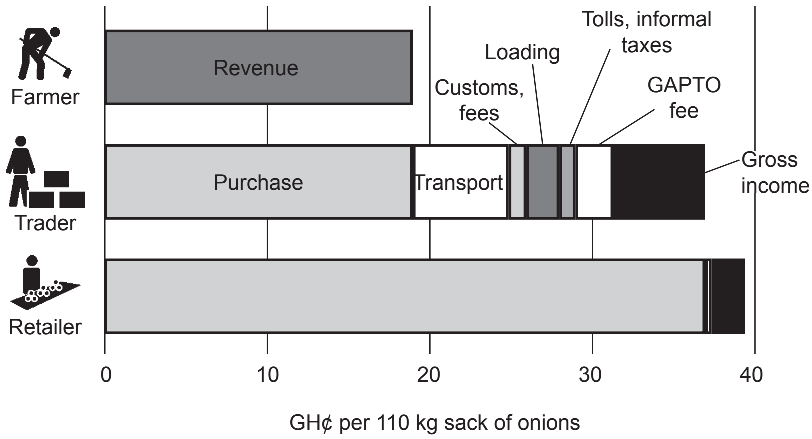


Figure 5.2 Costs and revenues of actors in the onion value chain, Burkina Faso and Ghana

Value shares of actors in the marketing chain

Bringing a load of onions from Burkina Faso to southern Ghana involves substantial costs: some 30% of the retail price of the produce. The major cost, apart from purchasing the produce itself, is transport; this costs GH¢ 6.00/kg, about 20% of the value of the onions when they arrive in Accra. Other costs include loading and unloading, customs, road bills, informal taxes, and the fee GAPTO charges for its services. Overall, the wholesaler earns a gross margin of 15% on a load of onions (Table 5.1, Figures 5.2 and 5.3).

GAPTO, SOCAMAD and the bank are coming to play a key role in the onion trade. Everyone benefits: farmers in Burkina Faso are better off, since they now have a market for their produce. The wholesalers and retailers in Accra have an assured supply of onions to sell. And Ghana's consumers have a more reliable, cheaper supply of onions.

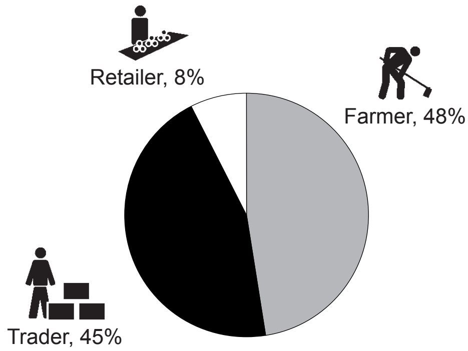


Figure 5.3 Value shares of actors in the onion value chain, Burkina Faso and Ghana

How the market structure has changed

The market used to consist of farmers and traders acting without formal organization among themselves, without formal credit and money transfer procedures, and with little market information (Figure 5.4).

Through the new arrangement, SOCAMAD and GAPTO provide much-needed organization among farmers and traders respectively. Because they are organized, they can access bank services. And Tradenet.biz provides market linkages and price information.

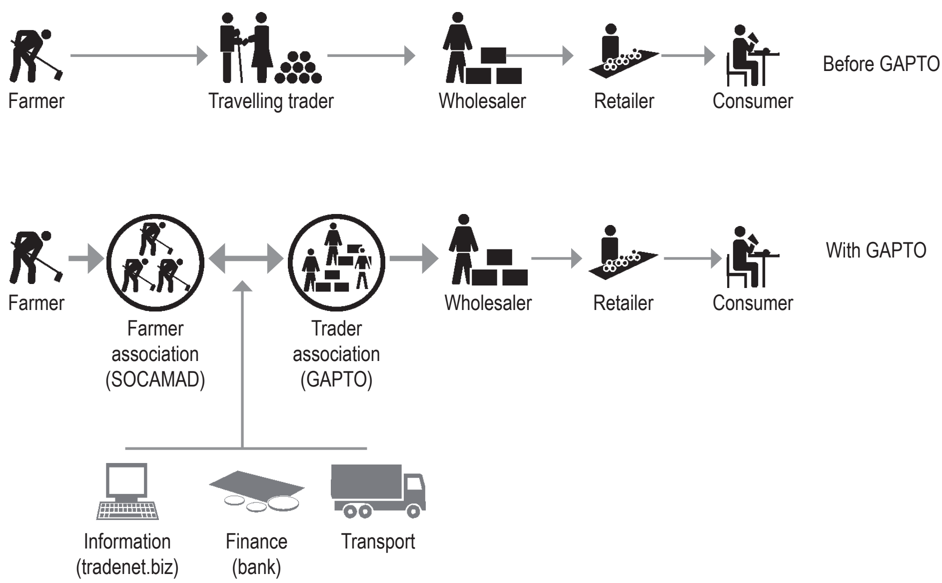


Figure 5.4 Changes in the onion market structure, Burkina Faso and Ghana

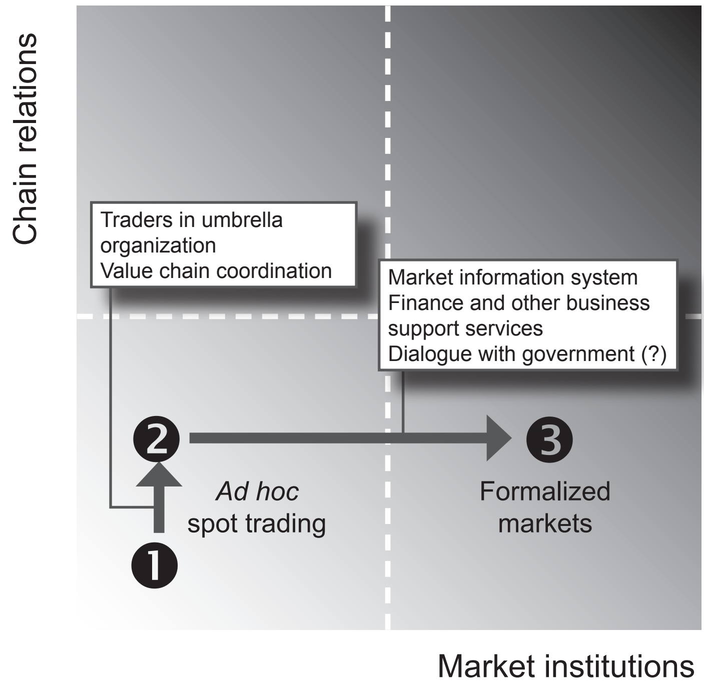


Figure 5.5 Chain relations and market institutions in the onion trade, Burkina Faso and Ghana

Chain relations and market institutions

Previously, chain relations were poor – the traders and farmers did not know each other, and relations were *ad hoc* and had to be created anew each season (Figure 5.5). Mistrust was rife. There were no market institutions such as credit or market information to enable the actors to do anything except *ad hoc* spot trading. ❶

The advent of GAPTO and SOCAMAD has enabled both traders and producers to organize themselves, coordinate their activities, and create linkages between the two groups. ❷

GAPTO and Tradebiz.net provide a market information system that keeps traders and their customers informed about prices and quantities available in the market. GAPTO and SOCAMAD have linked with the bank to obtain finance, contracting, legal support and other business support services. ❸

More information

Haruna Agesheka, GAPTO, gaptosheka@yahoo.com

Musa Salifu Taylor, MISTOWA, musa_taylor@yahoo.com, mtaylor@ifdc.org

Tradenet.biz: www.tradenet.biz

Warehouse receipts for coffee marketing in Tanzania

In Tanzania, like in many other African countries, coffee used to be closely controlled by the government. The coffee market was regulated through a national commodity board and through the cooperative unions – groupings of rural cooperative societies.

The rural coops were not really grassroots organizations where farmers joined forces, but acted merely as agents of the government-controlled unions. They received directives from the union they were a member of, and from government officials. Their main tasks were distributing subsidized inputs and to assemble coffee grown by their members to sell to commodity boards, at prices fixed by the government. They were not allowed to trade with private traders, and private traders were not allowed to buy from farmers, the rural coops or the unions. Multinational companies were required to apply for a license as a coffee exporter and were allowed to buy from only one source – Moshi Coffee Auction – an auction centre in the northern Tanzania.

The marketing system for other export crops was similar. There were commodity boards for cotton, sisal, tobacco, cashew, tea, sugar, and many other crops.

During the late 1980s, this marketing system began to collapse. Most of the crop boards borrowed heavily from commercial banks using government guarantees. But the government, short of revenue, failed to pay, so the banks refused to extend further credit. The commodity boards could not pay the unions, which could not pay the rural coops, which could not pay the farmers. The heavily indebted commodity boards also failed to pay their input suppliers. Crisis ensued.

Free market

In 1993 the coffee board was reformed. The marketing function was left to the private sector, while the board's regulatory functions were streamlined. Private companies – both local firms and multinationals – were allowed to buy coffee from farmers. To everyone's surprise, these firms offered the farmers higher prices than the unions. Staff of the cooperative system were puzzled, farmers were happy, and the government was able to collect taxes.

But the situation did not last long. Prices on the world market started to fall. In 1993 farmers received TSh 1,200 (then US$ 3.00) per kilogram of "parchment coffee" (dried coffee cherries), while in 1998 they got only TSh 450 (then US$ 0.70).

Mistrust resulted as farmers felt exploited by the exporters, which in turn claimed to suffer huge losses from the falling prices.

By that time, multinational traders had come to control 90% of the local market and almost all the international trade. They had crowded out most of the local traders, who lacked business skills and access to finance, faced long and expensive licensing procedures, and had to compete with a cartel of multinationals who offered low prices at the Moshi Auction.

So the farmers were in a quandary. They could abandon coffee production, but they had made a big investment in their bushes and had few alternative crops. They might sell through cooperative unions, but the unions by this time were acting like any other multinational exporter.

Selling through their primary cooperative was also fraught with difficulties. Because of their bad experiences in the past, farmers generally mistrust the coops. The farmers demand at least some payment up front before they are willing to part with their parchment coffee. But the rural coops lacked working capital to pay their members in cash. Local banks were not ready to finance the cooperative unions because they still had outstanding loans and had no collateral.

Warehouse receipt system

In 1999, the Tanzanian government and the Common Fund for Commodities (an arm of the United Nations) started a project to develop a warehouse receipt system to overcome some of these problems. Aimed at small-scale traders, coops and farmers, the system aims to enable these small-scale actors to use their crops as collateral to get credit from a bank. The project started out with two commodities – coffee and cotton – as a pilot for others. The Common Fund wanted to develop the project to strengthen the private traders, but suspicious of the private sector, the government insisted that it also focus on coops.

The system works like this (Figure 5.6):

1. At their annual general meeting, the coop members estimate how much coffee they expect to harvest that year.
2. The coop managers then approach the bank with this harvest projection, and request a loan.
3. The bank issues a group loan to the coop. This first loan is enough to cover the purchase of 4 tonnes of "parchment" coffee (coffee cherries that have had the pulp removed and that have been dried), and it is issued to all interested 32 rural coops under the system.
4. The farmers deliver parchment coffee to the coop store, and the coop pays them 65% of the value. It gives them a promissory note for the remaining amount.
5. The coop then bulks the coffee from different farmers, and transports it to the warehouse.

6 The warehouse operator weighs the coffee, grades it, and issues a receipt to the coop.

7 The coop managers can then go to a bank with this receipt, and use it as collateral for a further loan – perhaps for a larger amount of coffee.

8 The warehouse operator sends weekly reports to the bank showing the amount of coffee in storage and its ownership, so the bank can check that the receipt is genuine.

9 Meanwhile, the warehouse employees process the parchment coffee to remove the husks, grade it again, and prepare the necessary documents so it can be auctioned.

10 The warehouse sends these documents to the Moshi Coffee Auction, which sells the coffee to bidders.

11 The winning bidder pays the Tanzania Coffee Board, which owns the Moshi auction house.

12 The Coffee Board then deducts the cost of processing and storage, and pays the bank.

13 The bank in turn deducts the amount the coop has loaned and interest, and pays the coop the remainder of the proceeds.

14 The coop pays the farmers the remaining 35% it owes them, plus any profit (or minus the loss if the auction fetches less than expected).

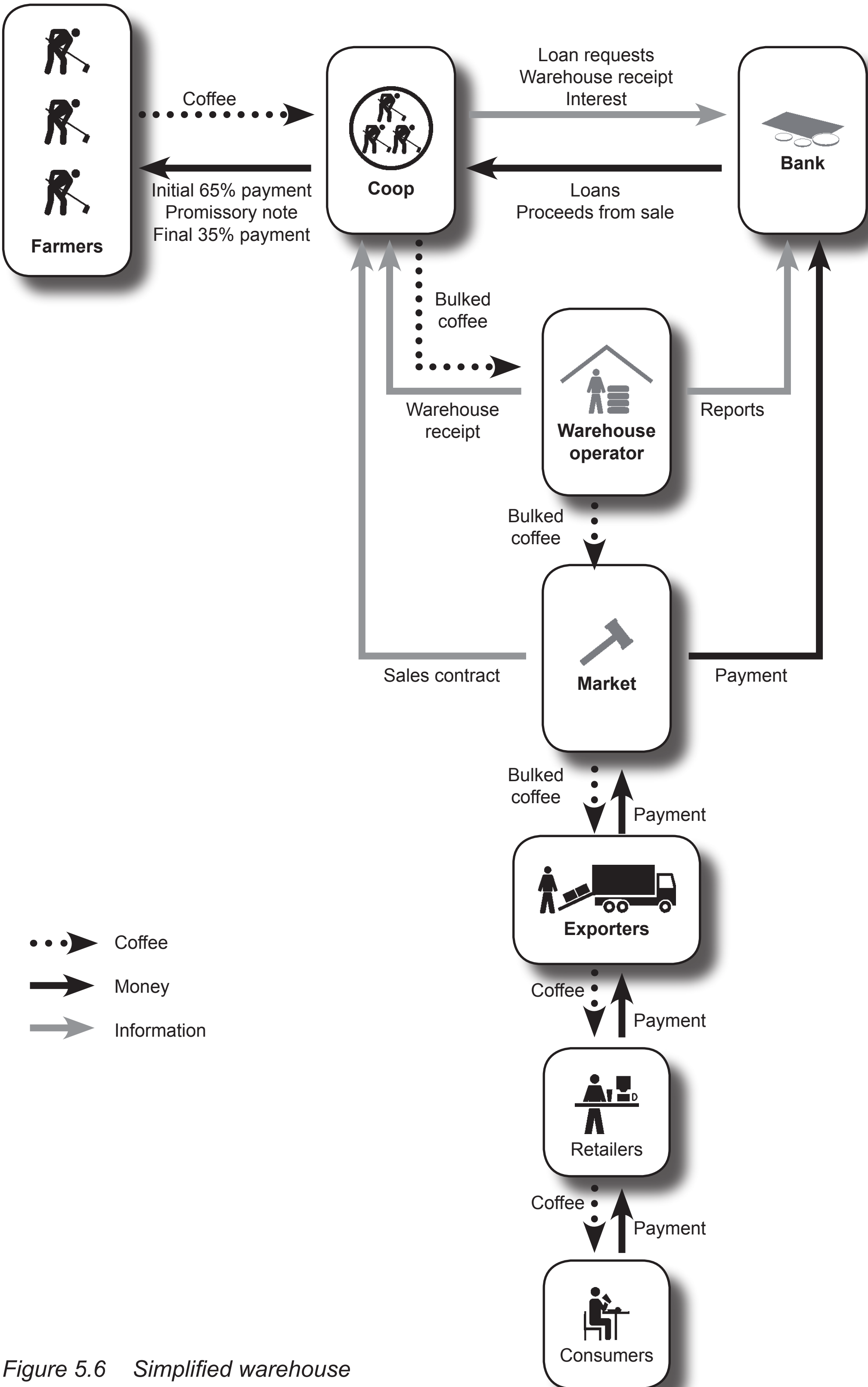


Figure 5.6 Simplified warehouse receipt scheme

This cycle can repeat up to 16 times in a 6-month marketing season, depending on the volume of coffee produced and market conditions. That means that the coop might get a new loan and deliver a load coffee to the warehouse roughly every 2 weeks during this period.

Auctions are conducted in Moshi every week on Thursdays during the season. The auctions are handled electronically and are transparent, so all bidders can see the highest bid and the identity of the bidder.

Six privately owned warehouses are participating in this system, distributed in prime coffee-growing areas throughout the country. The warehouses operate according to certified procedures, derived from the Warehouse Receipt Act. This Act, which became law in June 2005, establishes a government-financed Warehouse Licensing Board to govern the receipts system (Table 5.2).

The Tarakea Rural Cooperative Society

In September 1999 the warehouse receipt system for five regions in northern Tanzania was officially launched in Arusha. A project management unit was formed, comprised of officials from the government and local representatives of the coffee and cotton boards. There was also a National Advisory Committee of 23 people from different key stakeholders. (Similar projects were launched in other parts of the country.)

The project began by sensitizing local traders, coops, farmers' business groups, potential warehouse operators, and financial institutions. The Tarakea Rural Cooperative Society was one of 90 coops that attended these sessions. The Tarakea Rural Coop is a primary coffee marketing society in Rombo District, on the slopes of Mount Kilimanjaro. It had started trading coffee on its own in 1999 after splitting from a larger cooperative union. In the 1980s, the Tarakea area had produced as much as 400 tonnes of coffee a year, but production had fallen to just 150 tonnes in 1998, of which the Tarakea Rural Coop accounted for 56 tonnes.

Table 5.2 Actors in the warehouse receipt system in Kilimanjaro

Actors	Institution
Depositor	Tarakea Cooperative Society Ltd (and other coops)
Warehouse operator	Tanganyika Coffee Curing Co Ltd
Financial institution	Kilimanjaro Cooperative Bank Co Ltd
Markets	Moshi Coffee Auction
Government	Ministry of Industries Trade and Marketing Tanzania Coffee Board WRS Project

The Tarakea Rural Coop has 1,500 active members, of whom 150 are women. Members cultivate an average of about 1 hectare of coffee.

Like other coops, the Tarakea Rural Coop makes three payments to its members each season. The first is when farmers deliver their coffee to the coop: they receive a payment of 65% of the expected market price of the coffee. After the coffee has been sold, the coop pays another 25% of the price. The final instalment is paid at the end of the season after the administrative costs have been deducted.

The Tarakea Rural Coop charges its members for its services: about TSh 10 per kilogram of coffee. This is enough to cover staff salaries, the cost of stationery, and an allowance for board members. The coop gets a loan of about TSh 2 million (€1,250) from the Kilimanjaro Cooperative Bank to pay its members for their first consignment of coffee.

Teething troubles

In 2000, the warehouse receipt project had started up but was experiencing teething troubles. The bank was not able to arrange finance for the initial loans in time. Despite this, the Tarakea Rural Coop managed to collect about 10 tons of parchment coffee from its members without the first payment. The coop took the coffee to the warehouse, got the warehouse receipt, but the bank still did not have money available for loans. The project was slow in starting up, its staff had not yet been able to persuade the two local banks to participate. The Bank of Tanzania refused to recognize coffee as collateral, and the Kilimanjaro bank officials were not interested in the coffee business because they thought it was government controlled. These difficulties halted the process for the whole season.

The next year, the project invited an international consultant to train government and bank officials about the warehouse receipt system. After further negotiations, the Kilimanjaro Bank agreed to test the system with a few carefully selected primary rural coops. The first loans were made in 2002: 32 coops received loans from the Kilimanjaro Bank using warehouse receipts as collateral. The project had approached other banks, but they declined to participate. It was easier for the Kilimanjaro Bank to accept the idea because it is a cooperative bank with responsibility to the coop movement. Since 2002, the system has worked smoothly.

Prices

Members who sell their produce through the Tarakea Rural Coop get a better price than other producers through alternative marketing channels. During the 2005/6 season, for example, coop members received TSh 2,100 per kg of parchment coffee. Most other coops in the warehouse receipt scheme do not perform that well: they paid TSh 1,800 per kg. The cooperative unions in the Kilimanjaro area, not part of the warehouse receipt scheme, paid just TSh 1,500, while private traders paid TSh 1,250 per kg. These differences are due to quality, marketing costs, and the time of the sale. The Tarakea Rural Coop has been both efficient in its marketing, and lucky in the timing of its sales.

The coops are able to pay farmers substantially more than private traders because the coops sell further up the chain: they own the processed beans that are offered for auction. The private traders, on other hand, buy parchment coffee and arrange the processing and other steps up to the auction, so any profit to be made accrues to them (rather than to the farmers).

The rural coops have lower overhead than the unions. The coops incur about TSh 250 of costs per kg of parchment coffee: about 60% of this is the cost of transport, processing and bank charges, while the remainder is administrative overhead. The average overhead of the unions is about TSh 700 per kg: unlike the coops, they have to pay staff salaries for the whole year, they have higher transport costs, and they borrow money (so pay interest) over the whole year rather than cycling their loans quickly.

From 2005 to 2007, the Tarakea Rural Coop managed to build a cash reserve of TSh 37 million (€22,600). This now enables it to pay the initial payments to farmers without borrowing from the bank. The Tarakea Rural Coop also contributes TSh 5 per kg of coffee it handles to the village authorities for community development activities such as school-building and water projects. The coop has also started to pay an allowance of TSh 3,000 to members who attend the annual general meeting.

Figure 5.7 reflects the Tarakea Rural Coop's success. Since 2002, it has continuously increased the amount of coffee it has sold through the warehouse receipt system, and has been able to access three times the amount of loans from the bank. More farmers are joining the coop, and members are rehabilitating their

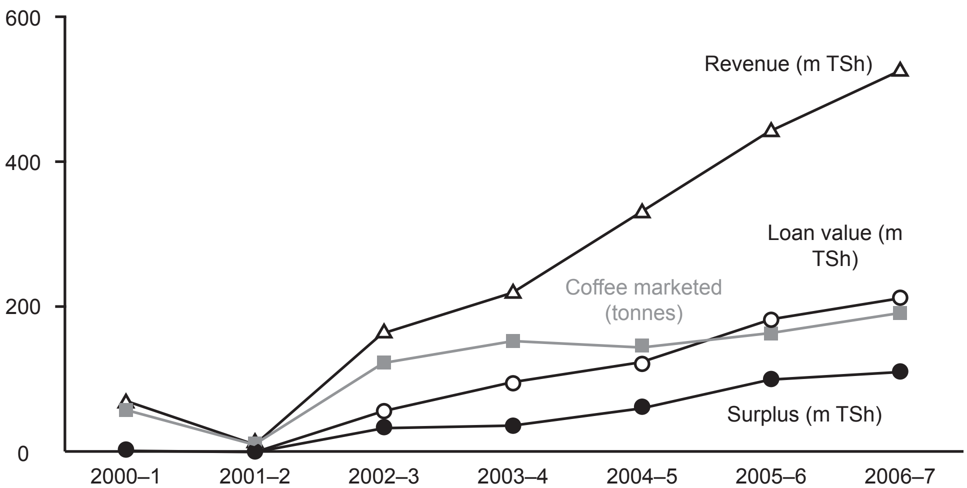


Figure 5.7 Loans and revenues from coffee marketing by the Tarakea Rural Cooperative Society

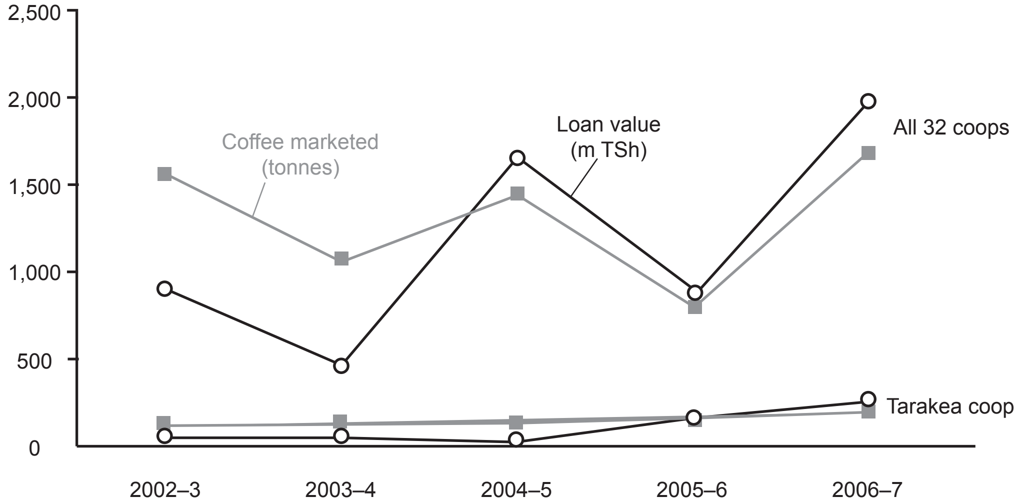


Figure 5.8 Coffee marketed by Tarakea and other coops in the warehouse receipt scheme, Kilimanjaro Region

farms. Production in the area has risen from 150 to more than 300 tonnes (not all farmers in Tarakea are members of the coop).

For all 32 coops in the scheme, the amount of coffee marketed and the level of loans have fluctuated from year to year (Figure 5.8). There are various reasons for this, including weather, weakly organized cooperatives, and interference by unions which wish to retain their member coops.

National impact of the warehouse receipt system

Smooth operations After the initial teething troubles, the system is now performing well. Unlike the previous credit arrangements, there have been no defaulters anywhere in Tanzania. The farmers are guaranteed returns and get credit to support their operations. The coops have regained their members' trust and have a flourishing business. The warehouses have gained business, and the banks have expanded their loan portfolios.

New market opportunities More coffee marketing channels have been introduced, and their transparency has increased. In the 2006/7 season, one coop managed to export 40 tonnes of coffee to Japan. The warehouse receipt system exposed them to the auction, where they learned they could sell coffee on their own, and they started to search for international buyers. In 2007, a joint venture of eight coops in the Kigoma Region signed a contract to sell 300 tonnes to a firm in the USA. The coops use the warehouse receipt system to get loans, but sell direct to the American firm rather than using the auction system.

More participants In addition to coops, local private traders and farmer's business groups are now participating in the system. In 2007, some 45 coops, six cooperative unions, about 30 business groups and eight private companies did so. The increased competitiveness of these Tanzanian enterprises has enabled them to increase their market share from 10% in 1999 to more than 60% in 2006/7. Six commercial banks now finance commodity trade under the warehouse receipt system.

Higher prices Farmers' prices for coffee have increased more than six-fold since 1999. The warehouse receipt system gives farmers a better price than other players – up to TSh 350–700 per kg more.

Legal framework The Warehouse Receipt Act and its regulations are in place. The Act specifies a procedure for licensing warehouses under the receipt system, and what each actor does in the scheme. The government has liberalized currency controls and now allows the sellers to be paid in US dollars.

Other commodities The performance of the warehouse receipt system for coffee (and cotton) has encouraged the government to replicate the system for other commodities, such as cashew nuts, rice and maize. The Federal Bank of Middle East has agreed to finance about 300 tonnes of rice grown in Kilombero, Morogoro Region, in 2007, while the National Microfinance Bank has financed cashew nuts in Mtwara in 2007/08.

Challenges

Creating functioning warehouses This is the responsibility of the private sector. There are now seven officially recognized warehouse operators in Tanzania, dealing in coffee, cotton, paddy and maize. In 2007 five more were registered in the cashew subsector. Their experience is variable: some have recently joined the scheme, while others are in their sixth year of operations. Others potential operators are not interested in joining the scheme because they do not understand the warehouse receipt system, or have long-term business plans which they are reluctant to change.

Warehouse receipts as trading instruments The warehouse receipt system would work best if the receipt itself could be traded – if farmers could buy and sell their receipts. This is not yet possible in Tanzania as government regulations do not allow it.

Low level of production Commodity trading works well if large quantities are traded. But Tanzania's small-scale farmers each produce only small amounts. The coops manage to pool their members' output into larger batches, but the size of each batch is still relatively small.

Formation of farmers' business groups and coops Creating stable coops and farmers' business groups is a long, costly process. So is building stable, reliable institutional linkages. Both rely heavily on government actions and policies: registration, auditing, inspections, reporting, etc.

Market cartel In some regions there is a market cartel of big traders and cooperatives, and politics is intertwined with production and marketing.

Value shares of actors in the marketing chain

Table 5.3 and Figures 5.9 and 5.10 show costs and revenues of the actors in the various marketing systems.

As can be seen from the figures, the warehouse receipt system is much more efficient than the Union system and the multinational trading chain. The coops process the beans themselves and deal directly with warehousers and exporters, so they avoid many of the expenses incurred by the unions or traders. Consequently, they have only a 15% share of the export price, which is low in comparison to the traders (37%) and the unions (31%).

That's why the farmers make more money in the warehouse receipt system. In the warehouse receipt scheme, farmers earn 77% of the exporters' price. Under the Union system, farmers earned just over 60% of the export price. Farmers selling to private traders or multinationals are even worse off: they earn only 55% of the exporters' price.

Table 5.3 Value shares of actors in the coffee value chain, Tanzania

TSh per kg coffee, 2006/7 (€1 = TSh 1,720)

Chain actor	Variable costs	Revenue	Gross income	Added value	Gross margin	Value share
		Selling price	Revenue – Costs	Revenue – Previous actor's revenue	Gross income x 100 / Revenue	Added value x 100 / Retail price
Union marketing system						
Farmer	750	1,500	750	1,500	50%	61%
Coop union	1,500	2,250	750	750	33%	31%
Exporter	2,250	2,450	200	200	8%	8%
Multinational marketing system						
Farmer	750	1,250	500	1,250	40%	55%
Trader	1,250	2,100	850	850	40%	37%
Exporter	2,100	2,290	190	190	8%	8%
Warehouse receipt system						
Farmer	750	1,800	1,050	1,800	58%	77%
Coop	1,800	2,150	350	350	16%	15%
Exporter	2,150	2,340	190	190	8%	8%

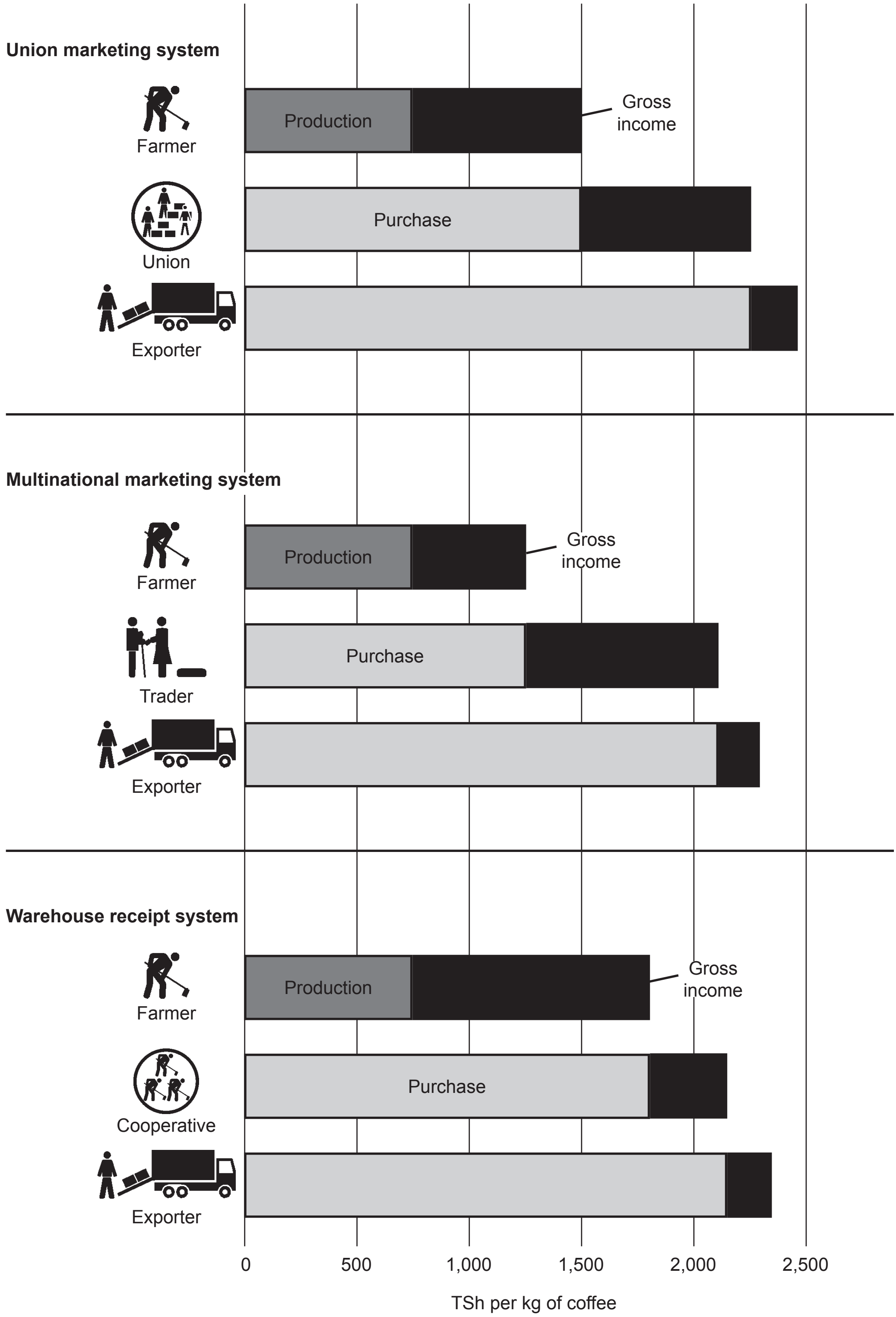


Figure 5.9 Costs and revenues of actors in the coffee value chain, Tanzania

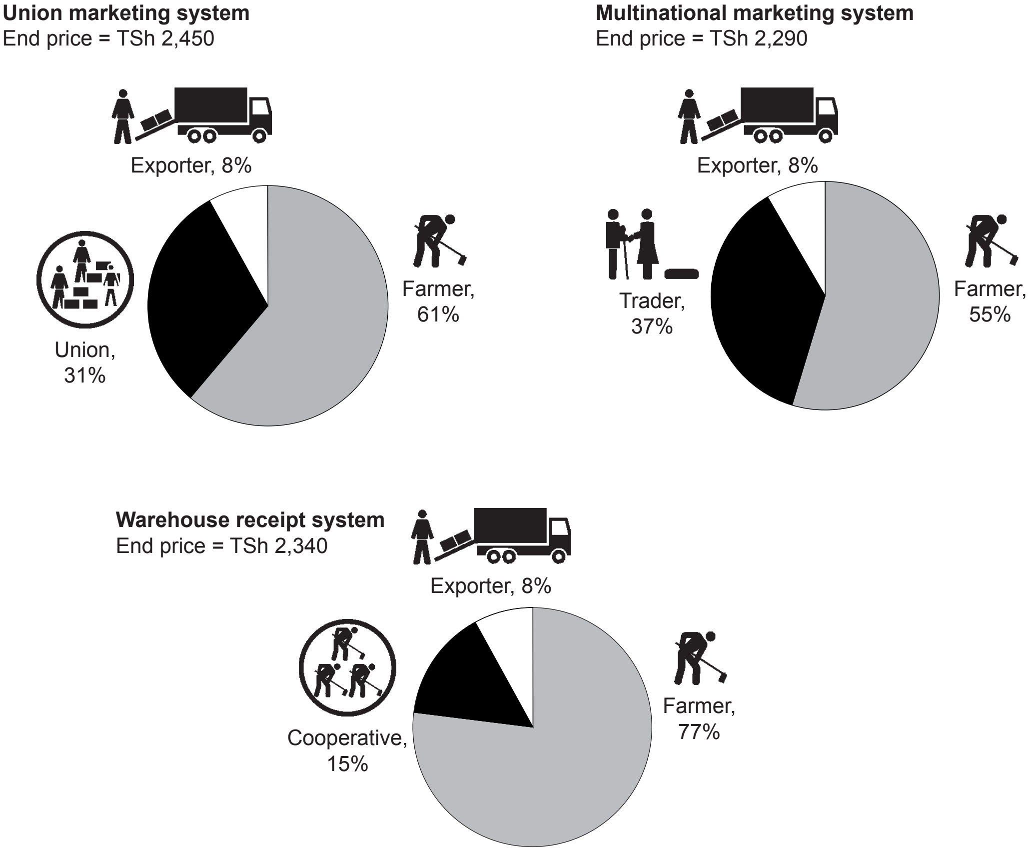


Figure 5.10 Value shares of actors in the coffee value chain, Tanzania

How the market structure has changed

Before trade liberalization, the unions and Coffee Board played a major role in marketing coffee (Figure 5.11). But starved of funds and with prices fixed by the government, they fell into debt and the system collapsed.

The system that replaced it bypassed the coops altogether. Deep-pocketed multinational firms crowded out local private traders and came to dominate the marketing system.

The warehouse receipt system has given a new lease of life to the coops by integrating two important new service providers into the coffee marketing system: the warehouse and the bank. Both provide vital services: the warehouse stores, grades and bulks the coffee and prepares it for auction; it also provides the guarantees that the bank needs to approve loans.

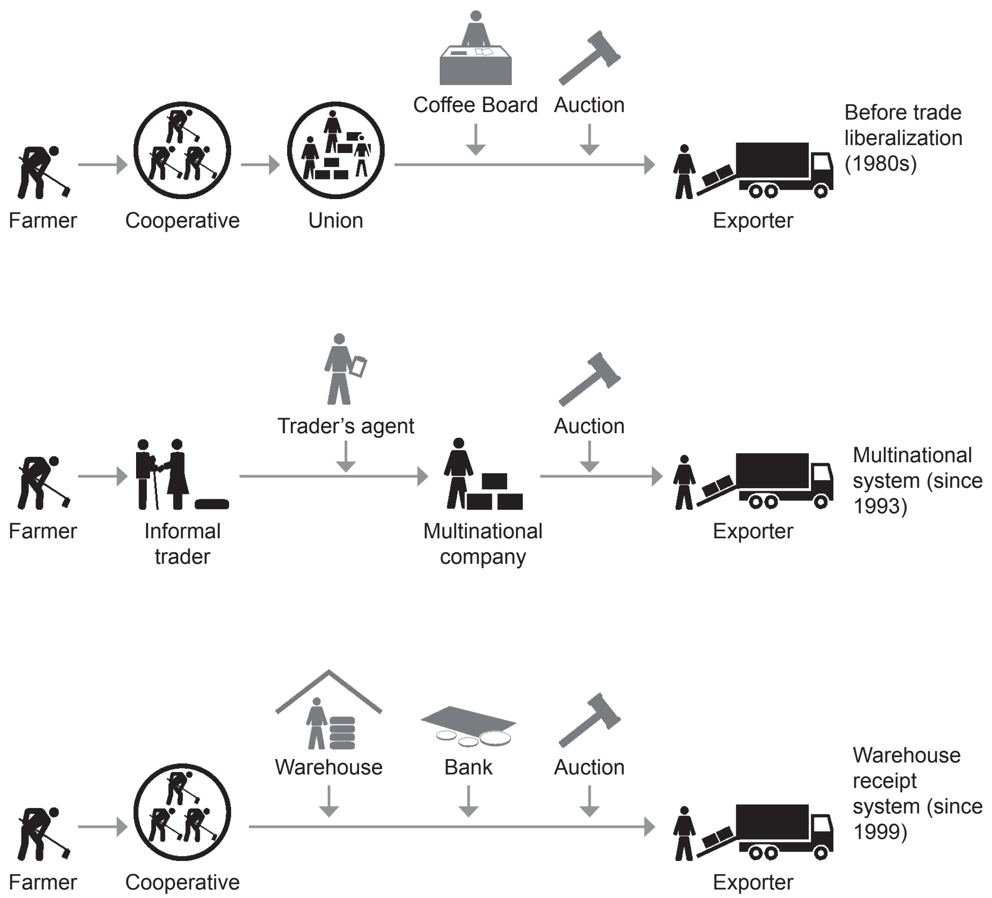


Figure 5.11 Changes in the coffee market structure, Tanzania

Chain relations and market institutions

The heavily regulated union marketing system resulted in stable business relations among the various players ❶ – there was no competition, and farmers had no choice as to where to market their coffee (Figure 5.12)

But this system was too rigid. Its collapse under mounting debts led to the dismantling of the state marketing boards and the emergence of a spot market of informal traders and eventually the market dominance by multinationals. ❷

The warehouse receipts system has introduced various institutional innovations: quality grading, financial services such as loans and guarantees, and improved legislation. ❸

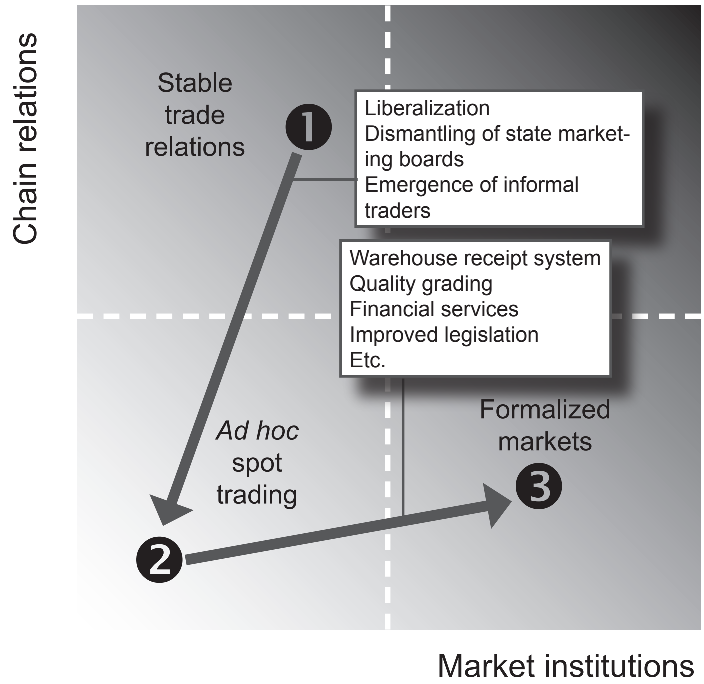


Figure 5.12 Chain relations and market institutions in the coffee trade, Tanzania

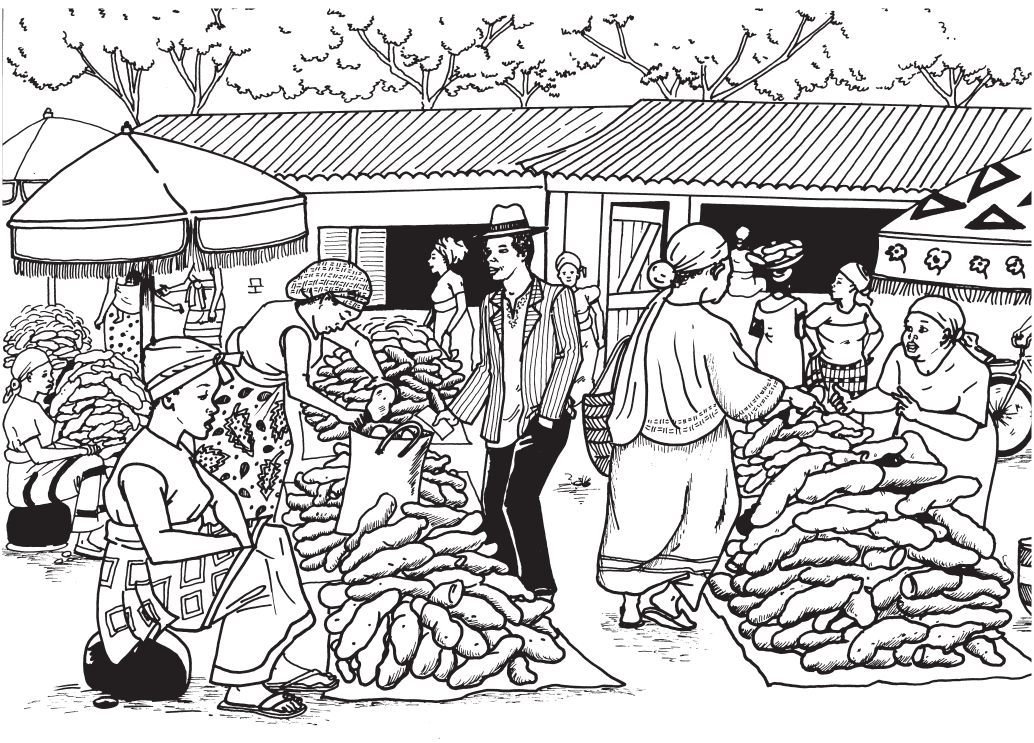
More information

Temu Joachim Fidelis, Tanzania Warehouse Receipt Project, fideldor@yahoo.com

Making peace with city government: The yam queen in Kumasi Central Market, Ghana

FLASHBACK TO 1997. ANGRY women traders poured onto the streets of Kumasi wearing red armbands and singing war songs. The city government, the Kumasi Metropolitan Assembly, had doubled their market tolls overnight, without consulting them or their leaders. Led by the "queens" and elders of their commodity groups, they marched from the huge Kumasi Central Market to the city government offices to demand a meeting with the Mayor.

How did the city authorities respond? The security guards stopped them at the gates, and none would even deliver their message to the Mayor. When the women refused to go home, the Mayor called the police, who fired tear gas to drive them away.



Why was there such a strained relationship between the traders and the city government in 1997? After all, the city derived a considerable part of its annual budget from tolls and stall rents in markets throughout the city. The city government also acted as landlord to the market traders, so its undemocratic style of management affected them directly. The Mayor frequently sent directives to their senior leader, the head of the Yam Traders' Association, without any prior consultation or warning. On some occasions, he summoned them all to meetings and then kept them waiting for hours, or failed to appear at all. The women traders considered themselves important stakeholders in the market who should be involved in decision-making. They bitterly resented the lack of respect this treatment showed, as well as the abrupt rise in their daily taxes. Other informal occupational groups with male members, such as drivers and shoemakers, were treated much more politely and their views were taken seriously.

Kumasi Central Market

The Kumasi Central Market is one of the largest open markets in West Africa. It opens every day of the week to host about 20,000 regular traders, 70% of them women. Some 200,000 people come daily from all over Ghana and beyond to buy and sell in the market. The market sells local farm produce and manufactured goods from all over the world. Kumasi residents still faithfully patronize the market every day, rather than shopping in stores elsewhere in town.

The city government owns the land occupied by the market. It hires the market manager and other staff who are responsible for various aspects of running the market. They rent out stalls to traders for GH¢ 3 a month, and collect a toll of GH¢ 0.2 from each trader each day. They keep the market clean and tidy, and repair the roads, pavements, roofs and stalls. They provide utilities such as water, electricity, telephones, storm drains and water hydrants.

Over the years, the city government has energetically collected tolls and rents, but has spent very little of this money on cleaning or repairs, let alone work to prevent accidents and improve facilities.

Market queens

Traders in markets all over Ghana organize themselves into groups according to the commodity they sell. These commodity groups have a major role in the smooth running of their market. At the Kumasi Central Market, traders in each of the commodities have their own group with its "queen" or elder, who has the unwritten authority to maintain law and order in the market and settle disputes among her members. All these groups have shared interests in the amount they pay for daily tolls and stall rents, and in the leaking roofs, crowded aisles and cracked pavements that make their work difficult.

Box 5.2 Selling yams pays well

Adjoa Fosua returned to Kumasi with her three daughters after a failed marriage in Tarkwa. A relative who sold yams in Kumasi Central Market suggested that she join her there, and arranged for her to have a stall nearby. She would buy a hundred yams in the wholesale lane and retail them to consumers over several days. Sometimes the wholesalers would let her pay for the yams after she finished selling them, so she could take several hundred at once.

After some time, she got her chance to make it big. One of the prosperous wholesalers advanced her the capital to become a travelling wholesaler, buying up yams from farmers for a week or two before bringing a lorry load back to the Kumasi wholesaler. The profit on each trip was split with her investor, but slowly she was able to save up her own capital to use as well. Today she is a proud owner of a fine home and she has paid for university education for her daughters.

All the Kumasi Central Market traders recognize the Yam Queen as their senior leader. Yams make up 40% of the goods sold in the market, and are the most prestigious staple food for the Asante, the local ethnic group. Among the market queens, the Yam Queen is first among equals, which gives her the authority to represent the interests of all the market traders (male and female) at formal and informal negotiations, and summon all the commodity queens to meet when any general problem arises and to attend large public gatherings or festivals.

A new Yam Queen is chosen by the senior yam traders from among their number. She is selected based on her strength of character, integrity, transparency and leadership ability. She is assisted by a deputy, a secretary and a team of ten elders, who are all active traders in the market (Box 5.3). Once she takes office, she normally remains there for life.

Yam Sellers Association

All the yam traders in the central market are members of the Yam Sellers Association, and at least 5,000 members pay monthly dues. The association is vibrant, and the yam market comes to a standstill during its meetings. The purpose of the association is to protect the livelihood of its members. Members are expected to abide by the regulations decided by the Yam Queen in consultation with her elders. To ensure that business is carried out smoothly, they:

- Regulate the number of lorries (normally 10) that can offload yams each day. This preserves both farmers' and traders' incomes by avoiding spoilage and low prices caused by an excess supply.
- Arrange for a parking lot where lorries can wait to unload, so travelling traders and drivers can go home to sleep instead of waiting for days in the lorry.
- Keep order to prevent time and goods from being lost.

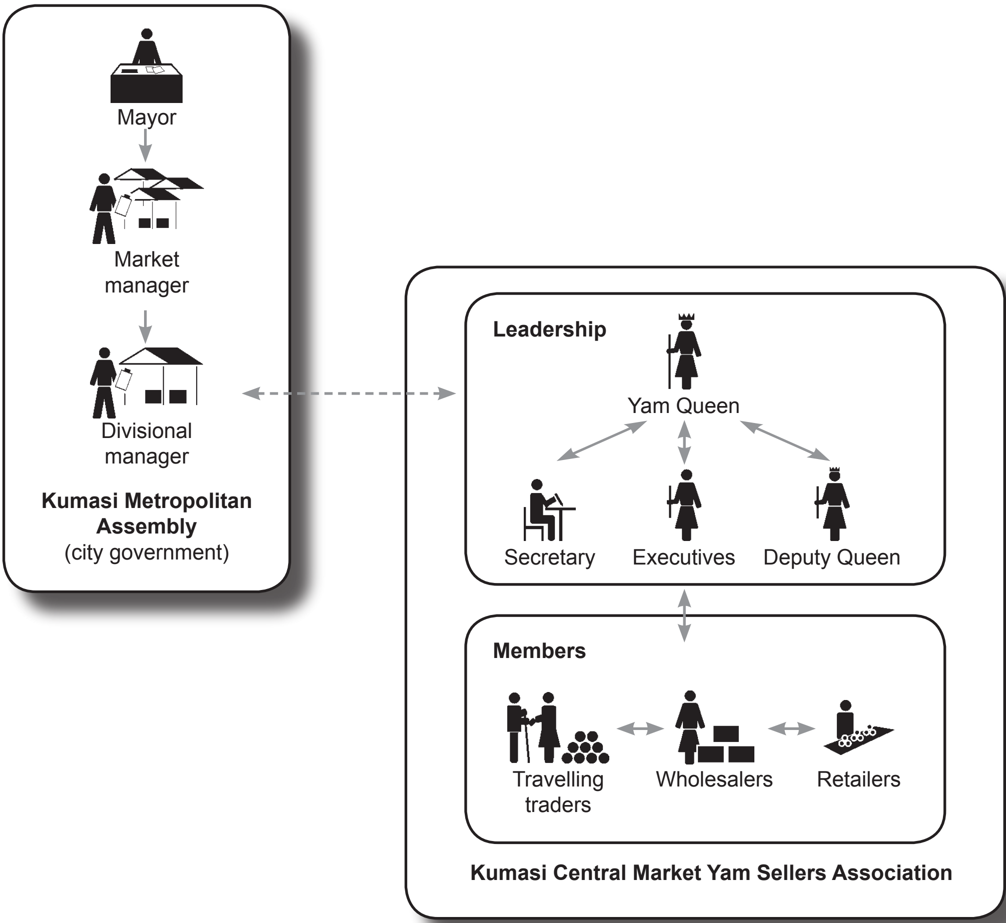


Figure 5.13 The Kumasi city government and the Yam Traders Association

Box 5.3 A leader for the future

Dora had a good job as a secretary, but after her children were born she found it difficult to arrange child care. One of her grandmothers traded yams in the Kumasi market, and suggested that Dora join her there. Dora could leave her young children in the retail stall with her grandmother, while she stayed in the wholesale lane to receive yams from travelling traders and sell them on to retailers.

To shelter her stacked yams from the sun and rain, she began covering each stack with a cheap umbrella. Soon all the other wholesalers began doing the same, leading one elderly trader to say she was teaching them new ideas – was she the yam queen? When the elderly male secretary of the yam group fell ill and retired, Dora was elected to replace him because of her literacy and English skills. Although literate yam traders are still relatively few, they are well accepted and valued by the illiterate members.

- Bring disputes immediately to the Yam Queen for arbitration. This avoids delays and court costs. Anyone who defies her authority is sanctioned according to rules that are well understood but not formally documented.

The Yam Traders' Association brings together three categories of traders: travelling traders, wholesalers and retailers (Figure 5.13 and page 139).

Association members can extend credit with confidence, knowing that the Yam Queen can help them collect if the borrower defaults. This enables traders to extend credit to suppliers or customers, depending on the current market conditions. A wholesaler can advance capital to a traveller to bring yams for her when the supply is scarce. Sometimes travellers will leave money with a contact in the supply area to buy for them. A traveller also can advance money to farmers to hire labour to weed or harvest.

The trust established between traders through the Association helps them to deal with many individual challenges. If a traveller is sick or has a family funeral, she can entrust her capital to a friend who will buy for her in the supply area and bring her the yams. Monthly dues of Gh¢ 0.50 go into a fund for members to draw on for mutual aid and social support. A schedule of payments details how much a member receives in case of bereavement and illness. Members in good standing can also request one-time assistance or loans from the elders, to put them back in business after a theft or other crisis.

Building skills to manage conflict

The Centre for the Development of People (CEDEP) had watched the 1997 stand-off between the traders and the city government with concern. Worried about general discontent with the city government, the Kumasi-based NGO wanted to avoid similar confrontations. Established in 1983, CEDEP has developed strong competencies in participatory learning and action, enabling it to support the transformation of communities and civil society groups. Before 1997, it had worked with the market traders on a small scale, so had built trust among the market leaders.

In 1999, CEDEP obtained a grant from the North-South Institute of Canada to improve communication between the traders and the city government. It held meetings with the city government and then with the Yam Queen and her elders. Leaders on both sides pledged their support for the project.

Representatives of both sides participated in training. From the city government, staff attended who were involved in the market, including those responsible for keeping the market clean. The city government also brought in staff from its other markets, a planning officer and a market manager. From the market itself, CEDEP identified literate opinion leaders who wielded power within their associations. State revenue collectors and utility service providers were also invited to participate when relevant. Involving all these actors enabled a transparent process to make the management of the market more efficient and effective.

Aware that media reports shape public opinion towards both traders and the city government, CEDEP also invited staff from the local radio stations and newspapers to participate. The training would make it possible for them to view the relationship between the two sides objectively. This would reduce their readiness to exaggerate conflicts and report each side's accusations without confirming the facts. It also tapped their potential to promote a more positive and sympathetic public image of traders.

To start the move towards mutual understanding, the training covered human rights and gender issues, facilitation, communication and organizational development skills. The participants shared their ideas and experiences and developed action strategies. They learned to avoid confrontations by identifying shared interests and additional actors or resources that could help resolve a conflict.

This training resulted in notable attitude and behaviour changes. For the first time, the city officials began to call the women by their names and not merely "the women". The traders also called the officials by name or their official titles, as is the habit in Ghana. The two sides continued to meet regularly for dialogue, and media coverage of market events and issues improved noticeably.

Skills put to the test

A situation arose soon after the training sessions that tested the traders' new negotiating skills. The Mayor had not attended the training seminar, and the city staff who had participated apparently had not communicated to him what they had learned. Early one morning in 2001, the Mayor came in person to the Yam Queen and her elders at the market's yam lane. He announced another arbitrary change in regulations that prohibited lorries from unloading yams there. He said it was necessary to keep the market's streets and passages clear for pedestrians and for tax collection. He also said the lorry parking was too close to a popular locale for funerals, sports and rallies.

The Mayor instructed the yam lorries to unload instead at Tafo Nhyiaso, about 3 km from the market. The yams would have to be transported from there to the market on hand carts. These handcart pushers would charge about GH¢ 1 to move a hundred yams, several times more than the current cost. This would raise the cost of yams to the consumer, and increase losses caused by mishandling.

The greater distance also meant the first yams would arrive later in the morning at the yam lane – a frustrating delay for buyers from the 13 suburban markets and from outside the city. They all needed to get their supplies early in the day so they could restock before their own customers arrived.

The yam traders remembered how the Mayor had reacted to their protests in 1997, so they did not openly reject the new rules. A small number of elders went to Tafo to check the site, but they were dismayed by the high cost of transport. They simply confirmed that the land could be used, and reported back to the Association.

Analysing the situation carefully using their new skills, the elders concluded that the Mayor, who was a member of the royal family, would listen only to the Asante Queen. Fortunately, she was also the patron of the market queens – and the Yam Queen was also a member of the royal family. The market queens went together to the Asante Queen's office at Manhyia Palace to lodge a petition. She intervened with the Mayor on behalf of the yam sellers, and it was refreshing to see him listening to the traders.

An acceptable solution

A compromise was reached which divided yam sellers into two groups. One group of about 500 traders would unload their yams at Tafo Nhyiaso and sell them there. The rest, about 2000, would still offload theirs in the Central Market to sell there. Most of the Muslim traders chose to stay at Tafo because many of them lived nearby. The lorry parking lot was also moved to a new site near the airport, more convenient than Tafo for access to the Central Market.

Since then, there have been no confrontations between the city government and the yam sellers about unloading yams. The new arrangement frees room in the yam lane for pedestrians, makes it easier to collect taxes, and enables traders to display the various types of yam.

The traders' association has become more cohesive and united through the training they received. Effective dialogue between the Yam Queen and the city officials has eased the tensions between the landlord and the market tenants. The training taught the yam sellers that it is important to avoid confrontation and to plan objectively how to address issues. They use their communication skills to avert confrontation with the city government. With the recent appointment of a woman as the new Mayor, relations are expected to improve further.

The city government continues to meet with the market leaders about four times a year, and attends emergency meetings when there is a need. The Mayor, market manager, divisional managers, planning officer and the Yam Queen all attend these meetings, which last an average of 4 hours and sometimes continue the next day.

Recent topics for discussion have included security against theft and ways to improve trading practices. There is more mutual respect between the traders and the local authorities, and more understanding of each side's needs and opportunities.

Outstanding issues

The travelling traders pay market tolls per yam from their own pockets. Sometimes they are not truthful about how many yams they have brought. They sometimes cannot pay because they have no money left after buying the yams. They say they should be able to sell the yams before paying the tolls, but the city officials think

Box 5.4 The risks of being a trader

Afua Kobi thought that she would be safe trading yams.

She had started out selling cloth, but the frequent police raids on cloth traders to enforce price controls were too much for her nerves. A relative who sold yams in Kumasi Central Market arranged for Afua to share a stall nearby so she could sell yams.

After some time, a wholesaler advanced her some capital so she could travel to buy yams from farmers. She and the wholesaler split the profits, and she slowly started to save some money.

But her hopes suddenly collapsed when ethnic violence erupted in a yam-growing area while she was there. She and other buyers had to flee for their lives, abandoning the yams they had bought. They managed to hire some soldiers to escort them back to the village, but the storage shed had been burnt and the yams inside were worthless. The traders were stranded for several days before they managed to make it back to Kumasi. Although the wholesaler did not blame Afua for the loss of her capital, she refused to advance more until it was repaid.

To make matters worse, Afua discovered that she had contracted guinea worm from drinking contaminated water while trapped in the village. She tried herbal medicines, but finally went through the excruciating week-long process of having the worm extracted from her leg at a special clinic. For months afterwards, she could not even walk to the junction to get a car to the market. She could only sell a few yams to her neighbours from a table in the alley near her home. Still shocked and discouraged by her experiences, she could hardly think of any way to revive her business.

they should pay the tolls when they first enter the market. The city government puts pressure on the Yam Queen and her elders to demand accountability from their members. These issues are still being negotiated in the joint meetings.

The yam supply chain

A yam passes through several hands between the farm and the cooking pot.

Travelling traders Half the total membership of the Yam Association are the 2,500 travelling traders, or *kwansufo*. They elect their own sub-queen to represent them at meetings. They go out to buy yams from producing areas, bargaining individually with the growers at the farm gate, or with neighbours who have brought in yams from further away. They also buy in regional markets such as Techiman, Bimbila, Tamale and Ejura. These traders spend 1–2 weeks buying before bringing their stock back to Kumasi. They secure a continuous flow of yams throughout the year by moving from one supply area to the next as the harvest proceeds from south to north (Box 5.4).

Some traders have enough to fill a lorry by themselves, while others join with three or four colleagues to hire a lorry. Sometimes these travellers will also buy from farmers and traders at intermediate markets, such as Techiman. They may even divert their goods and sell in Accra or elsewhere when prices there are high enough.

Wholesale traders sell in the Kumasi Central Market's yam lane. These traders may buy several thousand yams from a number of steady travelling trader suppliers. When supplies are plentiful, the travellers may give the wholesaler the yams on credit to keep the market moving. The travellers normally collect payment in a day or two, or before they travel again.

The wholesalers sell the yams on by the hundred to retailers and institutional buyers. Schools and local food stands may buy up to 500 at a time, so they are valued customers. Individuals preparing for a festival or funeral can also buy in large quantities here.

The resident wholesaler knows her buyers' reputations for honesty and their stall locations, so she can extend credit to them with little risk if they need it. Retailers with stalls in the Central Market normally can pay within 1 week, and can act as guarantor for other retailers outside. The largest wholesalers handle up to 10,000 yams a day. They deliver large volumes of yams regularly to institutions such as schools and military barracks. They also supply big exporters who send shipments of yams to Britain, the Netherlands or the USA.

Retailers typically buy 100–200 yams to sell over the next few days to ordinary consumers. Those with stalls in the Central Market sell in smaller quantities and at hours when the yam lane is not active. Others have stalls in smaller neighbourhood markets, or buy in the Central Market to sell in smaller markets around Kumasi, in distant towns or rural districts, or by the roadside. They adjust their hours to suit their customer base. Hawkers put their goods on head trays and walk around markets or residential areas. They may buy only 20 yams at a time from a larger retailer. The smallest retailers salvage damaged yams by cutting them into pieces and discarding the spoiled parts.

The peak harvest period for yams is September to December, and by January farmers near Techiman are planting again. The shelf life of a sound yam can be as long as 1–2 months if it is stored properly and protected from the sun, heat and rain. Farmers can store harvested yams for several months on the farm by burying them in pits with straw. They do this to save them until the price rises later on.

There are several varieties of yam of different qualities and suited for different purposes. The most valued variety, called *puna*, is the first to be harvested in late July and commands a premium price. One of the cheapest varieties, called water yam, is sold during the lean season and is good only for *fufu* (a thick porridge made from pounded yams). Yams are also priced according to size and condition. On the farm, the trader and farmer sort the yams into size groups – large, medium and small. Bruises or rotten spots also reduce the price. Some farmers even buy their seed yams in the market.

Yam traders provide employment for many other people. Several groups of men are closely associated with them. Each traveller has a preferred driver that she hires most of the time to transport her yams. She also hires village men to load the lorry at the farm. The wholesalers have their trusted crew, who unload the lorries and stack the yams on handcarts to deliver them to customers. Using familiar and knowledgeable loaders avoids the risk of breakage from poor packing and careless handling. These carriers know where retailers have their stalls, so they can deliver the correct yams to each buyer. The same is true of head porters, mainly women or teenage girls, who carry about 20 yams at a time in large metal pans to the retail stalls or passenger lorry stations.

Risks

Each actor in the chain bears certain types of risks. The farmers run the risk of low rainfall and poor harvests, and of finding they are forced to sell their yams at prices below the production costs. The travelling traders run the risk of accidents or their lorry breaking down. The wholesaler may be faced with a glut of yams (pushing down prices), low demand, or post-harvest losses. Retailers may also have to throw away spoilt yams, or find they have no customers.

People who provide services to the yam chain also face risks. Lorry drivers and owners may have their vehicles break down or be involved in accidents. The loaders have to handle the yams carefully or face reprimands for breakages.

Value shares of actors in the marketing chain

The prices of yams and the costs each actor incurs depend on the season (which affects the scarcity of yams) and how far the current producing area is from Kumasi. The numbers in Table 5.4 and Figure 5.14 are based on the average cost per yam during the lean season (April–August) in 2007. At that time, an average tuber sold to consumers for GH¢ 2.00. The travelling trader bought it from the farmer for GH¢ 1.00, and sold it on to a wholesaler for 1.50 after paying GH¢ 0.25 for transport, loading and market charges. That left her with a profit of GH¢ 0.25, or 12.5% of the final price.

The wholesaler bought the yam at GH¢ 1.50, and sold it on to a retailer for GH¢ 1.70, incurring costs of GH¢ 0.04 and earning a profit of GH¢ 0.16, or 8% of the consumer price.

The retailer bought the yam for GH¢ 1.70 and sold it to a consumer for GH¢ 2.00, incurring costs of GH¢ 0.04 and earning a profit of GH¢ 0.26, or 13% of the consumer price.

In terms of revenue (Figure 5.15), the farmer earned half of the end price, and half of this income was profit. The travelling trader earned another quarter of the end price, but also had to pay for transport and other costs, so only half her income was profit. The wholesalers and retailers have higher total costs (mainly the cost of buying the yams) and lower mark-ups.

Table 5.4 Value shares of actors in the yam value chain, Ghana

GH¢ per yam, lean season, 2007 (€1 = GH¢ 1.35)

Chain actor	Variable costs	Revenue Selling price	Gross income Revenue – Costs	Added value Revenue – Previous actor's revenue	Gross margin Gross income x 100 / Revenue	Value share Added value x 100 / Retail price
Farmer	0.50	1.00	0.50	1.00	50%	50%
Travelling trader	1.25	1.50	0.25	0.50	17%	25%
Wholesaler	1.54	1.70	0.16	0.20	9%	10%
Retailer	1.74	2.00	0.26	0.30	13%	15%

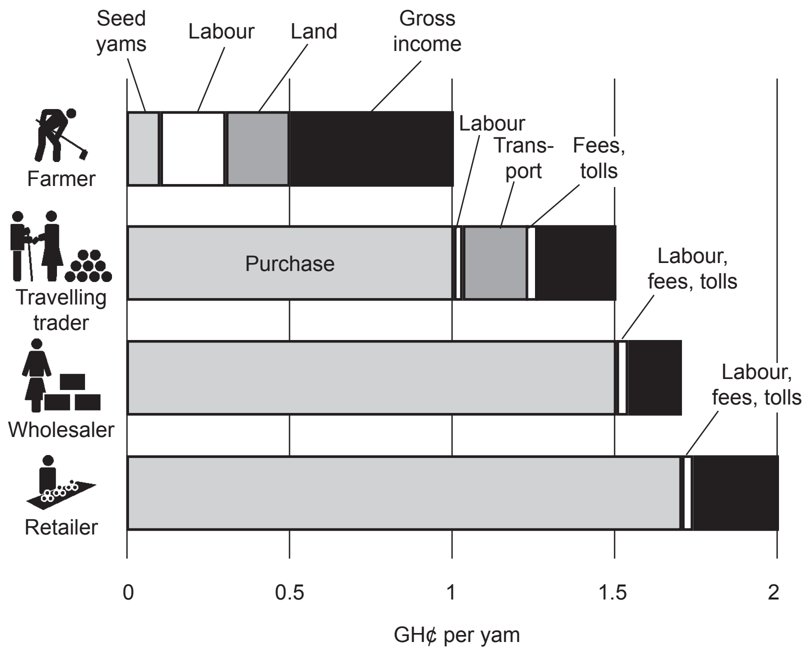


Figure 5.14 Costs and revenues of actors in the yam value chain, Ghana

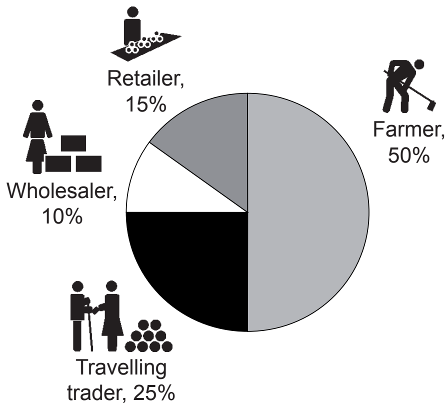


Figure 5.15 Value shares of actors in the yam value chain, Ghana

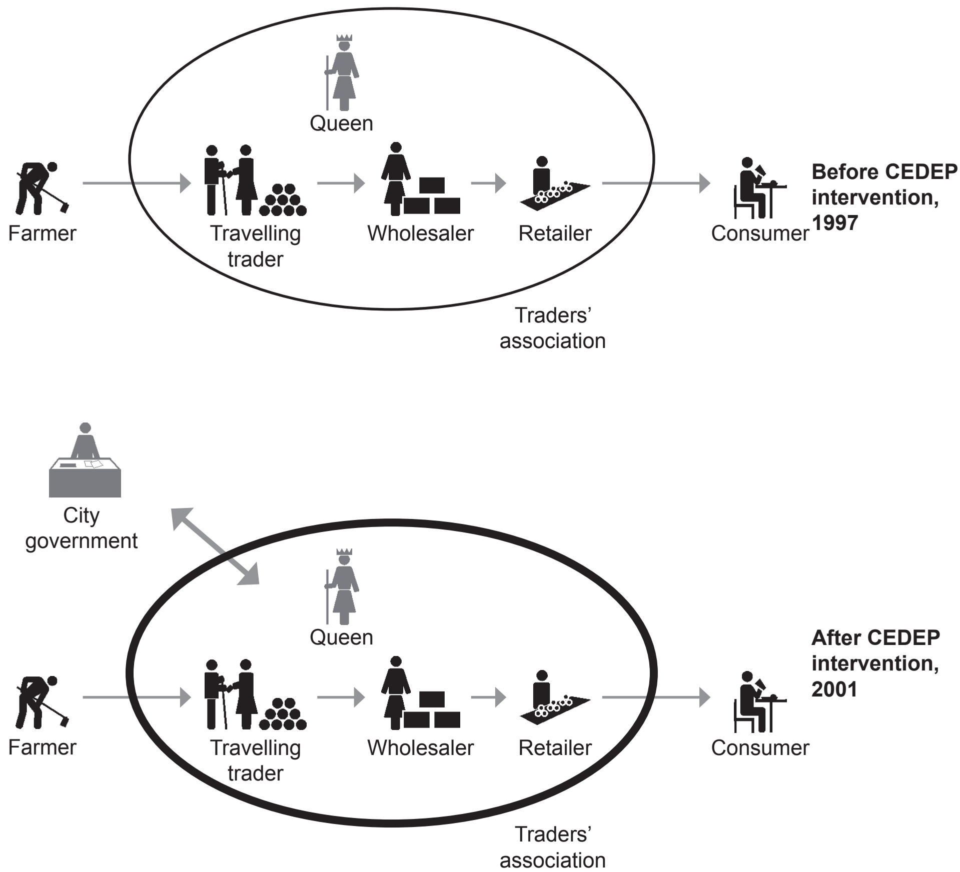


Figure 5.16 Changes in the yam market structure, Ghana

How the market structure has changed

This case deals mainly with relations with the city government, rather than within the yam marketing chain itself (Figure 5.16). The marketing chain has not changed; what has changed is the framework within which it operates. Previously, relations between the traders and the city government were strained. Communication was one-way (from the city to the traders), and conflicts often arose.

Relationships have improved as a result of stronger, two-way communications. The Yam Sellers Association has also been strengthened as a result of the CEDEP intervention.

Chain relations and market institutions

While it is not part of the chain itself, the city government is vital: it determines the rules and regulations within which the market operates, and it provides vital

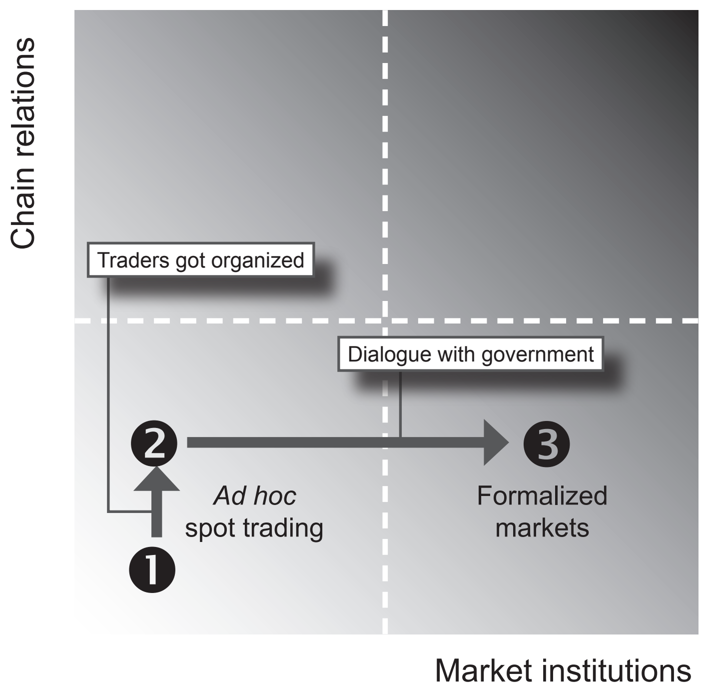


Figure 5.17 Chain relations and market institutions in the yam trade, Ghana

services: a location for the market, buildings, sanitary services, security, etc. In other words, the city government policies form part of the yam chain's business environment.

We can say in 1997, relations between the yam traders and the government were on an *ad hoc* basis (Figure 5.17). Communication was poor, disputes arose frequently, and there was no accepted way of resolving them. ❶

Through CEDEP's intervention, the traders were trained in communication and conflict management. They were able to better articulate the interests of the actors in the yam chain. ❷

The traders and the city government created a set of institutions to engage in dialogue and solve disputes: they now hold regular meetings and have other communication channels (such as calling on the Asante Queen) apart from resorting to protests and force. ❸

More information

Aba Oppong, Centre for the Development of People (CEDEP), info@cedepghana.org

Dora Opoku-Mensah, Secretary to Market Queen Mother/ Yam Sellers Association, info@cedepghana.org

Rudith King, Kwame Nkrumah University of Science and Technology, rudithk@yahoo.com

Gracia Clark, Indiana University, gclark@indiana.edu

Reaching wool and mohair producers through traders in Lesotho

Mountainous and remote, hot in summer and snow-covered in winter: much of Lesotho’s land is good only for grazing. Flocks of sheep and goats roam over the highlands, tended by shepherds who herd them into stone-walled kraals at night. In winter, the flocks come down into the valleys to escape the biting wind and to graze on fallow fields.

It’s a good place to produce wool and mohair – the fine hair from Angora goats. Wool and mohair are Lesotho’s biggest agricultural exports, and for many rural people, the only source of cash income. About 25,000 stockholders in Lesotho own sheep, and the country produces just 0.3% of the world’s wool output. But for mohair this small country is a major player: it produces 10% of the world’s mohair, making it the second-biggest producer after South Africa, which has a 60% share of the world market. (In the rest of this case, we talk about wool only; the situation for mohair is essentially the same.)

But producing wool and getting it to market in Lesotho can be a challenge. Difficult terrain, poor infrastructure, a lack of communications, the low level of education among stockholders, and the lack of veterinary services and livestock inputs conspire to reduce product quality and quantity and to push costs up.

The lack of veterinary services means animals have few offspring, produce little wool, which is of poor quality, and die early. And stockholders know little about the process of shearing and marketing the wool. As a result of these problems, the numbers of sheep have fallen, from around 1.5 million in 1990 to just over 1 million in 2003.

How best to revive the Lesotho wool and mohair industry? It is difficult to reach directly thousands of poor stockholders scattered across a rugged country with very limited infrastructure. But the marketing system offers an opportunity to do so indirectly: just a few traders market the majority of Lesotho's wool and mohair. By working with these traders, it should be possible to improve the livelihoods of large numbers of stockholders, as well as to boost the fibre production and quality. This case describes how a project has done this.

Three ways to market

Lesotho's stockholders have three possible ways to market their wool.

Government shearing stations Before independence in 1966, all wool was shorn and marketed through private-sector traders. But in 1974, in response to alleged unfair trading tactics by the private sector, the government established its own shearing sheds – there are now 98 of them throughout Lesotho. These stations, staffed by government employees, account for 70% of the country's wool clip. They market only the wool shorn on the spot, and refuse to buy inferior grades. In general, members of the Wool and Mohair Growers Associations (which group the owners of larger flocks) shear and market their wool through the government system.

The government stations' costs are subsidized: they pay the farmers the full international price for their wool, and charge only for shearing and for dipping the animals, and a portion of the commission that the broker charges for arranging the wool to be auctioned. Faced with the continuing cost of this subsidy, the government plans to privatize its sheds, but this is politically difficult: it would endanger jobs, and stockholders would get lower prices for their wool.

Private licensed traders Despite the difficult conditions, licensed private wool and mohair traders remained active. They run 34 shearing sheds in Lesotho, serving mainly smaller producers. Stockholders would bring their animals in for shearing, or shear them at home and bring the wool to the shed. These licensed traders found life difficult, though. Risks were high, the traders offered poor prices and services, and the wool quality they handled was low. By 2003, only three of the country's 21 licensed traders were still working.

The private traders charge the stockholders the full cost of their service, and they try to make a profit too. That means they pay less for wool than the government stations. But they pay faster: instead of waiting to find out how much each bale has fetched, they estimate what the wool price will be, and pay the stockholders based on this guess. That is risky: if the traders sell the wool for less, they have

Table 5.5 Actors in Lesotho's private-sector wool and mohair marketing chain

Actor	Obligations	Costs	Risks
Stockholders	Own livestock Keep them healthy	M 500 (€50) for a sheep/goat M 1 (€0.10) per inoculation M 1 (€0.10) per shearing M 0.50 (€0.05) per fleece classed	Mortality Poor quality Poor service from chiefs or traders
Chiefs	Provide proof of ownership	No charge	No forms
Trader	Manage and maintain shearing shed Provide health services Prepare clip Package wool Transport to Maseru Transport to market port Sell fibre	High cost due to location Pay shed staff M 120 (€12) for transport per wool/mohair bale Auction costs	Vandalism, theft Bad weather Dishonest employees Poor classing, contamination Jealousy Accidents, hijacking Low demand Currency fluctuations
Government	Dipping levy	M 2 (€0.20) per animal	
Broker	Display clip for sale Catalogue clip for internet Present clip to auction Bind and export on behalf of buyer	Costs covered by commissions	Contamination Poor classing Low demand

to absorb the loss (of course, if they get a better price than expected, they make more money). Many stockholders are short of cash, so they appreciate the prompt payment.

Unlicensed travelling traders It is the poorest stockholders who have the lowest quality wool, which the government stations refuse to buy. These stockholders shear their own sheep and sell bags of wool at very low prices to travelling traders – the third market option. Faced with the restrictions and payment delays at the government stations and the difficulties of dealing with the licensed private traders, increasing numbers of stockholders have made use of this option.

Part of a world market

The core functions of the government and private shearing sheds are the same. Stockholders bring in their flocks; the animals are shorn; and the wool is classed according to global standards. The wool is then baled by class, and the bales are transported to wool brokers in South Africa, where they are prepared for auction. Table 5.5 summarizes the roles of the various actors in the private-sector marketing chain.

Wool is an internationally traded commodity with quality standards, trading systems and prices the same anywhere in the world. Once a stockholder's wool of a particular grade enters the trading system it is treated the same, whether it is from Australia, Argentina or Lesotho. Most of the trade is done through electronic auctions. The price of wool of different classes depends on global supply and demand, which depends in turn on many other factors. A bale of wool auctioned today may fetch more or less than an identical bale sold tomorrow. Producers are price takers: they can earn more only if they produce more or better wool. The price of wool is broadcast on the radio in Lesotho, so stockholders can know the going price.

Individual stockholders in Lesotho rarely have enough sheep for a complete bale of wool. So the shearing station must carefully document the amount of wool from each stockholder and its grade, before putting it into bales and selling it. It knows the price only when the wool has been sold, then has to pay the thousands of stockholders who supplied the wool. Banks are few and far between in Lesotho, and few stockholders have accounts. At government shearing stations, it can take up to 6 months from when the sheep are shorn until the stockholders finally get their cheques.

Making markets work for the poor

Aware of the situation described above, ComMark Trust and Teba Development, two South Africa-based development organizations, commissioned a consulting firm, Mngcunube Development Pty Ltd, to improve the operations and practices of the private wool traders, and raise the quality of wool by improving health of the sheep and goats in Thaba Tseka district, in eastern Lesotho.

Mngcunube introduced two major changes:

- **Improved services** The traders agreed to make prices transparent, set reasonable prices, pay punctually, and operate efficiently and effectively at their shearing sheds.
- **Animal health** An animal health programme was instituted both at the shearing sheds and in the surrounding villages across Thaba Tseka district. This service is available to all stockholders, not just those shearing with the private sector traders.

Mngcunube worked with two of the three private sector traders. It aimed for a win–win situation, where stockholders would be fairly treated and traders would get more and better wool passing through their sheds. One trader operates shearing sheds as part of a bigger general retail chain across much of Lesotho. The other is a veterinarian who operates wool sheds as a business.

Mentors were a key to Mngcunube's approach. These were carefully selected commercial stockholders with at least 10 years of experience, who were trained in coaching and facilitation. They aimed to transfer their skills in a facilitative way (rather than by giving instructions). They were paid with project funds.

Improved services

At the shearing sheds the mentors' role was to:

- Establish smooth **operating systems** and train staff how to manage them. The shearing must be done punctually and at a regular pace, so bookings can be made in advance. This gives the stockholders confidence that his or her sheep will be shorn in time to return home the same day, because there is no grazing at the shed sites. Maintaining punctuality and keeping the shed clean were also important to maintain staff pride.
- Ensure proper and accurate **record keeping**. This assured traders they were paying the right amount for purchases. The records are also used when the trader in turn sells the wool, pays for items such as transport and taxes.
- Ensure accurate **classing**. There is a big price differences between classes or grades of wool, so it is important not to under-class. If a shed gets a reputation for wrong classing, the broker will re-class all its bales and charge the trader for doing so.
- Ensure that **prices** are clearly displayed. The staff must explain to each stockholder how the payment for his or her wool is calculated.
- Discuss **price levels** with the trader, who retains the final word on the prices.
- Ensure **prompt payment** – within 2 weeks after shearing. This is a logistical challenge in this remote area.
- Ensure that wool shorn by stockholders **at home** was treated in the same professional way as that shorn at the shed.
- Ensure that **animal health services** and advice on animal health and husbandry was available (see below).

In summary, the traders were supported to upgrade their operations and provide good services to the stockholders.

Animal health

The same mentors also worked with stockholders to improve the health of their animals. Each mentor selected 5–6 “field workers” from the local community and worked with them as a team over a 2.5-year period. The mentors trained these 14 field workers (5 women, 9 men) in paraveterinary skills, animal husbandry, stock selection, feeding and supplements, and environmental issues such as overgrazing. The mentors and field workers started a cycle of village visits to provide these services to local stockholders. On these visits, as at the shearing shed, stockholders could talk about broader needs and issues, arrange to buy better rams, and generally interact with the mentors and with one another. They paid cash for all the animal health inputs they used.

The mentors further developed the field workers’ skills in basic business practices. The intention was that the field workers would learn how to manage their own micro-enterprises once the project finished. They were indeed eased into this role 9 months before the end of the project, giving time to identify and overcome any weaknesses.

Mngcunube and the mentor set up a supply chain for feeds, licks and animal health products. It bought an initial bulk stock and supplied them to the traders for resale, and put the trader in touch with the suppliers of these items so they could buy more. The mentors helped the field workers buy items from the traders, and showed them how to sell them to stockholders at a profit during their village visits. It was necessary to create a relationship between traders and field workers because the field workers live in remote areas and lack the communication and credit they would need to buy directly from the suppliers.

Table 5.6 Sheep shearing, Mngcunube project, Lesotho

	Shearing season		
	2004/5	2005/6	2006/7
Number of sheds operating under the project	4	11	11
Number of shearing stockholders	675	2,325	2,970
Number of sheep and lambs under project	12,000	135,000	299,000
Number of sheep shorn	11,000	44,000	59,000
Average sheep shorn per stockholder	16.1	18.9	19.7
Average kg of wool per sheep	2.4	2.8	2.76
% wool in top classes (AH to C)	37%	43.5%	42.8%

Table 5.7 Government versus licensed trader through the stockholders' eyes

Government shearing sheds	Licensed traders
70% of wool shorn	30% of wool shorn
Higher price paid for wool	Lower price for wool
Accept only good-quality wool	Also accept poorer-quality wool
Paid 6 months later	Paid In 10 days
Poor classing service	Good classing, good service
Bad organization	Good organization
No animal health support	Animal health support, advice on fibre improvement
Sheds and transport subsidized	No subsidies
Client base declining	Client base growing
Higher charges for shearing	Stockholders pay for shearing costs and medicines

Shearing results

It was easy to improve the services at the shearing sheds. The traders were willing to fulfil their obligations and set prices at fair levels.

The number of stockholders and animals brought to the private sector shearing sheds grew rapidly (Table 5.6). In the first year, 2004, the project was not fully operational, but even so, it served 675 stockholders who brought 11,000 sheep to the four sheds to be shorn.

In the project's second year, 11 sheds were operational, and 2,325 stockholders brought 44,000 sheep there to be shorn. This was far below the 135,000 animals served by the project as a whole, so it seems that many stockholders preferred to take their animals to the government sheds (where they would get a better price for the wool) than to the private sheds. It was apparently the better-off stockholders with larger flocks who did so, since they could afford to wait for payment in expectation of the better prices. Plus, the government sheds do not accept poor-quality wool, so stockholders with such wool do not have the option of going there.

In the third year of the project, the 2006–7 shearing season, 27% more stockholders brought some 59,000 sheep in for shearing. This was only one-fifth of all the sheep registered with the project: again, stockholders seemed to be using the project's health services but taking their sheep to the government stations to sell the wool.

The average weight of wool per sheep (about 2.8 kg) has remained unchanged over the last 2 years of the project, which also suggests that the better-off stockholders are holding their better stock back for shearing at government sheds and sending inferior stock to the private sector sheds where they get paid cash. This impression is compounded by the fact that the indicator of wool quality declined slightly in the last year.

The average wool prices paid by the traders increased from M 5.90 (about €0.59) per kg in 2006 to M 6.81 (€0.68) in 2007 – an improvement of about 14%. The average value of wool per sheep increase by only about 10%, suggesting again that the increase in sheep shorn are derived from the lower end of stockholders' flocks.

An independent study revealed that stockholders placed high value on being sure that their stock could be shorn on the agreed date. This is not the case at the government sheds. They also valued knowing how much they would make and when they would get paid. They said they were treated better at the private sheds, and preferred selling their wool there rather than in bags at the roadside, where they got very low prices.

Table 5.7 summarizes the stockholders' views of the advantages and disadvantages of selling through the government and private shearing sheds.

Animal health results

The project had a dramatic impact on the health of the sheep and goats. Table 5.8 shows that mortality rates of adult sheep and goats declined from around 25% to less than 5%, while mortality rates for young animals fell from over 50% to less than 10%.

Better health also meant more lambs and kids: the lambing rate nearly doubled to 52%, and the kidding rate more than quadrupled, to 73%.

That means more money for stockholders. The lower mortality gives a total gain of M 40,190,000 (€4 million), while the higher reproduction rates add another M 24,110,000 (€2 million). Divided among the 5,000 stockholders working with the project, that means that each stockholder was on average M 12,860 (€1,280) better off – a substantial sum in a poor country.

Sustainability

The mentors trained the 14 field workers in animal husbandry and related subjects over an 18-month period, and the government then trained them further as paravets, which qualified them to work with scheduled animal medicines.

The field workers earn money by charging a small markup (M 0.50, or €0.05) on each dose of medicine they give to animals. If a field worker treats 300 sheep in a day, he or she can make M 150 (€15).

The field worker training went smoothly in all but three cases, where there were problems after the trainees started to operate independently. These included inadequate support (the trader sometimes failed to ensure a reliable supply of medicines), and a field worker who absconded with the project-supplied starter

Table 5.8 Mngcunube project impacts on animal health, Lesotho

	Before project	February 2007
Mortality rate		
• Sheep	22%	4%
• Goats	27%	5%
• Lambs	58%	5%
• Kids	55%	9%
Offspring		
• Lambing rate – sheep	27%	52%
• Kidding rate – goats	16%	73%

pack of equipment and medicines. Formal evaluation is not possible as the project has now ended, but it seems that the other field workers are working well: the stockholders are getting services and inputs from this cadre of well-supplied technicians.

Challenges and lessons

The traders are growing in popularity among smaller stockholders. By providing a good service, and by offering services not available at the government sheds, they are meeting a need. There is no harm if the private sector handles the poorer stock while better stock go to the government sheds: this is merely rational choice by the stockholders.

The increase in the number of shearing sheds covered by the project is noteworthy. At first, each mentor had to focus on one shed only, but as these began to function well they could switch their attention to other sheds. One trader had closed all his sheds for two or more years before the project, and re-opened two to test the waters and benefit from the project's support and training. By the end of the project, this trader had seven sheds in operation, two of which were new and others refurbished and re-commissioned. The other trader started with two sheds, and upped this to four. The traders found the new operating environment conducive to expansion and investment, suggesting that they were in a win–win situation.

The field workers provide sustainability: they can earn a good living by providing a valuable service to their communities. They have strong relationships with the traders (their suppliers) and with the stockholders (their customers).

A mentoring and facilitative approach, coupled with old-fashioned good service, rapidly built up trust and participation. There is a need to consider how to sustain a supply of such people when there is no project to select, train and equip them, or to find replacements and additions. Efforts are being made in Lesotho on this theme, though it is too soon to say if they will lead anywhere.

The monitoring did not show much change in the quality of wool and mohair. This was expected: worthwhile gains stem more from better genetic stock and related practices, which a brief project cannot influence much.

The increase in the weight of wool and mohair per animal can be ascribed to better health. But the major result was that reduced death rates and improved birth rates made much more wool and mohair available. There were more animals around to be shorn. Growing numbers of livestock are good when, as in this case, they are cost effective and can be sustained. Stockholders can earn more by selling animals for meat than by shearing them for wool, though this is difficult in remote areas with harsh terrain and weather. Lesotho's natural pastures have a limit to the number of animals they can support, so it is important to avoid overgrazing.

The private traders tend to attract poorer producers with smaller flocks, who need cash urgently but who deliver lower quality wool. The larger producers with better wool can afford to wait several months for payment, so prefer to take their animals to the government stations, where they get higher prices.

It is difficult for the government to continue to provide subsidized services at its stations. Doing so is expensive, results in poor services at the government stations (since they have no incentive to improve), and stunts the development of the private sector.

It is difficult for the licensed private traders to compete with the uneconomic government stations – which is why many of the traders have gone out of business. Their only other option is to improve their competitiveness by increasing their efficiency and providing better services. Mngcunube's mentoring programme has helped them do this.

Table 5.9 Value shares of actors in the wool value chain, Lesotho

Maloti per bale of wool (1 bale = about 50 fleeces; €1 = 9.8 maloti)

Chain actor	Variable costs	Revenue	Gross income	Added value	Gross margin	Value share
		Selling price	Revenue – Costs	Revenue – Previous actor's revenue	Gross income x 100 / Revenue	Added value x 100 / Retail price
Government shearing station						
Livestock holder	227	1,867	1,640	1,867	88%	100%
Shearing station	1,867+	1,867	negative	0	negative	0%
Licensed private traders, Mngcunube system						
Livestock holder	227	1,021	794	1,021	78%	55%
Private trader	1,456	1,867	411	846	22%	45%

Value shares of actors in the marketing chain

Stockholders who take their animals to the government shearing stations get paid the full world market price for their wool. Averaging out for different wool qualities and price fluctuations, this is about M 1,867 (€186) per bale (a bale contains 50 fleeces). The government stations can pass on this full amount to the producers because they are subsidized (Table 5.9, Figures 5.18 and 5.19).

The licensed private traders have to cover all their own costs and hedge against the risk of price fluctuations, as well as trying to make a profit. This means they can pay producers a lower amount for their wool.

How the market structure has changed

Before the project, stockholders could take their animals to be shorn at government or private sheds (Figure 5.20). Both provided weak service and delayed payments.

The project strengthened the linkages between the stockholders and traders, and introduced improved services by the private sector traders and by field workers. These services include prompter payment, extension advice, and veterinary services.

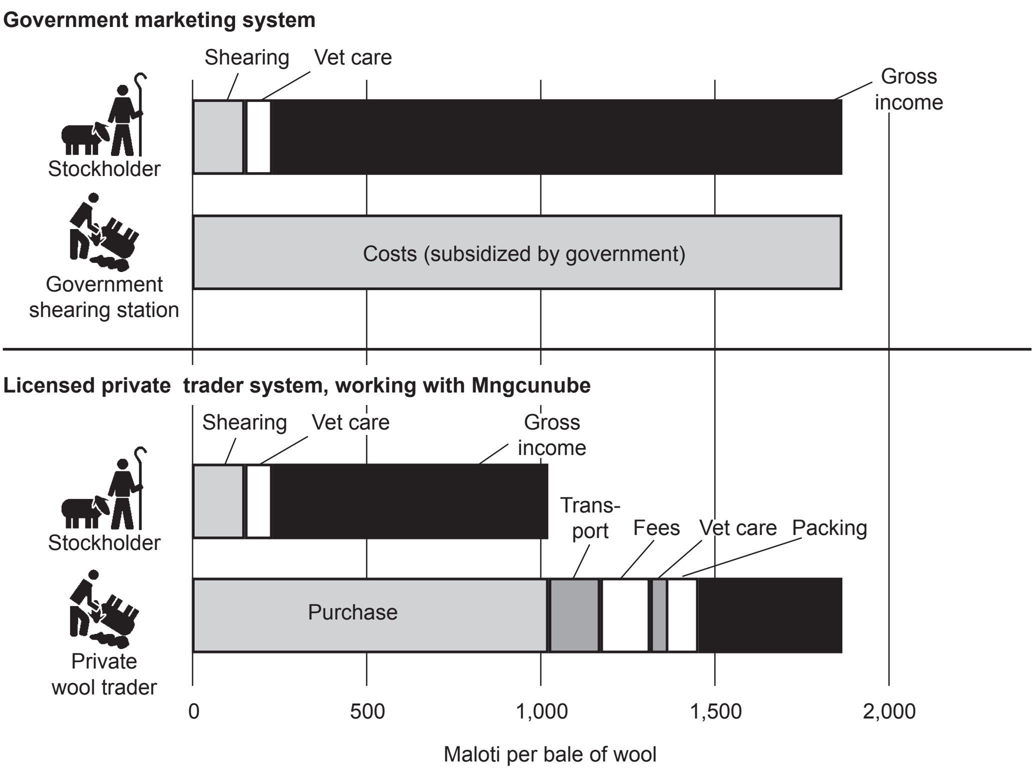


Figure 5.18 Costs and revenues of actors in the wool value chain, Lesotho

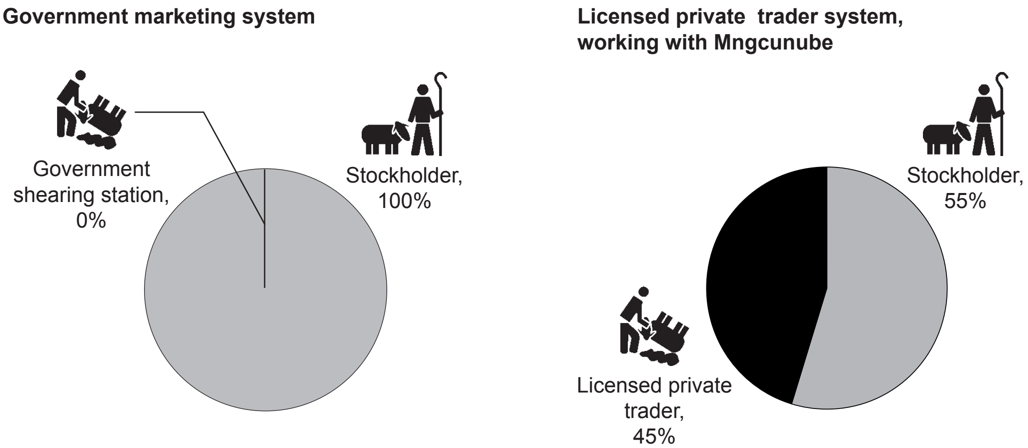


Figure 5.19 Value shares of actors in the wool value chain, Lesotho

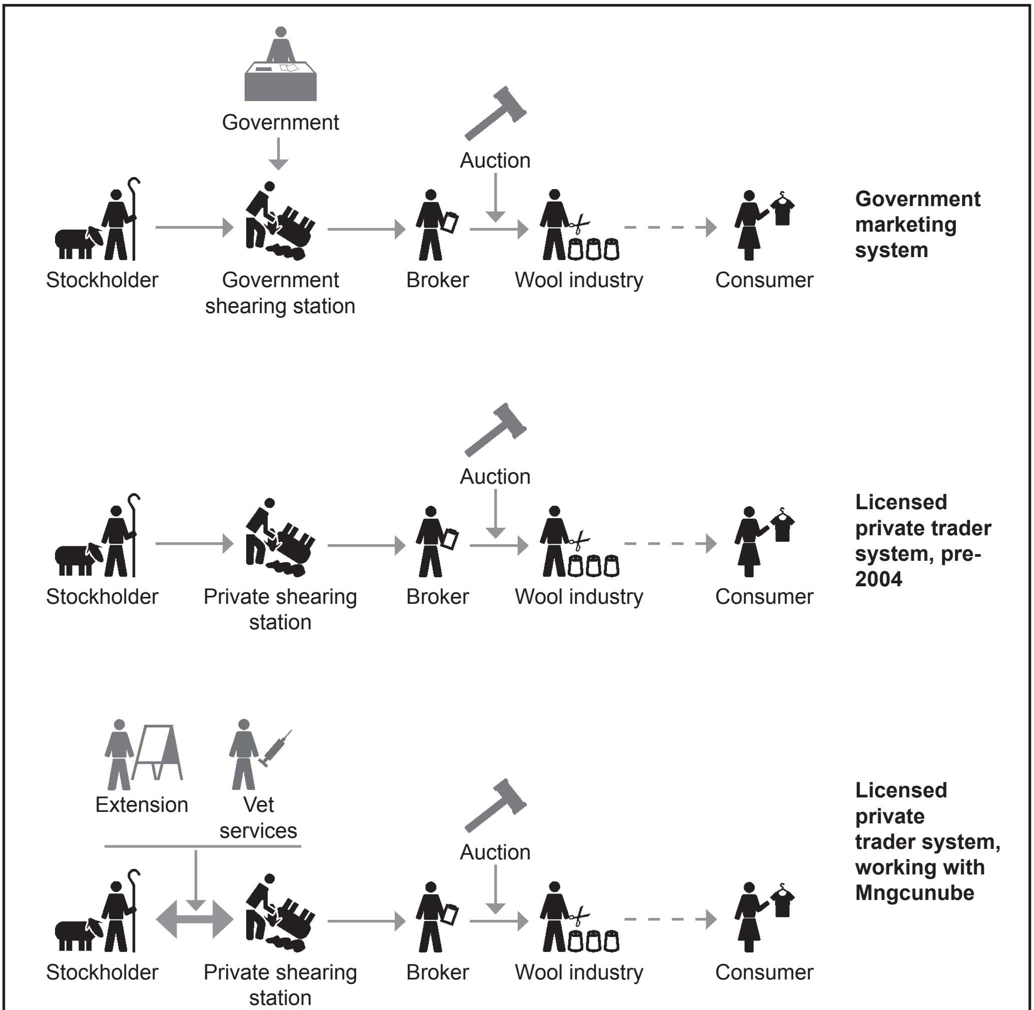


Figure 5.20 Changes in the wool market structure, Lesotho

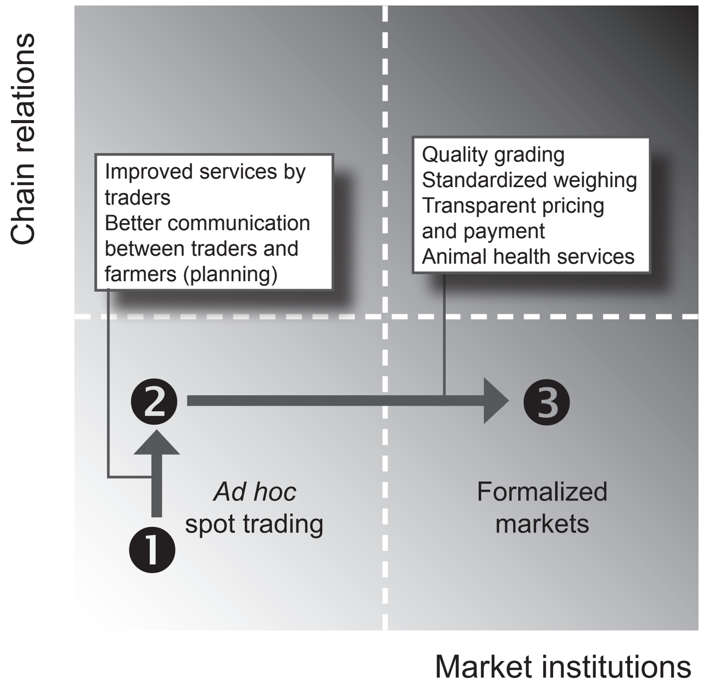


Figure 5.21 Chain relations and market institutions in the wool trade, Lesotho

Chain relations and market institutions

Before the project, stockholders and traders had only *ad hoc* relationships (Figure 5.21). Prices were not transparent, and the only service the traders provided was shearing. ❶

The project improved the chain relations between traders and farmers in various ways. It introduced a range of service by the traders (livestock health, extension advice, input supplies). It also improved communication between the traders and stockholders (for example, the scheduling of shearing in advance). ❷

The market institutions were also strengthened: quality grading was improved and made more reliable, records were improved, prices were made transparent and payments more prompt. The project's documented success also acts as a powerful lobbying tool: traders can see how to make their operations more efficient and profitable, and the government has a model to follow if its plans to privatize its shearing sheds are put into effect. ❸

More information

Lyle Kew, Mngcunube Development Pty Ltd., lkew@mweb.co.za

Improving market information in Kenya

IMAGINE YOU ARE A smallholder farmer in Kenya. You have grown your crop of maize, and you want to sell it. You do not know what the going price for maize is on the local market. Should you take it there, or should you wait for a trader to come to buy? How much should you sell it for? How about getting together with your neighbours and hiring a lorry to take your maize to Nairobi? But you don't know anyone in Nairobi to sell it to. Or maybe you could mill the maize and sell the flour…

These are some of the questions Kenyan farmers face. They all have one thing in common: information – or rather, a lack of it.

Providing market information and linkages is what KACE, the Kenya Agricultural Commodity Exchange Ltd, does. It uses computers, the internet, mobile phones and radio to deliver this information to poor rural communities and link them to profitable markets.

The KACE market information and linkage system

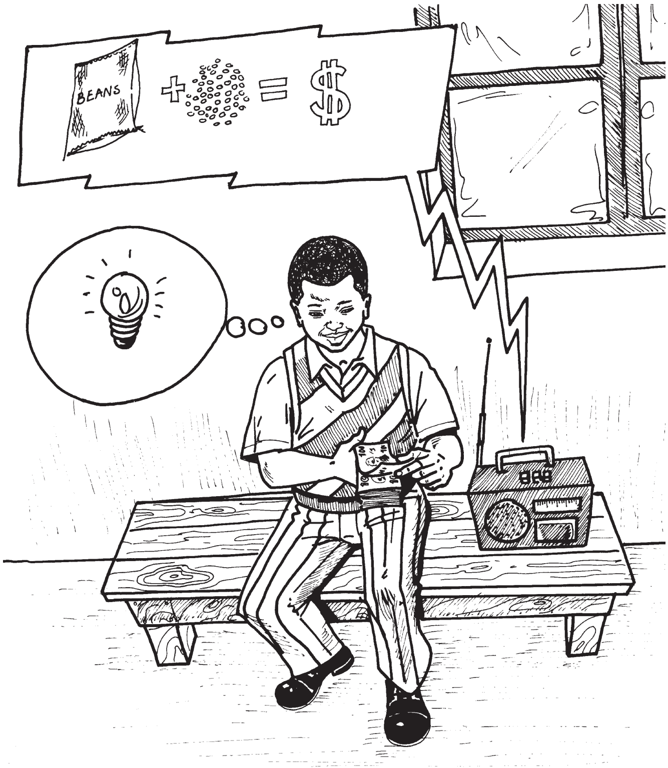
KACE is a private sector firm which aims to provide reliable and timely market information, and to link buyers and sellers of agricultural commodities. It seeks to develop a competitive agricultural marketing system that is transparent and efficient – a "level playing field", where demand and supply determine the price.

KACE works with various partners from both the private and public sector. These include Safaricom, Interactive Media Services, West FM radio, K-Rep Bank, and the ministries of agriculture, information, trade and industry. KACE activities are supported partly by development partners including the Rockefeller Foundation, USAID, the Hans Seidel Foundation, and the Technical Centre for Agricultural and Rural Cooperation in the Netherlands.

KACE began operations in 1997. It initially set up a trading floor at the Jamhuri Showground in Nairobi. The trading floor was to operate on an open outcry system – like an auction where traders and farmers would buy and sell commodities through licensed brokers. The exchange would set the rules and regulations to govern the trade. But this model did not work: most farmers in Kenya are smallholders and could not supply the required quantities and reliable quality of produce. Nairobi is too far away from their farms. And KACE realized that few farmers and traders understood how the exchange worked.

But KACE did not give up. It has developed a system that is more suitable to farmers: closer, more accessible and easier for them to use. This system combines traditional face-to-face interaction with modern information and communication technologies. It has various components:

- **Rural-based market information centres** These are information kiosks in rural markets. They provide farmers and traders with market information, such as current commodity prices in different markets. They also link buyers and sellers by matching commodity offers and bids. Some of the centres operate mini trading floors, where commodities are sold using an open outcry system every market day. The bigger centres at district headquarters have computers with internet connections. They download information from KACE headquarters and send it to outlying centres. There are 12 information centres in Western, Nyanza, Rift Valley and Eastern provinces. An average of 550 farmers and traders visit the centres each month.
- **Mobile phone message service** A phone owner can send an SMS request to a special number, and the service automatically responds with an SMS with prices of the commodities requested. A message giving current prices for a commodity in five markets costs KSh 7. KACE staff in each market gather these data every morning. KACE provides this service in partnership with Safaricom, Kenya's biggest mobile phone provider. The service receives an average of 10,000 SMS requests a month.
- **Interactive voice response service** This is the voice equivalent of the SMS service. Callers can dial a special phone number (0900-552 055) and follow a simple voice-operated menu in English or Kiswahili. The service delivers a voice mail message with prices, trade information and extension messages. KACE provides this service in partnership with Interactive Media Services Ltd. About 50 callers use the service a month. This number is low, perhaps because of the cost: KSh 20 per call.
- **Internet** KACE's website, www.kacekenya.com, has all the price information, plus a library of agricultural information and a virtual trading floor. Users can also subscribe to a system that sends out daily emails with commodity prices in markets in Kenya, Uganda and Tanzania. A subscription costs US$ 125 a year. This service currently has 550 subscribers from Africa, Europe and the USA.
- **Radio** KACE's market price information is broadcast on a national radio station run by Kenya Broadcasting Corporation. This is costly, but time can be shared with sponsors. The service reaches an estimated 5 million listeners a week, many of whom are farmers in rural communities.
- **Clearing house** KACE acts as a clearing house for agricultural commodities by linking buyers and sellers. The two agree on the price and terms, including a negotiated commission for KACE, and then sign a sales agreement. The buyer may pay through KACE with instructions to pay the seller once goods are delivered in the quality and quantity agreed upon. KACE also arbitrates in cases of dispute between the buyer and seller.



Service innovations

KACE has learnt that farmers and small agribusinesses in remote rural areas are willing and able to pay for additional marketing services. Market information is not enough. Farmers demand services such as commodity grading, storage, transportation, short-term trade credit (for example to hire transport), and access to timely, affordable inputs. They need document preparation, mobile phone and e-services such as email. Local entrepreneurs provide just some of these services, in some areas.

KACE's information centres could provide these services, but KACE does not have the capacity to establish and run a large number of them. So KACE is franchising its information centre model to local entrepreneurs as market resource centres. These provide value-added services including transport, storage and weighing, at a fee. The resource centres are legal entities registered under the Companies Act, owned and run by independent entrepreneurs. This model is designed to be financially sustainable after 2 years. KACE oversees the activities, and trains and builds capacity of the franchisees. It also gives financial loan guarantees for start up capital. The franchisees pay KACE 5% royalty fee. KACE currently has four franchises on a pilot basis.

KACE has also established a virtual trading floor on a rural radio programme, West FM, in Western Kenya. Dubbed *Soko Hewani*, the "Supermarket on Air", this matches offers and bids for farm commodities, inputs and services. The market resource centres act as licensed agents who receive the offers and bids, and process and verify them. They send the information to the programme manager, who prepares it for broadcast. Interested buyers and sellers then call in, negotiate, and agree on prices and terms. Some US$ 50,000 worth of commodities and services are advertised each month.

Benefits

KACE's work has benefited farmers, traders and other actors in commodity markets.

Farmers

- **Profitability** Farmers who have used KACE say that they have increased their profitability through improved bargaining power, better commodity prices and access to better markets. They can avoid transporting their commodities long distances in search of an uncertain buyer (Box 5.5).
- **Understanding the market** With a new understanding of market demands and trends, farmers are now able to grow produce for the market, at the right quality and quantity, so they can command a premium price. They have switched to new crops that earn more. For example, some farmers in Machakos district have started growing butternuts as a result of getting information from the KACE market resource centre located there.

Box 5.5 Kiinyuni Horticultural Growers Group

The Kiinyuni Horticultural Growers Group was established in 2004 when KACE established a market resource centre in Machakos, in Kenya's Eastern Province. The group has 42 members, nearly three-quarters of whom are women. They grow mainly tomatoes. The group members attended training at the centre on how to access information using computers and mobile phones, and how to use the centre's trading floor.

What they learned has helped them boost their tomato production from 3 tonnes to 5 tonnes a week, and get better returns for their produce. In 2004, they would sell a 38 kg crate of tomatoes for KSh 400 (US$ 6); in 2007, they sold the same crate for KSh 700–1000 (US$ 10–15).

They have also diversified their farming activities. They now grow French beans, butternut and kale as well as tomatoes, maize and beans. They are also involved in poultry and bee keeping. In 2004, the group's turnover was US$ 474 a week; in 2007 it was US$ 1,645.

"Through my group's association with the resource centre, we get good markets for our produce and are able to sell all or most of the produce at good prices", says Victoria Mutuku, the group's leader. "We no longer use brokers who had been exploiting us. For example, in December 2006, we had a bumper harvest of tomatoes, which we sold at KSh 900–1,000 (US$ 13–14) per 38-kg crate, as compared to the previous price of KSh 500–600 (US$ 7–8.5). In addition we did not throw away any produce. Normally when we have a bumper harvest, nearly 50% of the produce is lost or thrown away due to lack of markets."

- **One-stop shops** Through the franchised market resource centres, farmers can access additional services at affordable rates, including storage, transport, credit and inputs such as improved seed and fertilizers.
- **Dialogue** KACE allows farmers to interact with traders and extension workers to share information and resolve disputes.
- **Market visits and workshops** KACE facilitates visits to supermarkets and processors. It also organises trader/farmer workshops to help farmers understand the market needs in terms of quality, quantity, timely deliveries, etc.

Traders and processors

- **Access to information** Traders can now access commodity price information in good time, enabling them to able to plan where to source commodities.
- **Quantity and quality of produce** Traders are able to get greater quantities through aggregation at the KACE market resource centres. The centres also ensure quality and standards are met by the farmers before a delivery is made. This helps reduce transaction costs.
- **Potential buyers** Traders in Western Kenya are now able to advertise their products and services to farmers and other buyers at an affordable rate through the *Soko Hewani* programme.
- **Discussion forum** KACE organizes forums where farmers and traders meet to discuss issues affecting them, and to explore suitable solutions.

Paying for information

KACE is trying to introduce new ways of doing business in Kenya. This means sensitizing and training farmers and traders on how to access and use market information. Once a critical mass of people have seen the benefits, more will learn to seek and access information without further facilitation from KACE.

Everyone agrees that information is valuable, but how to get people to pay for it? Financing is a common problem of market information systems, which often turn out to be short-lived programmes reliant on donor funding. Some of KACE's costs are indeed covered by donor-funded projects, but KACE is seeking new ways to make its work sustainable:

- **Service fees** KACE has begun to franchise its market information centres to local entrepreneurs, who operate on a commercial basis. They charge fees for commodity offers and bids on the centre's trading floors, as well as earn commissions on successful transactions facilitated through the centres. The centres also charge for services such as communication (email, photocopying, typing, etc.), transport and storage.
- **Phone fees** KACE has revenue-sharing agreements with companies providing the SMS and voice mail services. The user pays for the SMS or phone call, and the phone company or voice mail firm in turn pays KACE an agreed

share. When the information services are fully developed and widely used, they should generate enough revenue to be self-sustaining.

- **Advertising** The *Soko Hewani* radio programme has attracted a good audience and is partly supported by advertisements from agribusinesses.
- **Transaction fees** KACE has introduced an offer/bid placement fee (KSh 100, or about US$ 1.50), along with 0.5-5% commission on successful transactions through *Soko Hewani*. Along with advertising fees earned during the programme, this is expected to generate enough money to cover the programme's costs.

Similar market information systems are being introduced elsewhere in Africa, including Malawi (Malawi Agricultural Commodity Exchange), Uganda (Uganda Commodity Exchange), Nigeria (Abuja Securities Commodity Exchange), Ethiopia (Ethiopia Commodity Exchange) and in Ghana (MISTOWA – see page 108). These models use different approaches, but they all face the challenge of financial sustainability. The KACE and MISTOWA cases both suggest that the key to sustainability lies in the combination of market information with additional services such as matchmaking, grading, storage, logistics and financial intermediation.

Challenges

Information and communication technologies are not a panacea to rural marketing. They face various challenges and constraints.

- **Mobile phone ownership** Mobile phones are popular in Kenya – the country has over 9 million subscribers – but many smallholders still cannot afford one.
- **Barriers to using technology** Many people who own phones do not use features such as SMS or (despite KACE's promotional campaigns) know of or want to use the voice mail system. Computers and the internet appear complex and intimidating for many people.
- **Poor understanding of market information** The market information provided by KACE is meant to help the farmers bargain for better prices or inform them of better markets. Market information must have reference to time and market, and these two factors are crucial to interpret it. Some farmers who receive the information still do not know how to use it to their advantage.
- **Lack of standardized grading** Local markets lack a standardized system of grading, which makes it difficult for KACE to report prices per grade. Because of this, KACE reports prices of fair, average-quality produce.
- **Cost** Computers and internet connections are expensive to buy and maintain. Radio can reach a large number of people at no cost to the listener, but the cost of creating and broadcasting the programme is high.
- **Poor electricity and telecommunication infrastructure** Many areas in Kenya are still without electric power or phone coverage. Extending internet access and phone coverage to sparsely populated rural areas is expensive.

- **Policy** The policies of the government, banks and other financial institutions have hampered the growth of e-commerce in Kenya. Policies must address issues such as the security of internet trading and the integration of online payments.
- **Sustainability** Innovations such as the KACE system take time, are sometimes capital intensive, and require patience to make significant impact. KACE is still not financially sustainable, but it has introduced measures to generate revenue to cover its operating costs and eventually to make profit.

Value shares of actors in the marketing chain

Because KACE deals with many different commodities, it is not possible to calculate the costs, revenues and value shares as for other cases in this book.

How the market structure has changed

Information is KACE's critical contribution to improving the market for commodities in Kenya (Figure 5.22). If both producers and farmers have information about prices and potential buyers and sellers, the uncertainty is reduced, and the process is smoother and more efficient, to the benefit of both sides.

KACE's intervention makes it easier for farmers to deal with wholesalers and other buyers. It gives both sides more information, enabling them to make better decisions. But it tends to reduce the role of small-scale travelling traders, who lose their ability to broker deals based on the limited market information available to farmers. Traders do not have to lose out, though: they still perform valuable

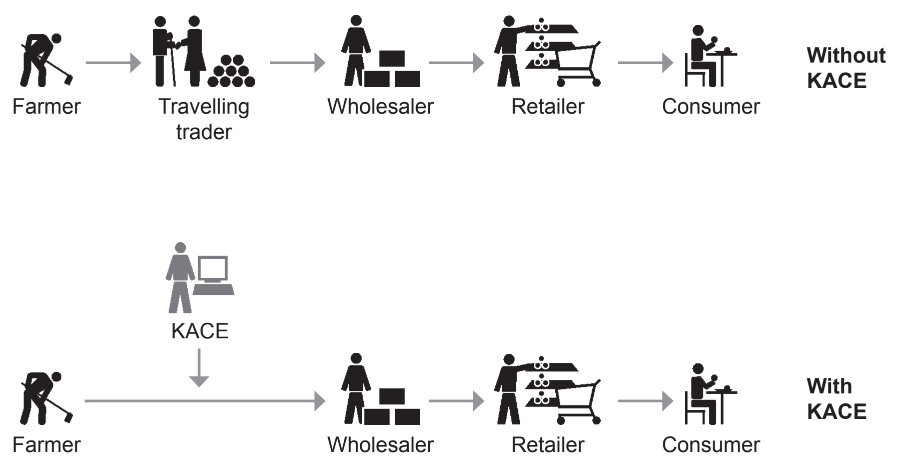


Figure 5.22 Changes in the commodity market structure, Kenya

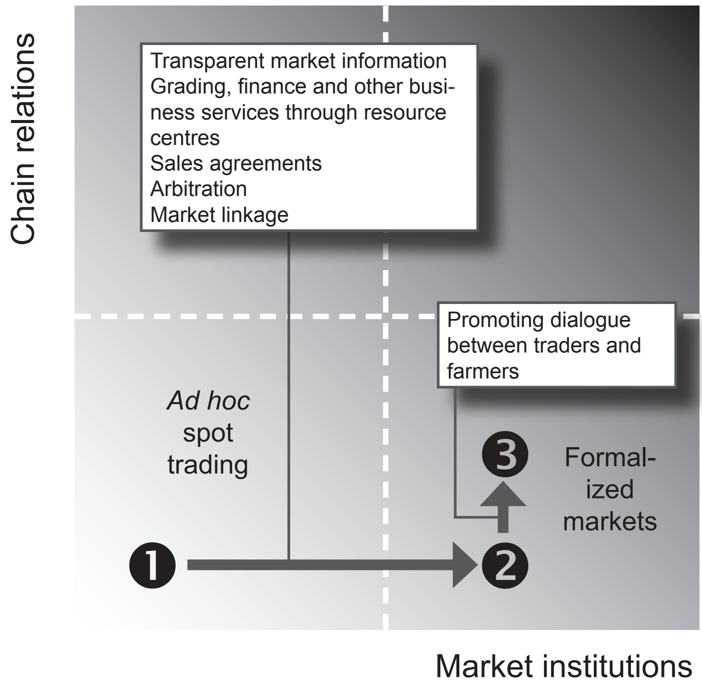


Figure 5.23 Chain relations and market institutions in commodity trading, Kenya

services such as bulking, transport and identifying buyers that farmers may not have the time, skills or equipment to do themselves.

Chain relations and market institutions

Before KACE started its market information and other services, farmers and traders would typically negotiate one deal at a time, with few permanent linkages or institutions to support them (Figure 5.23). This is typical of a spot market. ❶

KACE has helped establish formal structures to make the agricultural market more efficient by establishing a system which provides market information, matchmaking, and value-added services such as grading, transport and weighing. These innovations are all in the area of market institutions. ❷

KACE also promotes dialogue between the farmers and traders by organizing discussion forums including market visits. This represents a move in the direction of improved chain relations. ❸

More information

Mary Wambua, Kenya Agricultural Commodity Exchange Ltd., mary@kacekenya.com