

# 3

## Framework for “trading up”

THE PREVIOUS CHAPTER SHOWED that agricultural trading in Africa is far from easy. Food products are marketed through long, fragmented supply chains in a volatile, high-risk business environment with poor physical infrastructure and little support from formal legal or financial institutions. Yet consumers in the cities are offered daily fresh vegetables, meat, tubers and other foodstuffs which are brought over large distances from the rural hinterlands. While traders do a remarkable job in making this happen, overall market development remains limited. There is little value-addition, investment is low, business practices are rudimentary, and the outcomes for farmers, traders and consumers are far from optimal. As experts say, African markets are “efficient but poor”.

This chapter explores how agricultural marketing can become more beneficial to African farmers and traders. In fact, there are many ways to improve trading: farmers or traders can organize themselves for collective marketing, they can buy cell phones to know the latest prices, banks can provide short-term loans to pre-finance business transactions, traders and farmers can seek to build long-term trust relationships, formal contracts can be used to record business agreements, and many more. Such innovations can be clustered in two basic types of strategies for improved trading relations:

- **Stronger chain relations** Create well-organized business relations between the various actors in the value chain.
- **Stronger market institutions** Establish standards, regulations, policies and services to coordinate and support trading activities.

Whereas the first type of strategy seeks to improve the conditions for trading within the value chain, the latter seeks to improve the conditions in the business environment around the value chain. The first strategy is about the players of the game, the latter is about the rules of the game (cf. North, 1990).

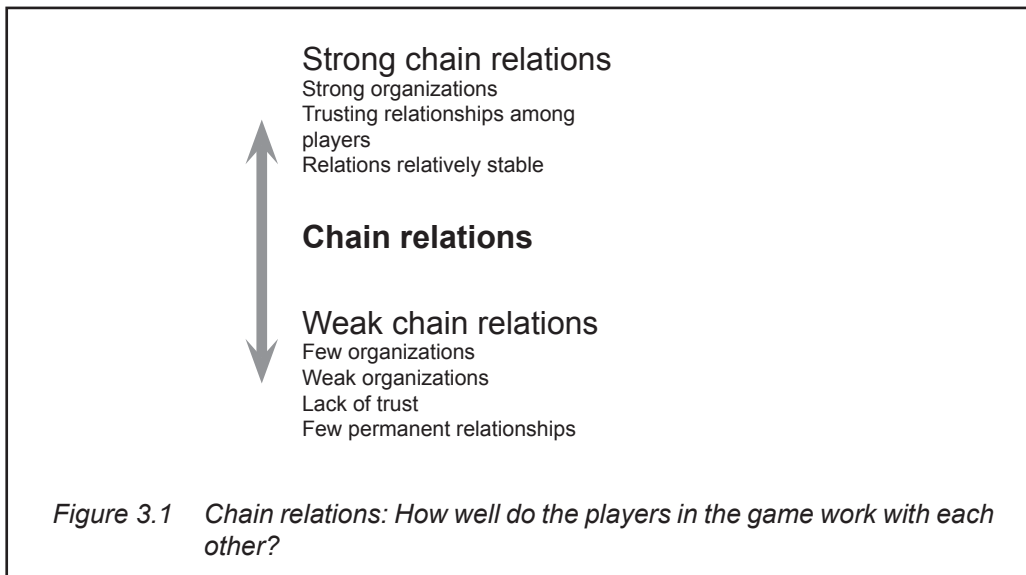
## Stronger chain relations

Imagine a situation where a group of farmers agree to grow vegetables for a trader to buy at a set price. The trader gives them a loan to buy seed and fertilizer. But just before harvest, another trader comes along and offers a higher price. The farmers, hard-pressed for cash, agree. The first trader then arrives with a lorry to pick up a load of veg, but finds the farmers have already sold their produce. The farmers may be better off in the short term, but the first trader is unlikely to trust them again. The farmers will get no credit next season; the first trader has lost a supplier, and the consumers will have to go elsewhere to find their vegetables. Almost everyone loses.

The relationship between the farmers and trader is a **chain relation**. There are many types of chain relationships, among many different chain players. The farmers may be organized into cooperatives. The traders may have their own association. The traders may work with brokers, wholesalers, credit suppliers, lorry drivers, loading crews and market authorities. Farmers may work with input suppliers, the village administration, extension workers, and so on. All of these are **players in the game**, rather than the rules of the game. They are influenced by the rules, and influence them in turn.

Some markets have strong chain relations. Farmers and traders are both well organized, and their organizations are strong, effective and inclusive. The different chain actors (farmers, traders, transporters, and so on) have relatively stable relations based on mutual respect and trust. Other markets have weaker relations – farmers and traders are not organized, for example, and there is a lack of trust and few permanent relations between the players.

We can visualize this as a continuum (Figure 3.1). At the bottom extreme are situations where farmers and traders are fragmented, do not trust each other,



fight over prices, deliver poor products and services, try to swindle to make more money on the short run, while neglecting the long-term consequences of their actions. At the top is where farmers and traders are organized, understand that they need each other, specialize in their role in the chain, communicate openly and frequently, and cooperate to achieve mutual growth. Between the extremes are a variety of situations where farmers and traders cooperate to a greater or lesser degree.

Farmers and traders will benefit if they manage to make their chain relationships more stable, more transparent and better organized. Such chain relations will help both parties to reduce the costs and risks that they are facing in their businesses. Also, they can join forces to tackle issues of common interest, like expanding the market, or improving the quality of the product. Improved chain relations benefit all stakeholders in the value chain – the farmer, the trader and also the consumer.

How can they do this? Here are some possibilities:

- **Organize the chain actors** Farmers and traders need to organize themselves if they want to improve their businesses. As an individual most farmers and traders are too small to make a difference. But if they team up with their colleagues, they can support one another to strengthen skills and technologies, upgrade products and services, learn about consumer demands, gain access to finance, negotiate with clients, etc. Association of the chain actors in business organizations is a first necessary step to improve chain relations.
- **Create mutual understanding** The marketing chain will only function well if all actors in the chain respect the roles and needs of the other chain actors. Farmers should understand that traders are a vital link to bring farm products to consumers, whereas traders should understand that farmers need good marketing conditions to keep on producing foodstuffs. This seems obvious, but regrettably in many situations there is a lack of respect for each other. Farmers and traders may be so much focused on prices that they forget that they need one another. Open dialogue and exchange visits can then help to create mutual understanding.
- **Specialize on certain roles and services** Once farmer and traders recognize each other’s roles in the value chain, conditions are there for both to specialize in their own businesses. By improving their products and services they strengthen the value chain to the benefit of all. Farmers can specialize in producing high-quality products in amounts and at times that the markets need. Traders can specialize in getting the best market for these products, developing new customers, and providing feedback from the market to the producer. This will generate a process of mutual growth.
- **Coordinate in the chain** As farmers and traders become specialized in their businesses, they also need effective coordination of their relationships and interactions. This will help to tailor the farm products to the demands of the consumer, and to minimize any losses, damage or inefficiencies that may occur at any stage of the value chain. Chain coordination is achieved through

continual communication between the chain actors. This can be steered by the business organizations of farmers and traders, but it may also be taken care of by a chain facilitator or service provider.

- **Develop a chain partnership** When chain relations are really strong, then farmers and traders can agree upon a shared vision and a joint action plan to strengthen the value chain as a whole. They may, for example, identify and introduce new crop varieties for specific market segments, establish a chain platform for permanent dialogue, set up a certification system to ensure product quality, or jointly undertake a marketing campaign. This idea may seem far-fetched, but as this book will show there actually are several experiences in Africa where farmers and traders have joined forces in a single organization to improve the performance of their businesses.

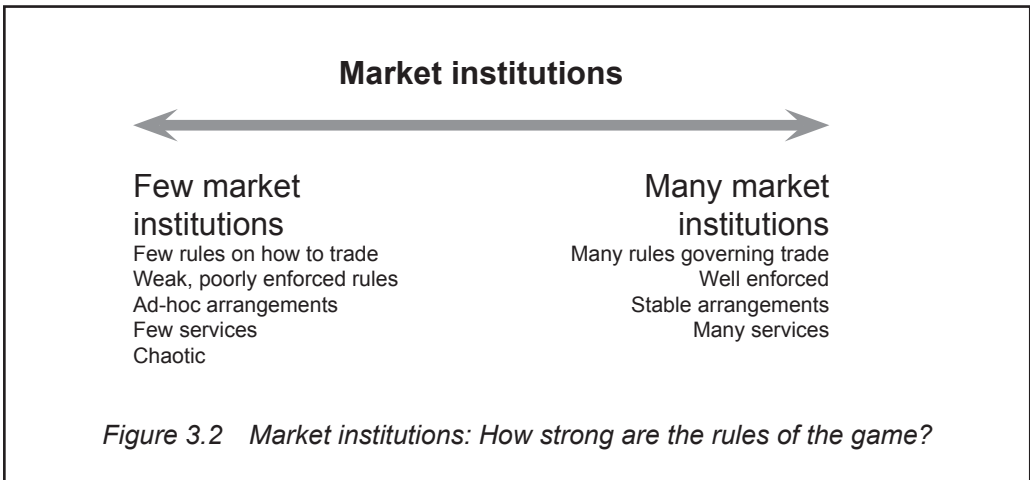
## Stronger market institutions

Now imagine a marketplace where traders can set out their stalls wherever they want. A meat trader sets up next to a stall selling salads and fresh vegetables. Stalls selling fish, grain, fruits, cloth and hardware jostle for space with refreshment stands and hawkers selling watches and cassettes. Stallholders expand their displays and the narrow alleyways become clogged. Fights break out among stallholders; customers cannot make their way among the chaos; workers cannot deliver produce; rotting food piles up. The market quickly grinds to a halt. Customers stay away. Traders cannot sell their stocks, so buy less from farmers. Everyone – farmers, traders and consumers – is worse off.

The rules on where sellers can erect their stalls may be formal: set by the city government. Or they may be the result of informal, unspoken agreements among the traders. Whichever they are, they are clearly vital to the smooth functioning of the market.

These rules are just one of many **market institutions**. There are many others: security and cleaning services, arrangements for loading and unloading goods, credit arrangements, an agreed set of weights and measures, standards for grading produce, information systems for prices and quantities, and so on. A law that defines food safety requirements for dairy products is a market institution, and so is an unwritten but commonly respected etiquette among traders for bargaining in the marketplace.

Market institutions are norms, rules, regulations, policies or services that shape the way in which farmers and traders interact. They give structure and support to trade activities, thereby reducing the costs and risks that farmers and traders face in their businesses. Market institutions can be formal or informal, created or evolving, written and unwritten. They change over time. They include mechanisms for monitoring commercial arrangements, enforcing contracts, and ascertaining and punishing violations. They form the business environment that surrounds the trading activities in the value chain.



If chain relations are about the players in the game, market institutions are the **rules of the game**: they help shape the interactions and incentives in the market. They reduce uncertainty by establishing a stable structure within which people can negotiate, buy and sell, transport and distribute, borrow money and pay debts. Strong market institutions enable farmers and traders to do business in a more efficient and beneficial way. Weak institutions hinder trade and impede the creation of wealth.

Some markets are rich in institutions – they have many sets of rules governing how they work. The rules are enforced, and the markets work in an orderly way. Others have very few institutions, and the few rules that exist are not enforced consistently. These markets are more chaotic. We can also picture this as continuum (Figure 3.2).

Improving market institutions is a second basic strategy to improve trading. Here are some ways of doing this:

- **Standardize quality, weights and measures** Quality grades and calibrated weights and measures help trade to become more efficient. They avoid the need for personal inspection, reduce handling costs (weighting and bagging), and stimulate long-distance trade. They improve business returns and client satisfaction because quality will be rewarded with higher prices.
- **Develop contract enforcement mechanisms** Formal or informal mechanisms to prevent and punish breach of contract are also important to make trade more efficient. When farmers and traders can trust that agreements will be respected, they will be in a much better position to buy or sell on credit, trade at long distance, make long-term agreements, invest in business growth, etc. Contract enforcement can be a public service, e.g., courts and police, but they can also be private, e.g., certification schemes.
- **Develop market information systems** Market information is crucial for efficient trading. Buyers and sellers need accurate information for making good decisions as to where, when, to whom, and at what price to buy or sell. Incomplete or non-transparent market information leads to what economists

call “market failures”. Market information systems can be a public service or private, and can involve various media, such as radio, television, internet, cell phones and SMSs.

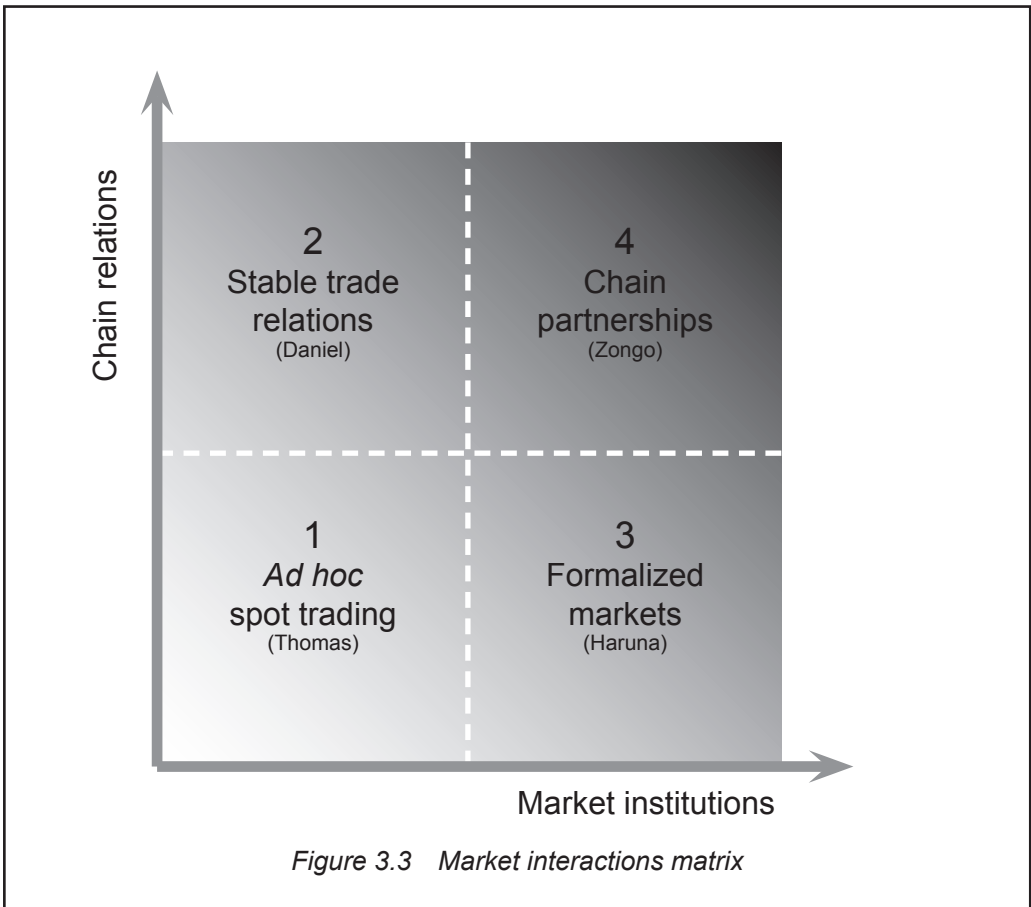
- **Provide financial services** Without finance, trade cannot exist. Merchandise cannot move from farmer to consumer without somebody paying for the value of the goods while they are under way. This is called “trade finance”. In addition to trade finance, chain actors need capital for investments in staff, a new truck, an irrigation system, etc., so their businesses can grow. Insurance and savings are also important. Access to financial services is vital to keep trade going and to make it grow and prosper.
- **Provide business support services** Besides financial services there is a series of other services that are important in supporting business and trade. Some of these are: transport, accountancy, security, research and development, utilities, road maintenance, etc. Some of these services are public, others are private. The better these services are organized, the better trade can perform.
- **Use policy leverage** Finally, it is important for trade and business to have some participation in decision-making over government policies. Policies influence business through taxes, permits, sector policies, trade tariffs, subsidies, etc. Often these decisions are taken without due consideration of the points of view of farmers and traders. When farmers and traders get organized to achieve policy influence, it is likely that the trading conditions will improve.

## Market interactions matrix

We can combine Figures 3.1 and 3.2 to make a matrix, with the market institutions along the horizontal axis and chain relations on the vertical (Figure 3.3).

We can divide this matrix into four quadrants, each corresponding to a certain type of market interaction. Markets can be located in any of the four quadrants.

- **Thomas** is coordinator of a farmers’ cooperative in Zimbabwe (page 83). As a result of misguided government policies, the fertilizer market in the country has collapsed. Powerful, well-connected people have cornered the market, and little fertilizer is available on the open market. Desperate to grow maize to feed their families, the members of Thomas’s coop have to queue to buy the little fertilizer available at exorbitant prices. No one trusts anyone else, and there seems to be no rules – an extreme example of *ad hoc spot trading*.
- **Daniel** (page 50) is a livestock trader in Zimbabwe. He buys animals on a regular basis from livestock holders in Mbire District whom he knows well. He and his suppliers have agreed to share information about prices and quality in a highly volatile market. He transports the livestock he buys to Harare, where he sells them to an abattoir. Daniel is part of a **stable trade relation**: he has longstanding, trusting relationships with his suppliers and customers. They share information freely, and try to find each other the best deals.



- **Haruna** coordinates a traders' association in Ghana (page 108). Using a computer-based market information system, he and his colleagues have found a group of onion growers in Burkina Faso, and they have negotiated a contract to supply onions to the association's members. They have also arranged for a bank to provide the loans necessary to secure the deal, as well as transport to move the onions down to the coast. Haruna is part of a **formalized market**: there are a strong set of institutions (rules, financial services, transport arrangements) that facilitate the transactions, even though the buyers and sellers do not know each other very well.
- **Zongo** is manager of a firm marketing fair-trade mangoes grown in Burkina Faso (page 168). The firm works closely with cooperatives of mango growers, and includes them in discussions over prices and quality. Together with the producers and its customers, it has developed a joint vision of how they want the marketing chain to develop. The pricing structure is transparent; the importer pays Zongo's firm for produce in advance, and the firm in turn pays its suppliers in advance. The firm is also pressing the government on issues such as tax and research support for mango production. The firm is part of

a **chain partnership** that integrates good chain relations and strong market institutions to the benefit of all actors in the chain.

Let us look at each of these quadrants in more detail.

### ***Ad hoc spot trading***

In the lower left corner of Figure 3.3 are markets which have weak business relations and few business institutions. Traders and farmers engage in short-term transactions. Trust, quality assurance, value adding, service provision and innovation are low. Prices are negotiated on instant needs. Farmers claim that traders cheat on them – they want overfilled bags, charge exorbitant interest rates, and abscond with produce without paying for it. Traders make the same complaint about farmers – that farmers hide over-ripe produce at the bottom of the crate, they put stones in bags to make them weigh more, and they break contracts to sell produce at a certain price.

Farmers and traders do not know each other well, and do not trust one another. There is no partnership, no cooperation. Both farmer and trader have short-term visions, taking advantage of each other. They provide bad services and add no or little value to the product. They may be tempted to cheat on quality or weighting. This may be rational behaviour in a context of strong price fluctuations, weak infrastructure and failing institutions.

### ***Stable trade relations***

This is where there are still few market institutions, but chain relations are stronger (top left corner of Figure 3.3). Traders and farmers do business with each other for several years. Levels of mutual trust and service provision, such as credit, are higher. Farmers and traders may organize themselves to improve their businesses and their role in the value chain. They start to communicate and develop mutual understanding. This may result in more cooperation, lower transaction costs, lower risks, and better chain services. But the market institutions are still weak. There is a lot of unexplored potential for improving the trade system through quality standards and market information systems and by involving financial institutions and government agencies.

### ***Formalized markets***

This is the mirror image of stable trader relations: market institutions are stronger, but chain relationships are still weak (bottom right corner of Figure 3.3). Buyers and sellers engage in short-term transactions based on institutionalized standards and regulations. Prices are set as a function of general supply and demand. Buyer and seller no longer meet in person to do business, because market prices are transparent, quality grades are standardized and contracts are enforced by third-party institutions, such as an auction authority. However, due to the impersonal trade relations, there is little scope to work together on innovation, value adding and niche marketing. Trade transactions are governed by formal

standards and procedures. This can be through commodity exchanges, warehouse receipt systems, market information systems, etc. There is an array of supporting services from finance and policy sectors. This may result in more transparency, lower transaction costs, and lower risks. But it may also lead to exclusion of those who fail to comply.

### **Chain partnerships**

This is where both market institutions and chain relationships are strong (top right corner of Figure 3.3). Farmers, traders and buyers engage in long-term business relationships with formal contracts to jointly work on, and invest in, up-scaling, quality improvement, market development, value-adding, service provision, risk reduction, etc. Prices are often negotiated for a longer period and farmers tend to obtain larger profit shares. Farmers and traders develop business alliances in which they acknowledge their specialized roles and together look for synergy. They agree on clear standards and procedures to regulate the business relation. This may result in added value, new markets, innovation, competitiveness, sustainability. But specialization also entails risks as it enhances dependency and reduces flexibility.

### **Changes in markets**

As markets develop and become more sophisticated, the chain actors may move from one point in our diagram to another.

For example, a group of farmers may organize themselves into a marketing cooperative, and negotiate delivery contracts and prices with a trader. In our diagram, we can show this as an upward movement from *ad hoc* spot trading to more stable trade relations (Figure 3.4).

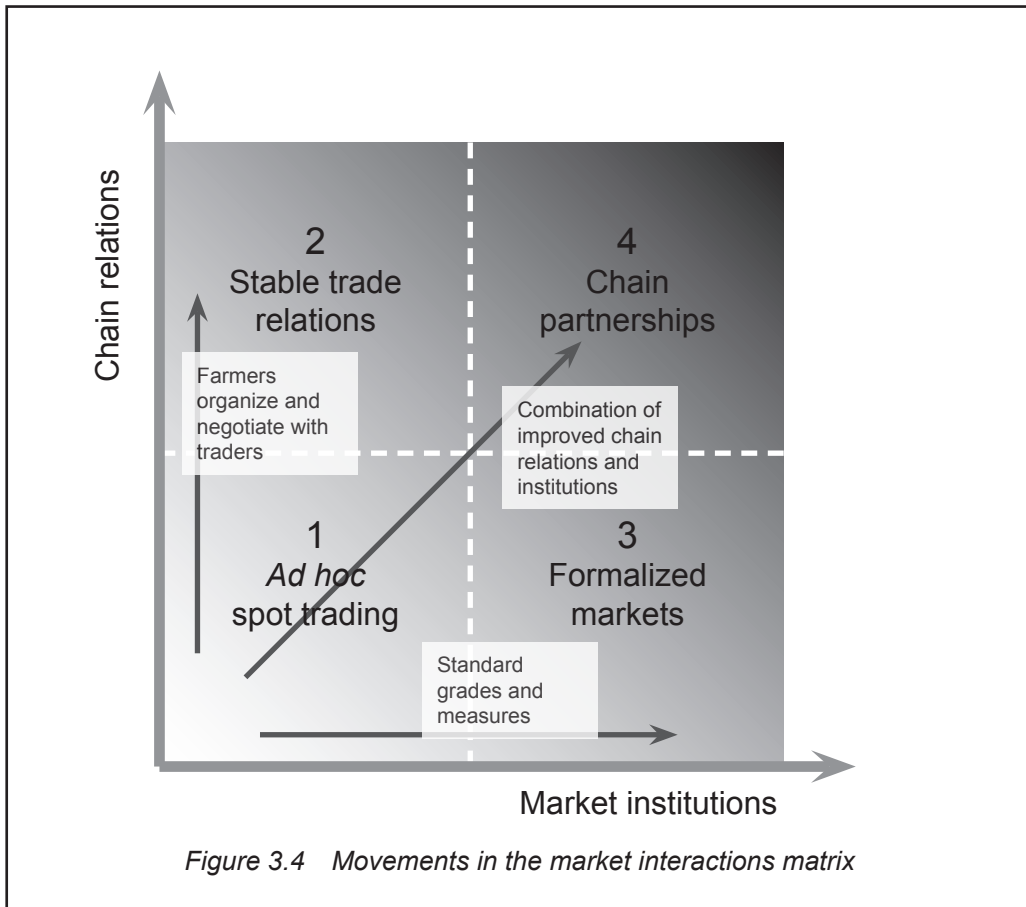
The farmers and traders may also agree to regulate their trading relations introducing standardized quality grades and calibrated weights. This is a horizontal movement, from left to right, in Figure 3.4.

Combining a series of such innovations in vertical and horizontal directions may transform a market from an *ad hoc* spot trading situation to a chain partnership – a diagonal movement in Figure 3.4.

In this book, we break such diagonal movements down into their vertical and horizontal components. That is a simplification, of course: in fact, improving chain relations (a vertical movement) is almost always accompanied by some improvement in market institutions (horizontal movement).

### **Which is best?**

In our view the most beneficial position for traders and farmers is the chain partnership. That is where they interact as close business partners who cooperate to



add value to the product, reduce risks, innovate, and expand their businesses. However, this is not always possible. Some markets have, almost by definition, no place for long-term relations and face-to-face business. A good example of this are bulk products that are used as invisible ingredients in consumer products, such as maize and soybean. These are mostly traded on anonymous markets such as the Chicago Board of Trade. Other products can be traded in both ways. For example, most coffee in the world is traded between anonymous business partners. However there is also a market for speciality coffees, where business partners know each other for years and work together to improve the business.

The type of trade relation depends not only on the product but also on the wider environment. Drought or flood can ruin a harvest, damaging business relations and bankrupting farmers, traders and credit institutions. A flood of international food aid may undermine local markets. Economic shocks, such as a sudden change in exchange rates or the closure of a key processing factory, can eliminate a market. Changes in government policy can have the same effect. An example in this book is the fertilizer supply system in Zimbabwe (page 83), where a combination of government interference and hyperinflation led to the destruction of a smoothly operating system and its replacement by an illegal market – moving

from something close to a value chain partnership to an *ad hoc* spot market. In this case the movement was backwards and downwards in our diagram.

The stories in this book describe how a particular market in a specific country has changed. In some cases the changes were induced by the chain actors themselves – traders and farmers – in response to a problem or opportunity that they had spotted. In other cases, the changes were induced through the intervention of an external agent, like the government or an NGO. The stories describe the market changes that occurred, the background and reasons for these changes, and the implications, costs and benefits for the farmers and traders involved. We hope these experiences will give insights and inspiration for African farmers and traders to think about possible new ways to organize their trading relations in a more beneficial way – this is what we call “trading up”.

## Value shares in trading

Calculating profit margins in the value chain is not straightforward. It requires various types of information and takes several steps. It is necessary to know the following information about costs and revenues.

### Costs

**Variable costs** These are costs that change according to the amount of produce handled. For a livestock raiser, the variable costs include the costs of feed and vaccinations. If a farmer has 10 cows and decides to raise two more, she or he needs 20% more feed and vaccinations for the new animals. For a livestock trader, the variable costs might include the purchase price of the produce, commission paid to brokers, the cost of health certificates for each animal bought, local taxes paid per animal moved, and interest on loans used to buy produce.

**Fixed costs** These are costs that are independent of the amount traded. For the livestock raiser, they include the cost of stables and land. Even if the farmer decides to raise two more cattle, she or he usually does not need to buy more land or build a new stable (at least in the short term). For a trader, the fixed costs may include stall rental, trading licenses and wages of assistants. In practice, it is hard to include some of these costs in calculations, so the tables in the case studies in this book leave these costs out.

### Revenues

**The selling price of the produce** This is the actor’s revenue. It is the money she or he earns by selling the produce, plus any other income earned by selling by-products or waste.

For some of the commodities described in this book, the product sold at the farm gate is essentially the same as that bought by the consumer. Yams (page 132), milk (sold locally via small-scale retailers, page 72) and fertilizer (page 83) fall into this group.

For others, some grading and sorting is needed: tomato traders, for example, may sell the top-grade tomatoes in a batch at one price, smaller tomatoes at another, and over-ripe fruit very cheaply (pages 62 and 94). Mangoes (page 168), green beans (page 215) and wool (page 146) are carefully selected before being packed for export.

For another group of commodities, some processing is involved. For livestock, for example, a slaughterhouse sells not only the meat, but also the offal, hide or skin of an animal (pages 50 and 181). Soybean processors may sell both oil and soybean cake (page 194). Parchment coffee is milled, roasted, ground and vacuum-packed (pages 118 and 205). Milk sold by a supermarket is pasteurized, skimmed, packed and cooled (page 72).

### **Profits and margins**

Once we know the costs and revenues of each actor in the chain, we can calculate their financial positions. Here are some things to look at:

**Gross income, or operating profit** This is calculated by deducting variable costs from revenues:

$$\text{Gross income} = \text{Revenue} - \text{Variable costs}$$

The gross income is easy to calculate, but it does not take the fixed costs into account.

The **gross margin** is the gross profit per unit of produce. Calculate this by dividing the gross income by the revenue earned from sales. Then multiply by 100 to give a percentage. Again, this ratio neglects the fixed costs.

$$\text{Gross margin} = \text{Gross income} \times 100 / \text{Revenue}$$

**Added value** is the amount of value that each actor in the chain adds. It is the difference between the price the actor pays for the produce, and the price she or he sells it for.

$$\text{Added value} = \text{Price received by actor} - \text{Price paid by actor}$$

In most of the cases in this book, this is equal to the actor’s revenue minus the previous actor’s revenue.

**Value share** is the percentage of the final, retail price that the actor earns. Calculate this as the added value divided by the final retail price. Then multiply by 100 to give a percentage.

$$\text{Value share} = \text{Added value} \times 100 / \text{Final retail price}$$

**Net income, or net profit**, is calculated by deducting total costs (both variable and fixed costs!) from revenues:

$$\text{Net income} = \text{Revenues} - \text{Variable costs} - \text{Fixed costs}$$

This is the real profit that the actor makes, so is a better measure than the gross income. However, it is hard to calculate because it is difficult to put a figure on the fixed costs. We have not tried to calculate it in this book.

**Net margin** is the net profit per unit of produce. Calculate this by dividing the net income by the revenue earned from sales. Then multiply by 100 to give a percentage.

$$\text{Net margin} = \text{Net income} \times 100 / \text{Revenue}$$

This is a better measure than the gross margin, but it also relies on knowing the fixed costs. We have not tried to calculate it in this book.

## Example: Yams in Ghana

Table 3.1 is reproduced from Chapter 5 on the yam trade in Ghana (Table 5.4, page 142). It shows the costs and revenues (in Ghana cedis per yam) of each of the actors in the value chain. The actors are listed in column 1 of the table.

### Costs and revenues

Column 2 in the table shows the **variable costs**. For the farmer, the variable costs total GH¢ 0.50. They include the costs of seed, hired labour, and renting land.

**Table 3.1 Value shares of actors in the yam value chain, Ghana**

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

1	2	3	4	5	6	7
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
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%
<b>Total</b>				<b>2.00</b>		<b>100%</b>

For the travelling trader (GH¢ 1.25), they include the farmer's selling price of the (GH¢ 1.00 – in column 3), plus the costs of loading and unloading, transport and a fee paid to the market authorities. The wholesaler's variable costs (GH¢ 1.54) include the price of yams bought from the travelling trader, and the costs of loading and the market fee. Finally, the retailer must also pay the wholesaler, plus other costs totalling GH¢ 1.74.

Column 3 shows the **revenues** of each actor. The farmer sells a yam for GH¢ 1.00 to a travelling trader, who then sells it on to a wholesaler for GH¢ 1.50, who sells it to a retailer for GH¢ 1.70. The final retail price – what the consumer pays the retailer – is GH¢ 2.00, shown at the bottom of this column.

Column 4 shows the **gross income** for each actor. This is the difference between the revenue (column 3) and the variable costs (column 2).

Column 5 shows the **added value** that each actor adds. It is calculated by deducting that actor's revenue (column 3) from the previous actor's revenue. Note that the total of the added values (GH¢ 2.00) equals the final retail price.

### **Gross margins**

Column 6 in Table 3.1 shows the **gross margin** – the percentage of the actor's revenue that is profit. This is the gross income (column 4) divided by the revenue (column 3), multiplied by 100 to make a percentage. We can see that farmers have a gross margin of 50%, while the wholesaler has a gross margin of only 9%.

In an ideal market situation, with perfect competition and transparent information, the size of the gross margin reflects the amount of labour, expenses and risks that an actor has put into the product. The higher the costs and risks, the higher the gross margin – a fair principle. The fact that the yam chain in Ghana

displays this principle suggests that it is a competitive market with a fair relation between effort and reward.

Unfortunately, in the real world many markets are far from ideal. Monopoly markets or oversupplied markets put strong pressure on the gross margins of producers. Likewise, in so-called supplier markets, when produce is scarce, farmers’ gross margins may rise at the expense of traders, consumers, and other companies downstream in the chain. When gross margins are excessively high in a certain part of the value chain without a reasonable explanation, this may be an opportunity for intervention to make the chain more efficient.

### **Value shares**

Column 7 in Table 3.1 shows the **value share** – the percentage of the final retail price that each actor manages to capture. This is the actor’s added value (column 5) divided by the final retail price (GH¢ 2.00), multiplied by 100 to make a percentage. Note that the value shares add up to 100%, but the gross margins do not.

The yam farmer earns 50% of the final retail price (GH¢ 1.00, in Column 5), while the travelling trader earns 25% (GH¢ 0.50) and the wholesaler earns 10% (GH¢ 0.20).

Like gross margins, the size of the value share also reflects the amount of costs and risks that an actor has put into the chain – at least, in ideal markets. In addition, the distribution of value share tells us something about the type of product. When the consumer buys a product in more or less the same state as it left the farm, such as a fresh, unwashed yam, then there has been little value added in the chain. So we can expect the farmer to have the highest value share.

However, when the consumer buys that same yam in a processed form, such as cooled yam flour in sealed, controlled-atmosphere packaging, then there has been more value added in the chain and we can expect downstream actors to have higher value shares.

In products where advertisement and lifestyle play an important role, such as Nike shoes or Dior perfume, we can expect high value shares downstream in the chain.

Actors can compensate for a smaller value share by increasing their efficiency (as in the warehouse receipt scheme for coffee in Tanzania (page 118)), or by handling higher volumes of the product (as with the cases on livestock in Kenya (page 181) and soybeans in Ghana (page 194)).

In any case, the gross margin and the value share are not meaningful by themselves. They need to be interpreted in relation to the costs and risks of the chain actors. Only a discrepancy at that level may be a reason for intervention in the chain. In many development projects this type of data analysis is missing, so the intervention is not well-informed and may produce disappointing results.

For each of the cases in Chapters 4–6, we show the gross margin and value share, where it is possible to calculate these. Note that the gross margin takes the costs

of each actor into account, while the value share does not. Accurate information on costs is hard to gather, so many of the cases do not have figures on costs – so it is not possible to calculate gross margins in some cases.

## Presenting data

### Bar charts of revenues and costs

It can be hard to interpret numbers in a table. So we also show the data for the variable costs and gross income as a bar chart. Figure 3.5 shows such a bar chart for the Ghana yam example, using data from columns 2 and 4 in Table 3.1.

Looking at the top bar in this chart, we see that the farmer’s gross income (in black) is a big share of his or her total revenue. This reflects the amount of work the farmer puts into growing yams: the “profit” includes his or her own labour (the “labour” in the bar is hired labour which requires a cash outlay).

We can see from the second bar that the travelling trader has two main costs: the cost of buying the yams from the farmer, and transport.

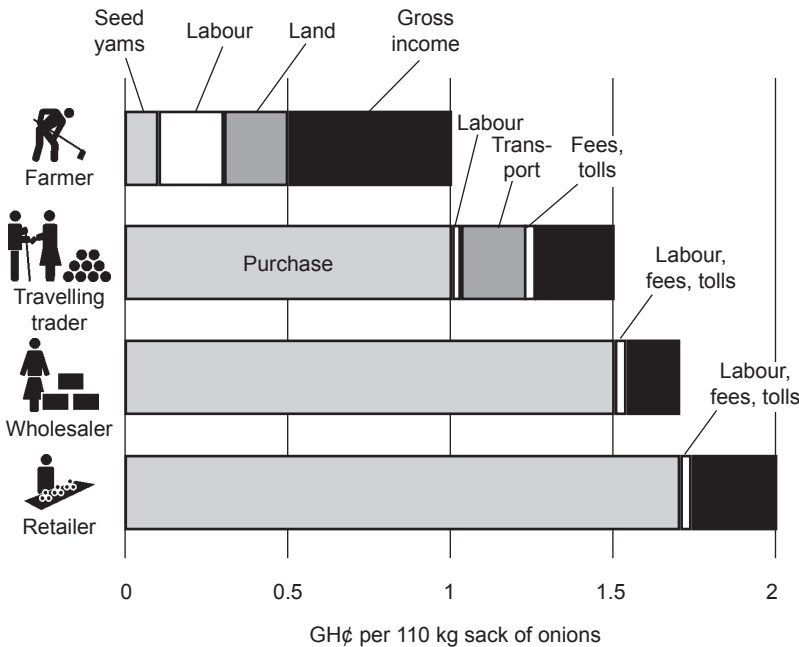


Figure 3.5 Costs and revenues of actors in the yam value chain, Ghana

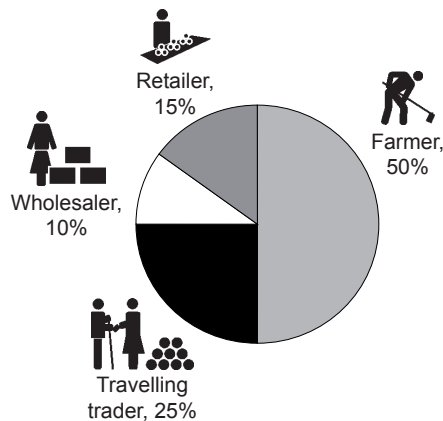


Figure 3.6 Value shares of actors in the yam value chain, Ghana

The graphic also shows us that the ratio of gross income (in black) to revenue (the whole bar) generally decreases as we go down the chain. There are two reasons for this: each actor in the chain has to spend an increasing amount of money to buy the yams, and the later actors own the yams for a shorter period, so put less work into them.

### **Pie charts of value shares**

We also use pie charts to show the value shares of each actor in the chain. Figure 3.6 gives an example for the yams case, based on the data in column 7 of Table 3.1.

Where it has been possible to show two alternative marketing systems (or the situation before and after a change in the marketing arrangements), this book shows two or more sets of bar charts and pie charts, one set for each situation. The areas of the pies are proportional to the product’s end prices: the bigger the pie, the higher the end price.

## **Numbers: handle with care**

Readers should treat the figures given in the tables and graphics in this book with caution. Certain problems are common when calculating costs and revenues:<sup>1</sup>

**Fluctuations** Costs of agricultural products and services vary widely from season to season, from day to day, and even within a single day: produce that sells for a high price early in the morning may be sold at a loss towards the end of the day. Quality and size are important: depending on market, large or small tomatoes may be cheap or expensive. A minor blemish can demote an otherwise export-grade mango to a much lower-priced category. Fluctuating currency exchange rates and inflation also make it difficult to compare prices.

1 More information: Crawford (1997), M4P (2006)

**Lack of information** The numbers given in this book are based on the information that the book’s contributors had available. They are inevitably incomplete. A particular actor may not know the costs and revenues of the others actors in the chain – and for some, it is hard even to estimate their own costs and revenues.

**Variable or fixed?** It can be hard to categorize a cost as fixed or variable, and there is not always a right or wrong way to do it. For example, is transport a fixed or variable cost? It costs the same to hire a lorry, whether you transport 10 cows or 12 (so the cost in this case is fixed). But if you transport 50 cows, you may need to hire extra lorries (so here it is a variable cost).

**Labour** Farmers and traders spend a lot of time growing and trading produce. But they rarely pay themselves (or their families) a cash wage, so it is hard to decide what figure to include. The tables in this book include this type of labour as part of the gross income.

**Losses** For perishable produce (such as tomatoes and mangoes), losses may be significant.

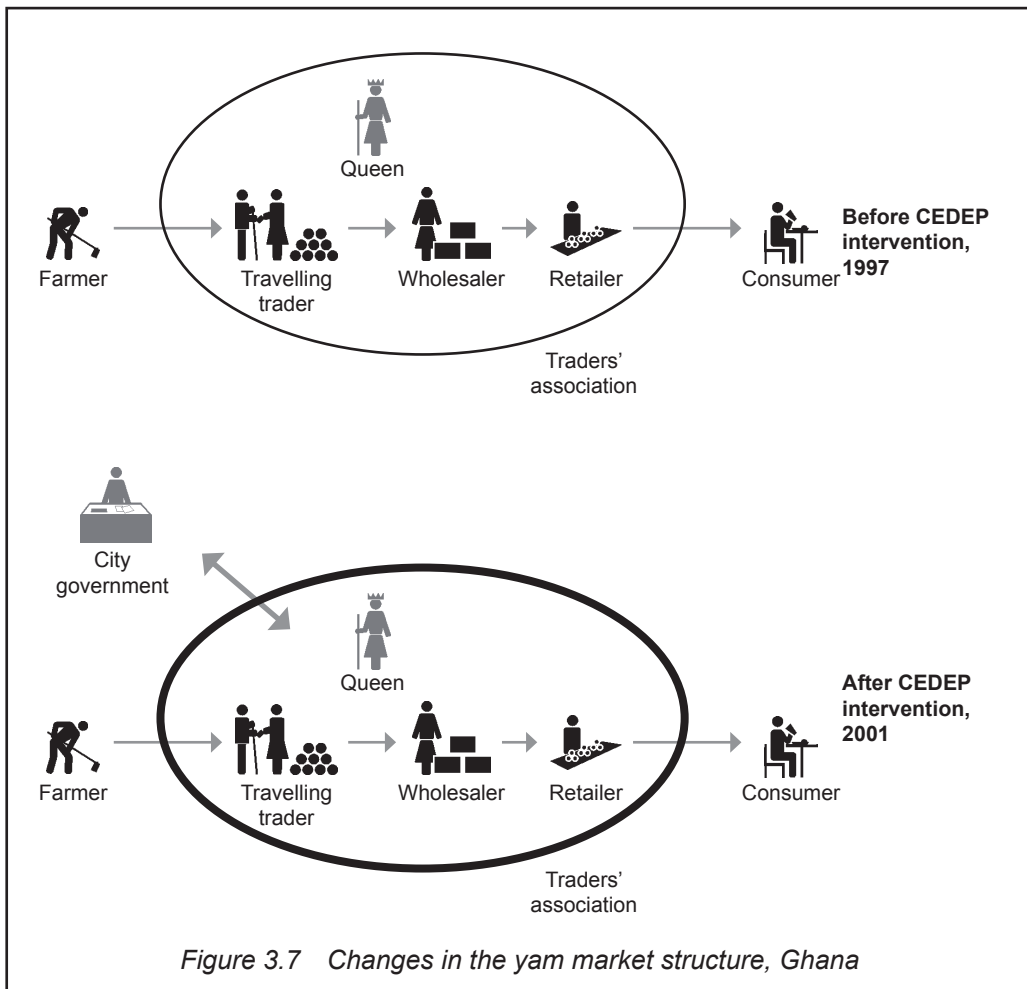


Figure 3.7 Changes in the yam market structure, Ghana

**Processing** Many commodities lose weight as they undergo processing: fresh coffee cherries weigh five times as much as dried “parchment” (page 205), and there is a further weight loss between parchment and the “green” coffee which is auctioned. At least half the live weight of animals consists of offal and waste when the animal is slaughtered (page 181). And a more rigorous analysis would take into account not just the main product (meat on supermarket shelves) but also the many by-products (hides, bone meal, etc.).

**Depreciation** means the wearing out of capital goods, such as machines and equipment. Most traders in Africa have few capital goods to wear out – they usually hire lorries rather than owning their own vehicle. But farmers do have capital goods, such as ploughs and draught animals, which have to be replaced every few years. They should set aside money each year to pay for this major expense. But this is difficult to calculate, so the tables in this book do not take it into account.

## Market structures

The cases in this book depict changes in marketing systems. Such changes almost always mean changes in the structure of the markets: the actors in the marketing chain and the other players who provide various services at various stages in the chain.

A diagram in each of the cases depicts these changes (Figure 3.7). The diagrams show (in black) the chain actors – the actors who take ownership of the product by buying and selling it – those named in the first column of the “value shares” table in each case. They also show (in grey) the major service providers – the co-operatives, financial services and so on, as well as the linkages between them.

