

Positioning Products and Value Chains for Greater Value and Competitiveness

Building on several of the tools already described, a competitiveness positioning assessment provides strategic direction to many of the actions that the value chain implements to improve its competitiveness. This assessment and collaborative decision making inform the value chain's leadership about the value chain's product offerings, relative to competitors, in key markets. It also forms the foundation for developing a strategic vision and a clear, actionable plan for repositioning the industry in current markets and for penetrating new ones.

POSITIONING THE VALUE CHAIN

In a simple 2 x 2 matrix, the product or service of a company, value chain, or industry can be described in terms of product scope (complexity, value addition) and product differentiation (special qualities, lack of direct competitors). Products and services in the lower left are basic commodities, subject to severe price competition and very restricted profit margins. Products in the upper left have a lot of value added but may still be under severe price competition. Products to the extreme right are highly differentiated and, in that respect, may be able to command higher prices and margins but have little value added. Of course, products and services in the top right are in “competitiveness nirvana,” commanding high prices and margins because of their complexity and special qualities in the customer's eye—all assuming, of course, that there is sufficient market demand to interest the value chain participant.

One challenge for value chain participants is to decide where to position the chain's products or services. Where is the product currently positioned in the domestic or global market? Where do we want it to be—and what are the quality, service, and other requirements to be competitive in that positioning? What are the best global performers in any of the positions doing to be competitive? What are the profit

margins and likely market demand at each position? Who will our competition be?

In the case of the cashmere industry (see figure 4.37), Mongolia produces the world's best quality raw cashmere (wool from a breed of small goats) in the world. Mongolia produces very few value-added products (and virtually none of quality), so substantial exports are only in the form of raw cashmere or yarn. Mongolia exports most of its cashmere to processors in Italy and Scotland, where the cashmere is processed and transformed into extremely high-value garments and fashions. Figure 4.37 illustrates Mongolia's position in the world cashmere market relative to major competitors and partners, with differentiation represented on the x-axis and product scope represented on the y-axis. (Note that this is an application of benchmarking introduced in tool 3). Each country's market share as measured in revenues is represented by the relative size of the circles. In most cases, higher profit per unit (and certainly higher prices per unit) is implied by a position in the top right corner. However, it is important for this graph to be interpreted in the context of local market conditions and the overall profit and profitability of the activity.¹ While the upper right quadrant is generally associated with high profitability, operations in the lower left may find that high volumes of low value production may generate total profits that outweigh the premium pricing available at other positions.

China was also a major producer of finished cashmere products, but of lower quality than those produced in Scotland and Italy. Seeking new and inexpensive sources of cashmere wool for their high-volume business, Chinese cashmere buyers competed with domestic wholesalers for Mongolian wool stocks. However, Chinese buyers had no incentive to encourage high quality as they planned to feed low value-added industrial garment makers in China. Their advantage in the purchasing marketplace was to offer

In some cases, potential value exists in the value chain and needs only to be unlocked. This can be achieved either by movement toward higher scope or toward product differentiation. Ecuador’s cacao industry illustrates this principle.

Ecuador’s cacao industry has made advancements in processing and value added that enabled producers to export higher quality cacao and receive premium prices.

The improvements in value enabled a repositioning of the higher quality portion of the Ecuadorian product, and these are being supported by promotional and market channel actions. Historically, Ecuador has received a US\$20–US\$100 premium over the baseline market price. However, the flavor profile of Ecuadorian cacao is so desirable in today’s consumer market that it commands a premium of US\$800–US\$1,200 per ton.^a

Premiums for Several Countries’ Cacao Products

Country	Premium over market price, May 4, 2007 (per ton, US\$)
Venezuela (dried and fermented)	2,000
Java (dried and fermented)	2,000
Ecuador (dried and partially fermented)	800–1,200
Ivory Coast (dried and fermented)	320
Dominican Republic (dried and unfermented)	280
Ghana (dried and fermented)	250

Source: Blommer Chocolate.

Among the companies currently buying cacao from Ecuador is Blommer Chocolate Company, a large manufacturer that purchases raw cacao for grinding and processing into chocolate products. It is the largest buyer in Ecuador and the largest raw cacao processor in the United States. Blommer customers include large, well-known companies and brands such as Mars, Nestlé, and Hershey, among others. Blommer is pleased with the quality of cacao that they are able to purchase from Ecuadorian producers who have been trained through the Farmer Field Schools. Blommer previously used Ecuadorian cacao in a wide variety of dark chocolate products, but because of its premium qualities, Blommer has recently been using Ecuadorian cacao for producing high-end, single-origin dark chocolate.

Single-origin dark chocolate can be a branded, value-added product because buyers are looking for the specific Ecuadorian flavor profile. One indication of the repositioning of the value chain toward greater value and competitiveness is the fact that single-origin chocolate from Ecuador is being sold in international markets at a substantial premium. Additionally, the government of Ecuador (GoE), with support from the Inter-American Development Bank, is promoting Ecuadorian cacao in global, high-end niche markets. Also in line with the repositioning, Ecuadorian farmers and the GoE are encouraging the cultivation and maintenance of Ecuador’s heritage cacao trees, which produce the highly desired flavor profile.

Source: Lisa Carse and Martin Webber, J. E. Austin Associates, Inc.

^a Author interview with Karl Walk, purchaser for Blommer Chocolate, 2007.

immediate cash. With this incentive, Mongolian herdsmen were ready to sell to Chinese buyers. The perceived need to protect breed and wool quality suffered among herdsmen selling to undiscerning Chinese markets.

Mongolia’s downstream buyers recognized an opportunity to increase the Mongolian product’s quality differentiation by offering price incentives for higher quality and by implementing both a mark (certification) of quality

Box 4.11 Thailand GAP Cluster—Positioning Products (and the Value Chain) for Greater Value and Competitiveness

Leveraging Other Value Chain Initiatives

Box 4.10 illustrated the concept of the hidden potential in value chains. Key to realizing hidden potential in value chains is the pursuit of greater product scope and differentiation. Thailand's Good Agricultural Practices (GAP) cluster is an excellent example of such an attempt.

Thailand's agricultural sector is an important contributor to its economy. Thailand has one of the most developed agricultural product sectors in Southeast Asia and has been a net exporter of agricultural products for decades. It is known in international markets for the quality of its fresh and processed products, and producers from both developed and developing countries view it as a strong competitor.

The Thai GAP cluster carried out a major program to implement EurepGAP standards in western Thailand to gain export certification to service its traditional European supermarket business (discussed in tool 9, box 4.12). The GAP cluster wanted to further leverage its achievement of EurepGAP standards in domestic Thai markets that have similar market requirements. Thailand has many large super- and hypermarkets in its urban areas, including foreign-owned retail outlets like Tesco and Carrefour that desire similar quality products for their customers.

Product Positioning

Although value chain processes produced a quality product that conformed to tough European standards, the Thai GAP cluster wanted to position those same quality products within local super- and hypermarkets in Thai urban areas. This would support a market diversification strategy that reduces the risks of relying on exports linked to its investments in upgrading. The cluster took some of the following initiatives to position itself as a quality vegetable producer:

Source: Mike Ducker, J. E. Austin Associates, Inc.

1. **Branding and certification:** The cluster created the western cluster GAP logo and a grading process for its products, which was approved and certified by the Department of Agriculture. The logo and standards appear on all producers' packaging, and farmers are encouraged to promote the brand. The cluster has also done some local advertising of this brand name.
2. **Unique shelf space:** The cluster was able to work with supermarkets to gain dedicated shelf space for its vegetables. This separated its products from the open-air vegetables. This space was also branded with point-of-purchase (PoP) displays.
3. **Packaging:** The cluster created unique packaging that highlighted product freshness and high quality, and it was also used to promote ready-to-eat vegetables that were in demand by time-conscious urban professionals.

Summary

To leverage the quality improvements made within the value chain, the cluster positioned itself within local markets that had similar requirements as export markets by using branding, certification, unique shelf space, and packaging that promoted quality and freshness. These improvements are estimated to have generated a 50 percent increase in farmers' bottom lines.

Businesses must make these choices with purpose, or they will simply be out-positioned by their competitors or buyers, which makes understanding the competition a critical aspect of repositioning as well. Movements to new positions do not have to happen instantly, and it is often most appropriate to adopt changes incrementally, for example, by adding differentiation through higher quality or better variety, and then adding product scope through processing or improved packaging.

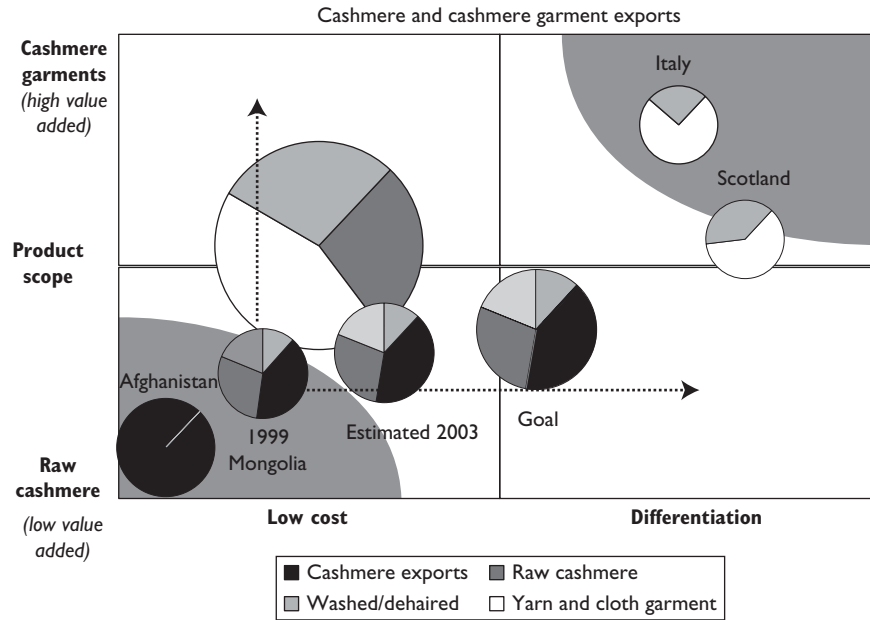
and a Mongolian brand. At the same time, design and manufacture of cashmere products in Mongolia was encouraged, which added value within the Mongolian industry.

The Mongolian cashmere industry understood the actions necessary to change its positioning in the value chain and acted to move to "the right" (greater differentiation) and

"upward" (more value added)—a more lucrative positioning with less exposure to competitive pressures.

Once an objective is determined, value chain participants must decide which actions are necessary to achieve the desired positioning. Boxes 4.10 and 4.11 provide brief examples; case study 10 examines a case more deeply.

Figure 4.37 Product Positioning—Mongolian Cashmere Industry



Source: Nathan Associates Inc. and J. E. Austin Associates, Inc. for USAID.

**A STEP-BY-STEP SUMMARY OF TOOL 8:
POSITIONING PRODUCTS AND VALUE CHAINS
FOR GREATER VALUE AND COMPETITIVENESS**

- Assess and benchmark size and share of market. Collect net sales for each product segment and each competitor in each product segment.
- Assess and benchmark product scope (or product “offer”). Collect industry value added for each product and competitors’ products. If industry value added is not available at the product level, the number and type of value-added activities taking place in-country can be substituted.
- Assess and benchmark product differentiation. Product differentiation should be measured by a combination of both the average price point at a given level of value addition, as well as specific product attributes and customer perceptions of the sources of product value. Product attributes and customer perceptions are qualitative measurements but can be assessed quantitatively through market research tools, such as consumer surveys.
- Understand the possibilities and requirements for repositioning the product, and develop a repositioning strategy. Repositioning a product in a more competitive space requires a combination of activities that both enhance

product differentiation and increase in-country, value-added activities.

NOTE

1. Once completed, the graph is strategically revealing; however, compiling the information for the analysis is not straightforward, apart from the size and segmentation of the circles. Once basic sales data are compiled for the value chain’s key product segments, the circles must then be positioned on the graph. If available, the most accurate data to measure product scope is industry value added. In some cases, reliable data on value added for a specific industry may not be available. In this case, product scope can be gauged by assessing the numbers and types of value-added activities that occur in-country. Product differentiation can be measured in a number of different ways. Market price can be a reflection of the differentiation of a product in a given market, but this is not always the case. Also, at the aggregated level, average price across a number of markets can be diluted and mask differentiation. As a result, differentiation should be measured by a combination of both the average price point at a given level of value addition as well as specific product attributes and customer perception of the sources of product value. Product attributes and customer perception are qualitative measurements but can still be measured through market research tools such as customer surveys.

CASE STUDY 10

Value Chain Strategies for Market Repositioning—Rwandan Coffee

*Carlton Jones and Martin Webber
J. E. Austin Associates, Inc.*

INTRODUCTION

In the 1990s, export revenues from coffee, an important source of hard currency for Rwanda, declined. This case discusses a government-led initiative to improve the competitive position of Rwandan coffee. Before 2001, Rwanda was an unknown in the specialty/high-value coffee sector. Today, it is a sought-after supplier of specialty coffees to Europe and the United States. This case touches upon the successes of the government of Rwanda's initiative and also speculates about the likely outcomes if the government had more closely followed its own strategy.

FACTORS TO CONSIDER

When reviewing this case, it is important to keep these questions in mind:

- Where is Rwandan coffee positioned currently, and what factors influence that position?
- Where does the industry want to go, and what are the quality, service, and other requirements to make it competitive in that positioning?
- Who are the best global performers, and what puts them in this position?
- What price points and profit margins exist in the various quadrants?

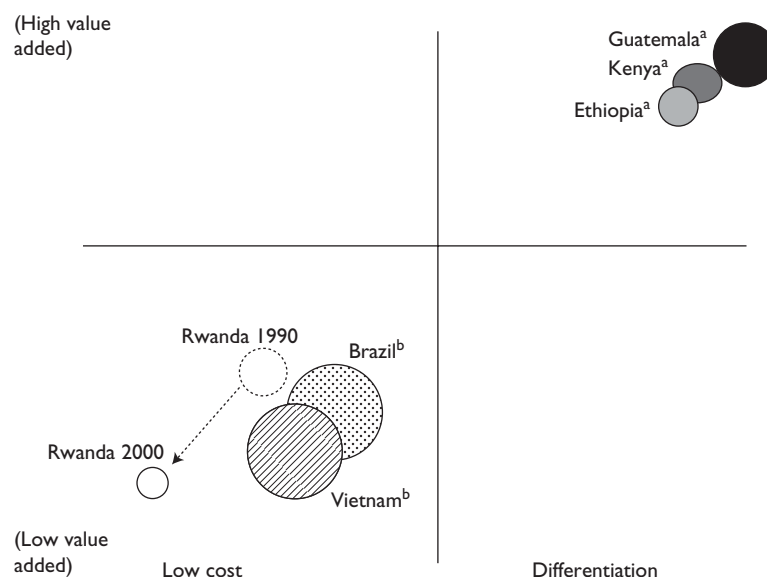
BACKGROUND (1904–2001)

Coffee was introduced in Rwanda in 1904 and was first exported in 1917; it was quickly seen as a major source of income for the country. In 1933, the cultivation of coffee was made compulsory, and, in 1963, the government of Rwanda passed laws making it illegal to uproot coffee trees.

Because of coffee's historical role as a principal source of foreign exchange for the country (averaging 56.7 percent of all exports in the 1990s) and its broad political support, the state was heavily involved in all stages of production, including marketing and dry milling. Nearly all production of coffee ceased, however, during the genocide of 1994. Regionally, Rwanda competed with its southern neighbor Burundi, yet Burundi's coffee was considered to be slightly better in quality than that of Rwanda. Neither country produced coffee that was considered specialty grade, as in Ethiopia and Kenya. Despite the fact that some of the coffee grown in Rwanda, such as the Bourbon varietal, had specialty grade potential, all of Rwanda's coffee was considered below commodity grade, and, when exported, was only used by roasters in blends of low-end, mass-produced coffee destined for Europe and the United States (table 4.14; figure 4.38).

Within the value chain, the GoR supported the coffee industry by establishing OCIR-CAFÉ (Rwanda Coffee Development Authority) and through it, distributed seedlings, fertilizer, phytosanitary products, and other inputs to growers for free or at dramatically reduced prices.

Figure 4.38 Rwanda's Coffee Product Position, 1990–2000



Source: J. E. Austin Associates, Inc.

^a Represents specialty coffee/not drawn to scale.

^b Represents commodity coffee/not drawn to scale.

Table 4.14 Rwandan Coffee Production									
	1986	1987	1988	1989	1990	1992	1993	1995	1996
Production (metric tons)	35,424	43,026	43,026	39,091	39,575	38,970	28,495	21,829	15,239
Standard coffee (percentage)	48.18	30.8	19.4	2	7	0.32	4.25	2.4	0.25
Ordinary coffee ^a (percentage)	38.59	60.2	75.7	94.7	86.9	93	88.7	92.7	82.9

Source: OCIR-CAFÉ 2006.

^a Ordinary coffee is nonexport grade, while standard coffee is exportable, commodity grade coffee. Neither is considered specialty grade.

Growers would apply the inputs to their crops and harvest, and sell semiwashed beans to RWANDEX, the monopoly responsible for dry milling and exporting coffee. The GoR was a majority owner of RWANDEX and set the prices that growers received from their coffee sales. In fact, the GoR continued to set prices for coffee up until 1998. Though coffee producer associations existed in Rwanda, they were agents of the state that distributed inputs and did little else.

GLOBAL COMPETITION DRIVES DOWN PRICES AND PRODUCTION

Coffee's contribution to Rwanda's foreign exchange declined in the 1990s. Production declined both before and after the 1994 genocide, even as world prices reached near

record highs. During the same period, Vietnam and Brazil responded to high prices by increasing output of commodity grade coffee. Beginning in 1997, this growth of supply dropped worldwide prices to historic lows. By 2001, average global coffee prices were US\$0.52/lb. Rwanda received US\$0.40/kg (US\$0.18/lb.), which, on average, was below the price of production. With prices this low, each actor in the Rwandan coffee value chain lost money: small growers, processors, exporters, and even the banks that provided lending.¹

RWANDA'S IN-COUNTRY CONSTRAINTS

World coffee prices were not the only determining factor for the decline in Rwanda's coffee industry; the country's coffee

production never recovered to 1992 production volumes (table 4.14) because its existing production process was inefficient. This resulted from Rwanda's disparate methods of coffee farming, the poor health of its coffee trees, the lack of wet-milling stations, and the absence of incentives for reinvestment. Growers were not offered higher prices for better-quality beans, so they had little reason to invest in more sophisticated processes of production, harvesting, cleaning, or separation of their bean harvests. Low coffee yields coupled with poor price points influenced farmers to focus on other, higher-margin crops, further diminishing Rwandan coffee's competitiveness in world markets.

Despite the constraints that led Rwanda to produce low-quality, low-quantity, commodity grade coffee, the GoR and donor partners believed that Rwanda possessed the capacity, environmental conditions (elevation, climate, soil quality, Bourbon trees, and others), and political will to improve its coffee position in world markets. What Rwanda lacked was technical capacity, market information, and a coherent strategy.

REPOSITIONING THE OFFER FOR RWANDAN COFFEE

In response to the steady declines in production, quality, and export revenue, the GoR and its donor partners began strategy sessions aimed at improving Rwandan coffee's

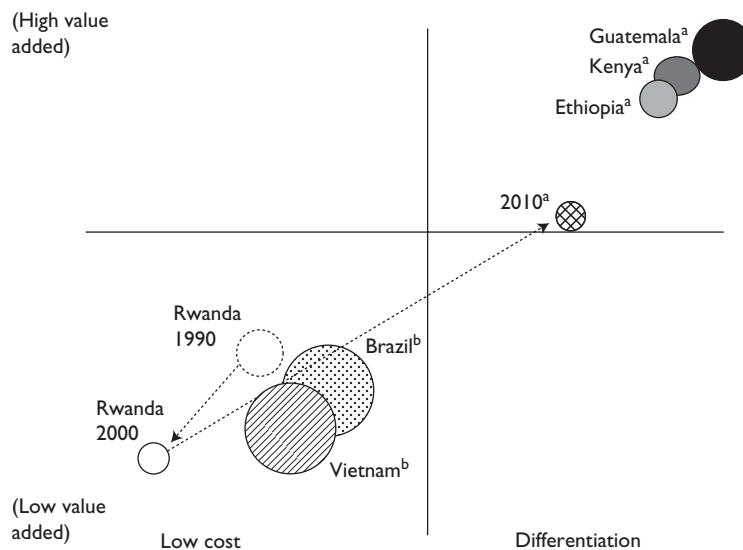
positioning in world markets. These sessions resulted in coffee-sector liberalization strategies that, when implemented, began the task of improving Rwandan coffee. Armed with market information, the private sector learned that higher-value coffee was very attractive to global markets, that cupping/taste results indicated Rwanda had significant potential to produce specialty coffee, and that Rwanda could compete with higher-end producers such as Ethiopia, Guatemala, and Kenya. The Rwandan repositioning strategy is illustrated in figure 4.39.

Contributing to Rwandan coffee repositioning

For Rwanda to move from being considered a commodity grade to a specialty grade coffee producer, its coffee-producing sector needed to address three key areas:

- **Increase production, since production levels were insufficient to attract global demand.** Activities included distributing improved inputs, supporting growing associations, replanting coffee trees, and constructing wet-mill stations in Rwanda's top 50 coffee-producing districts.
- **Improve quality.** Activities included educating producers on quality and cupping, establishing quality-control mechanisms, investing and technical assistance in wet-mill techniques and operational and financial management,

Figure 4.39 Rwanda's Coffee Positioning Goals for 2010

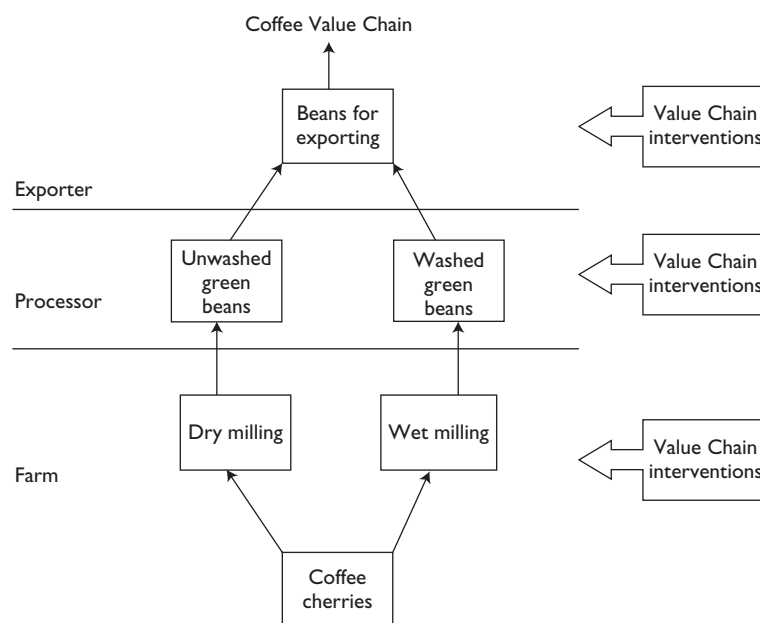


Source: J. E. Austin Associates, Inc.

^a Represents specialty coffee/not drawn to scale.

^b Represents commodity coffee/not drawn to scale.

Figure 4.40 Generic Coffee Value Chain



Source: J. E. Austin Associates, Inc.

improving infrastructure, strengthening cooperative and association management, strengthening existing institutions (like OCIR-CAFÉ), and providing financial mechanisms throughout the coffee value chain.

- **Promote the Rwandan brand.** Activities included establishing and improving market linkages through trade-show visits, sharing information about the local and global coffee markets with the private sector, and instituting other innovative promotional activities.

These activities were carried out through a variety of implementing partners and sponsored by various donor partners (see figure 4.40).

IMPLEMENTATION AND OUTCOMES

Through these interventions, Rwanda was effectively able to reposition its coffee and compete in higher-grade, higher-priced markets (see figure 4.41; tables 4.15 and 4.16). July 2002 saw the country's first sales of commercial volumes of specialty coffee, including a sale of 33 mt to Community Coffee in the United States. By March of the following year, privately financed and operated wet-mill facilities produced fully washed coffee. Production and quality continued to increase, and after visits to and from trade show buyers, Rwandan specialty coffee made its first sale to Starbucks Coffee Corporation in June 2004. In November 2005, Starbucks selected two privately owned wet-milling facilities for an exclusive distribution program, which provided coffee to 5,000 Starbucks retail outlets.

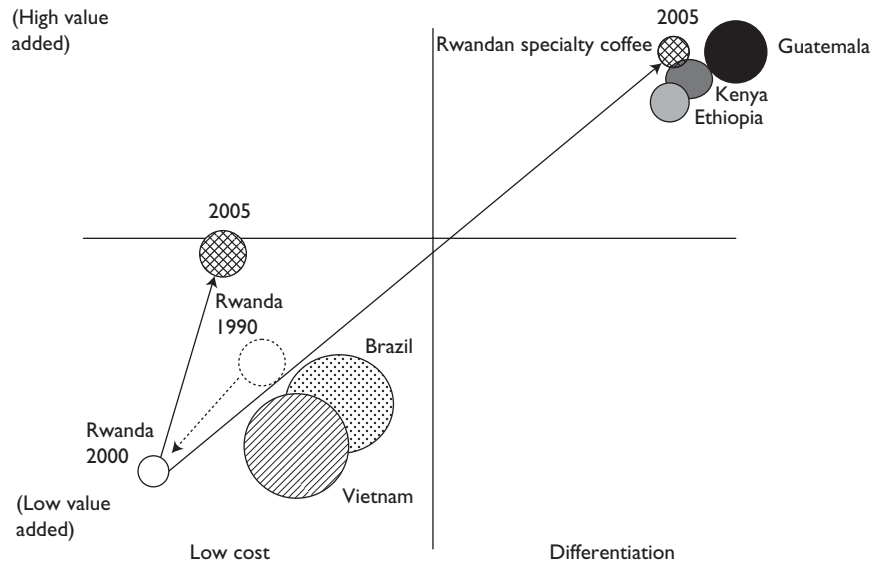
In 1990, Rwanda's commodity grade coffee fetched US\$1.18/kg (0.54/lb.), but by 2001 its price had decreased to US\$0.40/kg (US\$0.18/lb.). However, through the above interventions, which were implemented with support from the Partnership to Enhance Agriculture in Rwanda through Linkages and Agribusiness Development Activity in Rwanda projects funded by USAID, specialty coffee production and its subsequent price both increased. Without the wet-milling interventions, Rwanda's ability to improve the quality of its beans from ordinary to standard and specialty would have been impossible. Also, if Rwanda had only tried to maximize profits and decrease costs within its value chain without attempting a repositioning strategy, it would have been more difficult to obtain the same results.

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RWANDAN COFFEE TODAY AND INTO THE FUTURE

In addition to the increased production and price/kg that Rwandan specialty coffee has realized, the new wet-milling stations created 4,000 new jobs, and 5,000 rural households saw their incomes more than double (Chemonics 2005).

Figure 4.41 Results of Rwandan Coffee's Positioning Efforts, 2005



Source: J. E. Austin Associates, Inc.

Year	Metric tons produced	Price/kg (US\$)
2003	162	1.56
2004	747	2.40
2005	1,190	3.10

Source: OCIR-CAFÉ 2006.

Initial success from these interventions has sparked further donor interest in supporting Rwanda's value-added coffee sector. Partnerships with the GoR have spawned plans to continue increasing production through the construction of an additional 164 wet-milling facilities. Continued investment in the existing wet-mill facilities is required to make better use of water sources and to equip them with water recycling pumps. These, and other interventions, will allow Rwanda to continue to support its growing specialty coffee industry.

As Rwanda gets closer to 2010, continued product positioning will be required to help chart new strategies for the

Rwandan coffee market (see figure 4.42). OCIR-CAFÉ has developed a plan to move away from standard coffee altogether and focus only on specialty varieties. Rwandans could also choose to diversify their product offerings by seeking broader markets for standard coffee while simultaneously maintaining focus on higher prices for specialty coffee. This would leverage the Rwandan coffee sector's increased capacity and maturing coffee acumen and could enable Rwanda to broaden its coffee production to more diverse markets.

In fact, this latter situation is ongoing, and Rwanda is more than midway into its positioning strategy. However, it will most likely have future opportunities to revisit its strategy and take advantage of future market opportunities.

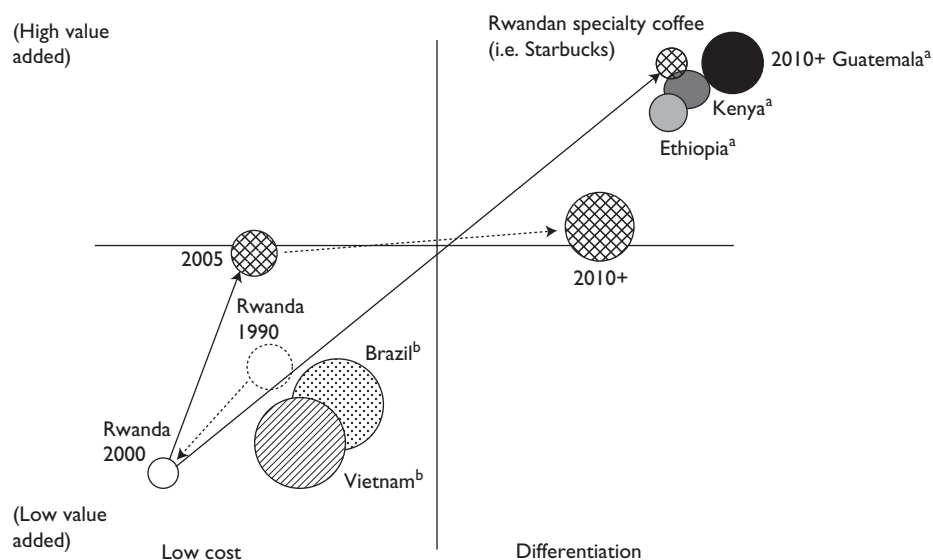
Has Rwanda been successful in repositioning its coffee industry? In many aspects, yes. By understanding its position in world coffee markets and then implementing a strategy to reposition itself, Rwanda's coffee industry has revitalized itself and has improved the earning potential of many small growers.

Table 4.16 Standard and Ordinary Coffee Percentages, 1998–2005

Year	1998	2000	2001	2002	2003	2004	2005
Production (tons)	14,268	16,098	18,267	19,796	14,175	29,000	17,000
Standard coffee (percentage)	7.40	19.5	18.5	29.28	32.4	40.0	45.0
Ordinary coffee (percentage)	80.5	72.4	75.0	58.57	55.0	50.0	45.0

Source: OCIR-CAFÉ 2006.

Figure 4.42 Rwanda’s Coffee Positioning, 2010 and Beyond



Source: J. E. Austin Associates, Inc.

^a Represents specialty coffee/not drawn to scale.

^b Represents commodity coffee/not drawn to scale.

NOTE

1. Rob Henning, OTF Group.

Applying Standards and Certifications to Achieve Greater Quality

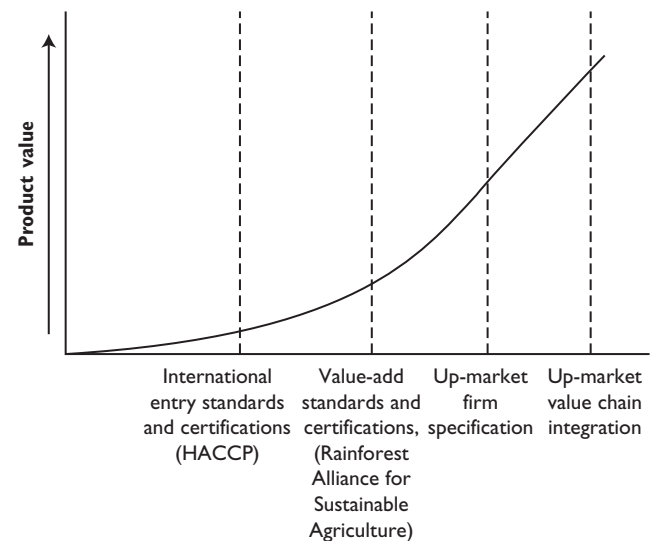
Meeting a variety of quality and performance standards is integral to the success of agricultural value chains. However, the importance of specific qualities, standard measurements, and informational or other characteristics may not be readily apparent to all the actors in a value chain if they are not familiar with the target market. Aside from normal ethical, consumer health, and safety requirements, the market side of the value chain pays increasing attention to standards and certifications. National and regional markets are imposing increasingly strict requirements for basic market entry (for example, HACCP and EurepGAP). Powerful buyers and retailers, especially supermarkets, impose additional requirements on their supply chains.

As a result, the value chain must meet increasingly stringent requirements relating to product health and safety, intrinsic product qualities (shape, color, taste, texture, and others), packaging and labeling, and accompanying information.

Value chains are also beginning to understand that meeting recognized standards is not just a condition for market access but a powerful way to compete for market share and higher unit values. Value chains can obtain price premiums if they meet these standards, especially if they achieve valued product and production certifications. These certifications can go well beyond market entry requirements and appeal to special customer segments that are willing to pay premium prices (see figure 4.43). Thus, value chains are increasingly recognizing the opportunities inherent in providing certified, organic, fair trade, bird-friendly, and other high-standard products, as well as the value of marketing and quality-control initiatives that are promoted through seals of quality.

Because a product is affected by many factors—from farm to market—achieving quality standards and certifica-

Figure 4.43 Standards Plotted against Product Value



Source: J.E. Austin Associates, Inc.

tions is a value chain issue, and the strategies must be value chain-wide strategies.

VOCABULARY

- **International trade standards:** Standards applicable to trade, imposed by trade agreement or market-governance fiat.
- **Value-added standards:** Geared to the specific requirements of niche or segmented markets; make a product more specialized or unique.
- **Quality standards:** Additional, specific buyer standards such as appearance, size, and packaging.

INCREASING PRODUCT VALUE THROUGH STANDARDS

Choosing and targeting standards should be part of a strategic market exercise. Many export markets have standards and/or certifications that are needed for entry. By achieving international certification or standards, local value chains have the opportunity to export to other countries and select the market positioning of their products. However, implementing standards does not automatically mean that the value chain can sell in those export markets; the chains must still market and sell to customers in those countries.

Value-added standards allow for entry into certain niche markets; for example, Rainforest Alliance standards for coffee products appeal to many coffeehouses and specialty marketers in the United States (see figure 4.44). Many individual importers and retailers have their own quality standards that appeal to their particular customer base.

Implementing the processes and systems to meet standards does take resources, so it is important that the value chain's leaders and firms choose the most strategically appropriate target market segments. Comparing implementation costs and the local value chain's capacity to incorporate standards against the benefits of selling up-market is a strategic choice that must be considered before incorporating standards.

Elements of standards

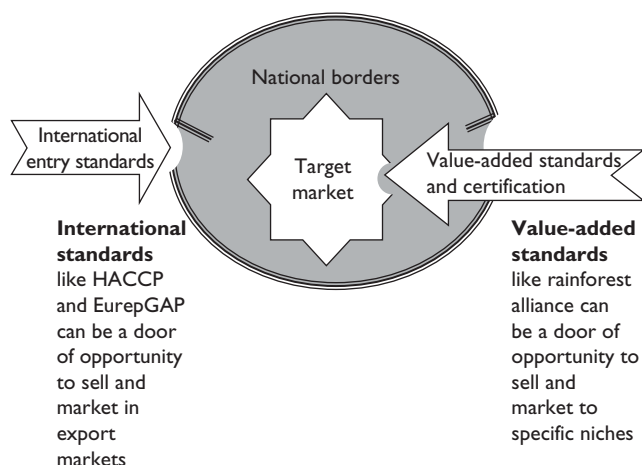
Implementing standards within a value chain means discussing three elements:

- Certification bodies
- Information channels
- Management oversight and governance structures

CERTIFICATION BODIES

Many standards and certificates have international bodies that certify that products meet certain standards. Several have the ability to certify products and services in developing countries, but cost and timing can be a major issue in bringing these international bodies into developing countries. Therefore—and especially if large numbers of producers or exporters will receive certification—it is often better to set up institutions in the local country. Although it is beyond the scope of this Guide to discuss

Figure 4.44 International and Value-Added Standards



Source: J.E. Austin Associates, Inc.

how to set up a certification body, it is worth noting that several options are available:

- Private companies
- Industry associations
- Nongovernmental organizations (NGOs)
- Government agencies

Governments are typically geared to certify products and services to protect their citizens' health and welfare, but are typically not best suited to certify based on other criteria. NGOs, associations, and private firms around the world have successfully set up certification agencies based on international standards.

INFORMATION CHANNELS

Entrepreneurs—businesses and producers, in general—must be motivated to change the way they produce goods and services to meet standards, and they need information and economic incentives in order to do this. These incentives must include shared knowledge of the requirements (and ideally, the logic behind them), as well as price points that reflect the additional costs and work involved in meeting requirements. There must also be trust within the value chain that the process is stable.

One aspect of creating trust is ensuring that proper information channels are available and being used; these will give small and medium enterprises and producers confidence that they will obtain fair rewards for the costs of implementing new processes to meet standards. This

means that the value chain must communicate formally and informally. Formal communication can occur through meetings, cluster activities, integrated supply chain systems, industry associations, conferences, and exchanging price information. Informal channels can be created by having a transparent culture within the value chain, especially within the SMEs' supply base. For example, if a farmer sees another farmer in the village benefit from an investment to meet standards or gain a certificate, the second farmer is more likely to upgrade processes based on the observed model.

MANAGEMENT OVERSIGHT AND GOVERNANCE

A value chain that is upgrading its standards requires some institution to take responsibility for managing the supply base to meet standards and specifications. Because the value chain is comprised of independent firms and actors that often have different motivations, this can be a difficult task. Credible governance, clearly able to link value chain performance to market rewards, is always needed if the supply response of the value chain is to be coordinated and targeted to market needs.

Typically, there are three types of institutions for management of the value chain:

- Supply chain management instituted by an exporter, processor, or other lead firm
- Associations and cooperatives
- Government agencies

The success of these various forms of oversight and governance rests with their ability to understand market requirements and translate them into in-chain procurement standards, communicate information effectively, and motivate suppliers to respond with needed investments and operations.

LEAD FIRMS

Many lead firms have made a “mindset” change that allows them to view the effective management of their supply chain as an opportunity for growth creation and larger profits, rather than simply as an additional imposed cost. This mindset shift is based on the fact that if the participants in a value chain work together, the value chain can more easily meet changing market needs and reduce transaction costs. Therefore, the lead firm should take responsibility for managing its supply base, which includes ensuring that that

base is certified or is meeting market standards. In fragmented industries, lead firms are sometimes unable to manage the supply chain to meet market standards, and so the industry would then have to leverage other institutions. The need for a coordinated response within a fragmented production environment is a key motivator for integration and consolidation within value chains.

ASSOCIATIONS AND COOPERATIVES

In fragmented value chains, associations and cooperatives can help manage value chain elements to meet market standards. These institutions are often important when first implementing standards in a value chain; institutions that are producer owned, visible, and well known can build trust in the standardization process. Properly resourced, they can be very effective in training and outreach activities. In some cases, involving a credible third-party institution (as in the example of Kaesetsart University and the Thai GAP cluster, box 4.12) can help overcome initial mistrust between producers and processors/exporters and can help focus all parties on a coordinated approach to meeting standards.

GOVERNMENT AGENCIES

In many countries, and often in keeping with traditional, historical/colonial, or even philosophical backgrounds, government has played the role of industry governance, including standard setting, inspection, extension, and communication. Marketing boards or authorities are one prominent set of examples. However, while some state-run agencies are effective in their governance and oversight role—and, in some cases, even step in to redress serious sectoral problems—there are also problems with such models. Government agencies are often slow to understand and respond to market trends, limited in their strategic focus, inflexible in promoting varying standards and price points, subject to public sector inefficiencies and political and budget pressures, and liable to communicate poorly with the value chain.

SUMMARY

It is a strategic decision to instill standards or certifications into the value chain based on target market requirements. The choice of standards and certifications needs to be an informed one. To implement these, effective elements of certification bodies, information channels, and management oversight must be established.

In the early 2000s, the GAP cluster in western Thailand was able to reorient its production to meet the specific certifications needed to enter European and U.S. markets. This cluster was also able to develop and market certifications that add value to its products. These results were achieved through close collaboration among value chain participants.

Importance of Implementing EurepGAP through the Value Chain

Thailand has long been able to successfully export high-value horticulture products to Europe. Once EurepGAP certification and traceability requirements were put in place, however, Thai vegetable exports dropped by 20 percent. The drop in exports was felt throughout the value chain—by exporters, packers, and growers. The exporters and government made several attempts to implement EurepGAP within the value chain, though without success. This was largely attributable to mistrust among the exporters, government, and growers.

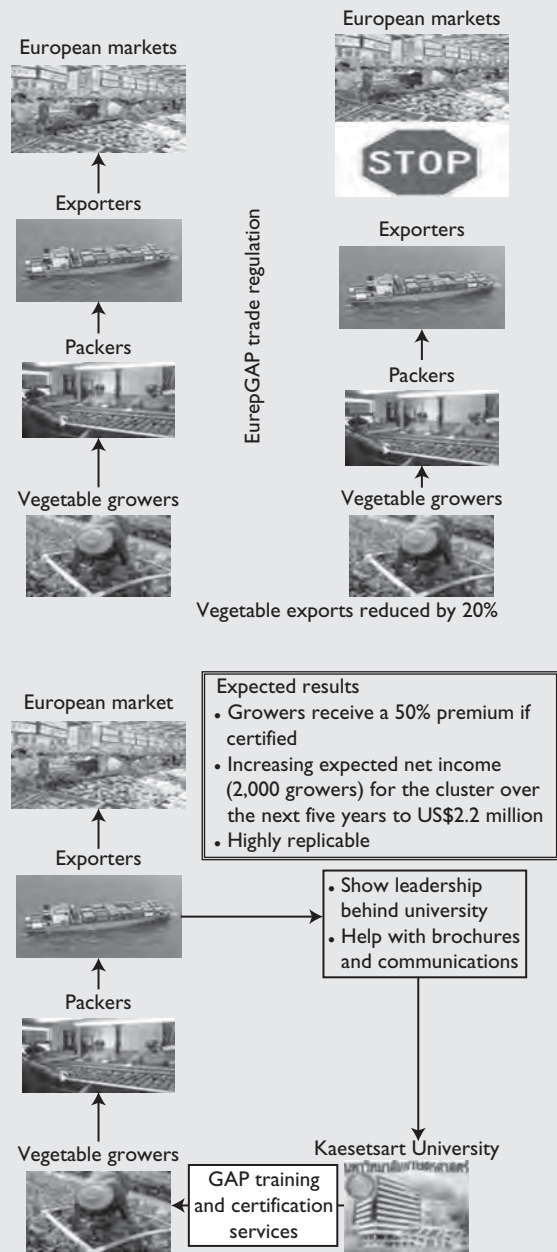
A cluster approach was used to provide training and certification services by incorporating a local university, Kaesetsart University. The exporters collaborated closely in identifying market requirements, and the university trained 2,000 growers on EurepGAP compliance, sending them to train other farmers. Growers were more willing to accept the new processes when presented by a respected third party (the university) with information support from the exporters. This allowed the exporters to gain market share and increase their exports. The growers benefited by receiving a 50 percent increase in their prices for certified products.

Use of Certification and Branding for Local Markets

To further leverage the output of growers who participated in the EurepGAP training and processes, the cluster developed a western Thailand GAP logo. The cluster worked on sophisticated packaging, branding, and smaller packages that were geared toward the large supermarkets in Thai cities. It is expected that each party in the value chain will gain greater value by leveraging this certification and brand.

Source: Mike Ducker, J. E. Austin Associates, Inc.

Figure 1: Thai Vegetable Export Value Chains



Source: J. E. Austin Associates, Inc.

Box 4.13 Ecuadorian Cacao—Improving Quality at the Producer Level to Achieve Higher Market Prices

In 2003, the government of Ecuador (GoE) launched an alternative development project focused on the border region between Ecuador and Colombia, which is a locus for cultivation of illicit crops. An assessment of the income and employment potential of other current crops grown in the area pointed to five potential crops, including cacao.

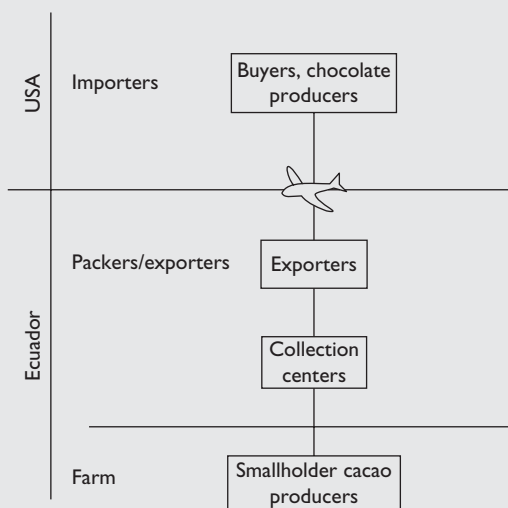
There are two main types of cacao: forastero and criollo. Forastero cacao accounts for approximately 95 percent, most of the remaining 5 percent is criollo.^a Criollo cacao has traditionally been produced in Latin America, while forastero cacao has been grown in Africa and Asia. Cacao is graded based on several criteria, including mold content, level of fermentation, and percentage of cocoa butter, all of which affect the flavor profile of the chocolate produced. Criollo cacao is generally more flavorful, but it does not necessarily always command a premium. Cacao buyers and processors pay more attention to the local characteristics that create the particular flavor profile of the product, rather than to the type of cacao grown.^b

Ecuador mainly grows criollo cacao, and its flavor profile is particularly well suited to producing fine dark chocolate, a market segment that has grown exponentially during recent years.^b However, quality control problems and poor handling practices destroyed the conductivity of fine flavor and aroma in about 50 percent of the harvest in Ecuador. This meant that even though Ecuador was growing the criollo variety, 50 percent of the crop could not be sold at a higher price or was unfit for export.

Cacao buyers typically do not buy directly from producers (see figure 1), preferring to work through collection centers. This is due to the fact that cacao is not a plantation crop, and there is largely an absence of associations that can sell cacao in sufficient quantity.

A value chain analysis revealed several constraints in the cacao sector, including poor production technology, mixing different types of beans without quality differentiation, and selling wet and unfermented cacao.^c Fermentation changes cacao's flavor profile—sometimes positively and sometimes not. Ecuador's criollo cacao naturally possesses a desirable flavor profile for higher-end dark chocolate products, so producers sought to address quality problems as well as reduce postharvest losses.

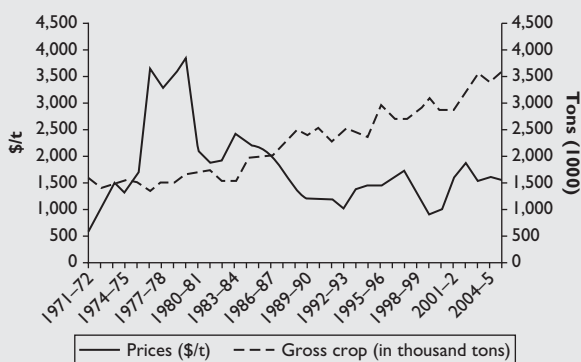
Figure 1: Ecuadorian Cacao Value Chain



Source: J. E. Austin Associates, Inc.

Prices and Production of Cacao Farmer Field Schools, supported by USAID, helped educate farmers to better cultivate and protect their trees, add value to their product by differentiating between types of beans, and to ferment and dry the beans. Farmers who provide value-added services receive a higher price for their beans; those who sell beans after fermenting and drying them can receive US\$60 per quintal, versus US\$28–30

Figure b: Prices and Production of Cacao, 1971–72 to 2004–05



Source: UNCTAD, based on the data from the International Cocoa Organization, quarterly bulletin of cocoa statistics.

(Box continues on the following page.)

per quintal if unprocessed.^d Cacao beans are sold on the New York and London exchanges, where a baseline market price is offered; then, premiums or discounts are applied depending on the country of origin, the quality of the shipments, and other factors. Between 50 percent and 75 percent of Ecuadorian production is currently of sufficient quality to be sold at a higher price.

As described in box 4.10, Ecuador has historically received a US\$20–US\$100 premium over the baseline

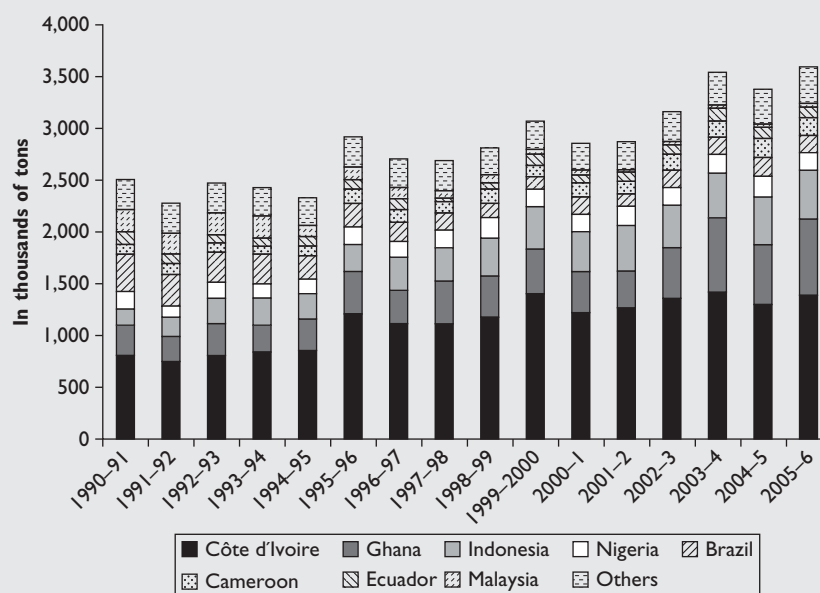
market price. However, because of its desirable flavor profile, Ecuadorian cacao currently commands a premium of US\$800–US\$1,200 per ton.^b Through the Farmer Field Schools, farmers learned how to add more value to their product by maintaining bean quality, fermenting, and drying the beans before taking them to the collection centers. These actions have led to the production of higher quality cacao and, in turn, to the farmers who receive a higher price for their cacao.

Prices of Various Countries' Cacao Products

Country	Premium over market price, May 4, 2007 (per ton, US\$)
Venezuela (fermented)	2,000
Java (fermented)	2,000
Ecuador (partially fermented)	800–1,200
Ivory Coast (fermented)	320
Dominican Republic (unfermented)	280
Ghana (fermented)	250

Note: This is the same table that appears in box 4.10.

Figure 3: World Production of Cacao Beans



Source: Lisa Carse, J. E. Austin Associates, Inc.; UNCTAD, based on the data from the International Cocoa Organization, quarterly bulletin of cocoa statistics.

^a <http://www.unctad.org/infocomm/anglais/cocoa/quality.htm>.

^b Author interview with Karl Walk, purchaser for Blommer Chocolate, 2007.

^c The process of drying cacao reduces the likelihood of developing mold; currently, the U.S. Department of Agriculture rejects shipments of cacao that exceed 4 percent mold content.

^d Technical Evaluation of the Ecuador Northern Border Income and Employment Project Implemented by ARD, Inc.

**A STEP-BY-STEP SUMMARY OF TOOL 9:
APPLYING STANDARDS AND CERTIFICATIONS
TO ACHIEVE GREATER QUALITY**

- Analyze market data for price premiums associated with individual standards and quality certifications. In addition to quantifying opportunities within existing markets, look at the potential for certifications to open up new niche markets. Identify the market risks of not meeting standards or certifications.
- Contact other businesses that have obtained certification, particularly lead firms, to discuss the economics of value added relative to traditional production.
- Identify and understand the technical requirements to meet standards or certification, and evaluate the actions

and costs that will be necessary. Contact certification bodies to discuss the time and resources necessary to obtain certification.

- Identify the process, pricing, training, and other requirements to meet standards or certifications.
- Assess the firm level and value chain capacity for quality control. Also assess the quality and consistency of services provided by other value chain actors needed to obtain and maintain certification. Assess value chain linkages and relationships to identify key elements that need coordination, and the actors that will ensure coordination.
- Investigate public sector support and services for producers and enterprises seeking certification or value-added production.

Ugandan Nile Perch Quality Management and Certification

*Michael Ducker and Martin Webber
J. E. Austin Associates, Inc.*

POINTS TO CONSIDER

This case study looks at certification processes that help ensure safety and quality for the final consumers of Nile perch. The case considers the Nile perch export value chain in Uganda, which extends from Lake Victoria fishermen to dinner tables in Europe and around the world, and how quality and safety issues impact the value chain. The Ugandan value chain successfully improved its quality management when faced with potentially losing its sizable European market. This case also highlights the value that different certifications have within the value chain.

BACKGROUND

Opportunistic growth in the 1990s led to an undisciplined value chain (figure 4.45) that caused sector quality issues.

In the early 1990s, Kenya, and then Uganda, started exporting Nile perch to Europe. Fish became a major Ugandan export during the mid-1990s. Despite the profitability of these initial years, the Ugandan fish industry failed to invest in quality control measures central to the value chain's long term strength.

From 1997 to 2000, several health incidents in the European Union and in Uganda caused the EU to place numerous bans and restrictions on Nile perch imports (and other fish) from Uganda, as well as on other countries that export fish from Lake Victoria. (See box on the Nile Perch Certification Timeline for details.) Problems first surfaced

when Spanish and Italian authorities found contamination in Nile perch and issued bilateral bans. These steps forced the European Commission to send several missions to Uganda to test the product and the processes within the value chain. Some of the problems that were identified from these missions included:

- Fish-processing plants failed to meet conditions laid out in EU regulations
- The Uganda National Bureau of Standards (UNBS) issued health certificates incorrectly
- Lack of microbiological tests to support government health certificates
- Lack of routine government monitoring for presence of chemicals in fish and water
- Lack of sanitary infrastructure and fencing at landing sites
- Fish handling was not hygienic throughout the chain

In response to the missions' findings, two Ugandan processing plants were prohibited from exporting Nile perch to the EU.

In 1999, the Ugandan press reported instances of fish poisoning in Lake Victoria. The UNBS notified the EU that it could not guarantee the safety of fish exports, and the EU then banned all fish imports from Lake Victoria. The EU import bans had wide-ranging effects in Uganda; in addition to lower fish exports and export revenue, fishing communities suffered tremendous damage, as did fish processors and

Nile Perch Certification Timeline

February 1997: Spain and Italy claim that their authorities have detected high levels of bacterial contamination, and impose bilateral ban on fishery product imports.

March 1997: EU inspection confirms “serious microbiological contamination.”

April 1997: EU requires mandatory tests on imports of Nile perch from three East African countries.

December 1997–June 1998: Following an outbreak of cholera in East Africa, the EU bans fresh fish imports and imposes mandatory tests on frozen fish from East Africa.

November–December 1998: EC sends a Food and Veterinary Office mission to Uganda to assess compliance in production conditions; two processing plants are found not compliant. The two noncompliant plants are removed from the list of approved establishments. In the same month, the Ugandan press reports instances of fish poisoning in Lake Victoria.

March 1999: Based on press reports, a number of district authorities ban fish sales. UNBS notifies the EU that it cannot guarantee the safety of fish exports.

Source: DISS 2005.

April 1999: EU meets in Brussels with representatives of authorities from Kenya, Tanzania, and Uganda to discuss test results; the EU announces a ban on fresh and frozen fish from the three countries.

August 1999: EU mission assesses resources and capabilities of competent authority in Uganda in relation to control of pesticide residues; mission provides 10 recommendations; UNBS responds to EU report but does not provide all requested documentation or details. A private laboratory is established in Kampala, accredited to perform pesticide-monitoring tests; industry adopts the “voluntary code of practice” for quality control; Department of Fisheries (DFR) revises inspection manual. Transfer of competent authority from UNBS to DFR.

July 2000: Ban lifted when the EU accepts guarantees that Uganda has put in required procedures for safety of exports; country qualifies for temporary certification in List II (see About EU Fish Import Lists box).

May 2001: Uganda goes back to List I (see About EU Fish Import Lists box).

related service industries (packaging, transport, and others). As a result of the bans, three plants closed down completely. The remaining plants worked at 20 percent capacity, while 60–70 percent of employees were laid off.

INTERVENTION

The EU bans shut off the supply of a product that was much in demand in the EU marketplace, and the market had few substitutes. Pressures on both the demand and supply sides of the market therefore provided major incentives for actors throughout the value chain to face the problem. The members of the Uganda Fish Processors and Exporters Association (UFPEA), European fish importers, the government of Uganda (GoU), and the EU worked together and took action to deal with the issues. The GoU and UFPEA had several working group meetings to design an action plan. Their major initiative was to restructure the government agencies responsible for

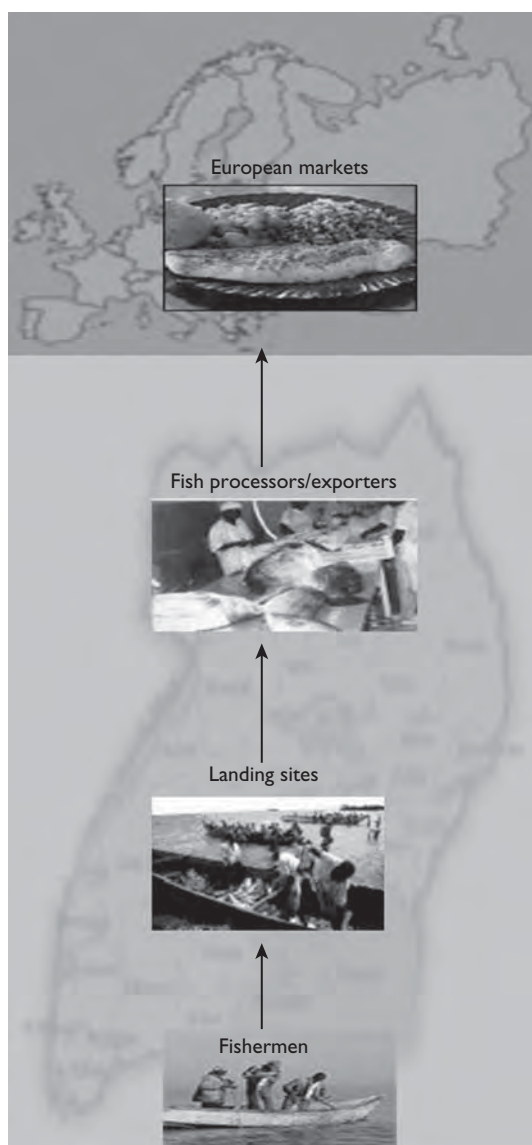
managing Uganda’s certification process. Since Europe was the fish’s major destination, the government and industry wanted its certification process to match the EurepGAP process.

CREATING A EUREPGAP CERTIFICATION PROCESS IN UGANDA

The GoU streamlined its fish regulatory and inspection systems, with the Department of Fisheries (DFR) formally becoming the sole competent authority for fish safety issues. DFR would be responsible for certifying fish exports as EurepGAP compliant, and it needed to achieve HACCP accreditation to regulate the value chain to EurepGAP standards.

The DFR completely revised its guidelines as well as its monitoring and inspection systems. A manual of standard operating procedures was established to guide inspections, and training programs were carried out for inspectors.

Figure 4.45 Ugandan Nile Perch Value Chain



Source: J. E. Austin Associates, Inc.

In 2008, DFR’s central offices were staffed with 17 inspectors who monitor the overall system and operations at processing plants. Another 20 or so inspectors operate at the 14 landing sites that are approved as sources of fish for export. These inspectors issue local fish-health inspection certificates that are required to move fish from a landing site to a processing factory. These certificates contain information on both the supplier and buyer of fish at the landing site and on the fish’s origin. However, DFR did not have the capacity to handle quality control with the fishermen or at many of the landing sites away from major urban centers. There are

About EU Fish Import Lists

In 1998, the EU started segregating fish-exporting countries into three lists. List I countries could export fishery products to the EU from any establishment approved by the competent authority. List II countries were authorized to export on the basis of a specific list of approved establishments. List III countries were deemed unable to provide guarantees of appropriate inspection and monitoring. In order to export from these countries, additional documentation and checks were needed and only individual establishments approved by the EU could export.

600 total landing sites in Uganda, but only 14 are approved for export. As a result, different monitoring procedures were put in place at the local level, including the formation of committees at landing sites and Beach Management Units (BMUs) that started registering boats and gear. This approach follows what, in fisheries, is known as comanagement—power-sharing between state and local communities and a shift of responsibilities from the former to the latter. In this framework, BMUs are supposed to coordinate with local governments via the formation of Lake Management Organizations (Ponte 2005). As of 2004, BMU-managed landing sites were not authorized to export to Europe, so many processors, agents, and traders transfer fish at one of the 14 approved landing sites.

THE IMPORTANT ROLE OF PESTICIDE LABORATORIES IN THE CERTIFICATION PROCESS

The EurepGAP certification process requires biochemical tests to check for pesticide residue. No laboratory in Uganda could perform the pesticide residue test, so samples were being shipped to Belgium, where a Belgian firm, Chemipher (U) Ltd., did the tests. Chemipher recognized that there was sustained business for them in Uganda, so they opened a laboratory there. Having a local lab helped streamline the certification process and reduce costs.

ISO 9001 CERTIFICATION

Many of the fish processors and exporters wanted to add another layer of quality standards to their production, mostly

to demonstrate (and to help the market perceive) that they were serious about quality. With the assistance of a USAID-financed project¹ that trained the fish processors in ISO 9001 (a subset of ISO 9000, see figure 4.46) processes, the processors were then certified by an outside consulting firm.

INDUSTRY-LEVEL CERTIFICATIONS

The association of fish processors, UFPEA, has adopted a voluntary code of Good Manufacturing Practices (GMPs). The fish processors implemented HACCP and good quality management systems (see figure 4.47) with support from EU funding, and 11 processors were upgraded to handle fish for export (see figure 4.48). The voluntary GMPs were monitored by UFPEA and proved helpful in improving processors' practices.

THE RESULTS: A MORE COMPETITIVE INDUSTRY THAN ITS NEIGHBORS—AND ONE THAT HAS GAINED A REPUTATION FOR GOOD QUALITY

In short, compliance with EU standards (including HACCP procedures) by the Ugandan fish industry in reaction to the import bans resulted in:

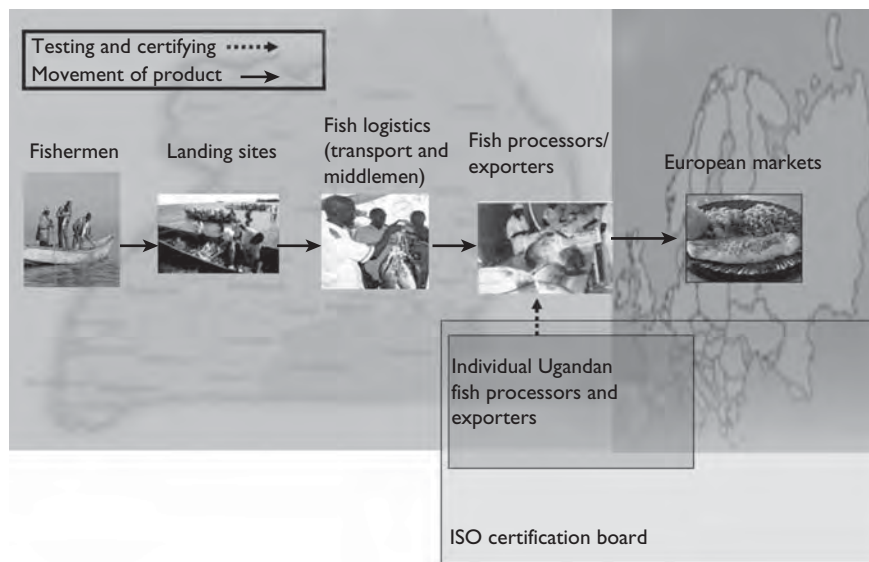
- Streamlined regulation under a single, strong, and competent authority (DFR)

- Formulation of a new fisheries policy
- Improved monitoring and inspection systems supported by inspection manuals, standard operating procedures, and the training of inspectors
- Regional efforts for the harmonization of handling procedures in the three countries sharing Lake Victoria
- Upgrading of a (small) number of landing sites and plans for upgrading a substantial number of others
- Upgrading of processing plants' procedures and layouts
- Opening up of the U.S. market, which also requires HACCP compliance
- Installation of two local laboratories (Chemipher and UNBS) and general improvement of service provision to the industry
- Increased number of processing plants and improved export performance (see figure 4.49)

LESSONS LEARNED

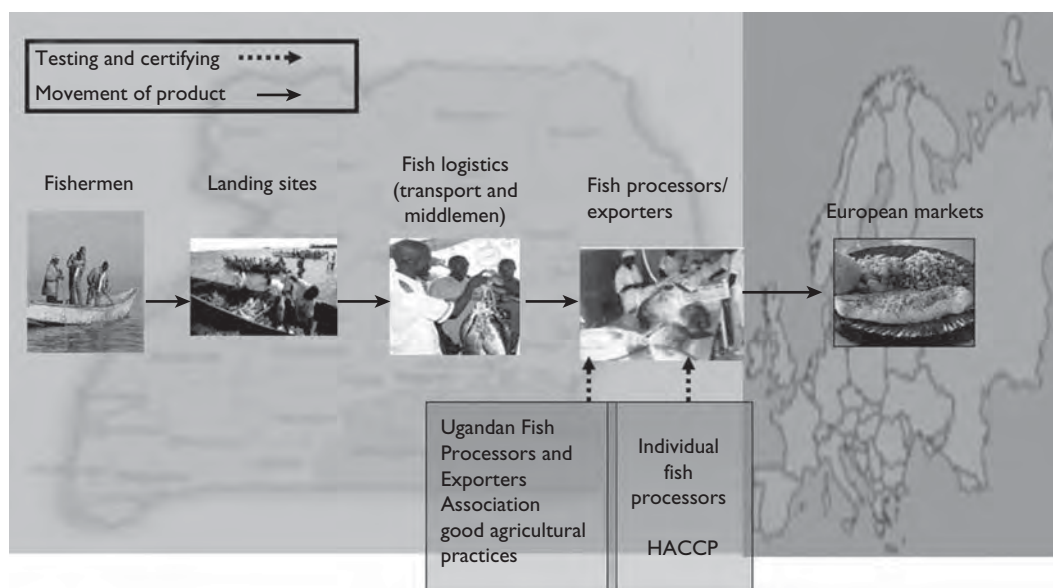
- There was and still is a strong incentive for the value chain and government to work together to ensure a quality product. The potential total losses of poor quality management were apparent to all parties.
- Paradoxically, banning the supply of all Nile perch from the Lake Victoria region created incentives for European fish importers and the EU itself to support Uganda because there were few replacement sources.

Figure 4.46 ISO 9000 Certification Process



Source: J. E. Austin Associates, Inc., 2007.

Figure 4.47 Good Manufacturing Practice and HACCP



Source: Stefano Ponte, “Bans, Tests, and Alchemy: Food Safety Standards and the Ugandan Fish Export Industry.” Danish Institute for International Studies 2005.

Figure 4.48 HACCP Implementation

Company code	HACCP complaint begins	HACCP compliance begins	Number of plants upgraded ^a	Length of process of achieving compliance (months)	Total estimated cumulative expenditure to reach HACCP compliance, capital cost (thousands of US\$)	Extra recurrent costs (US\$/year) ^b
A	Y	1998	2	12		39,600
B	Y	2001	1	12		
C	Y	1997	1	48	1,927	65,800
D	Y	1997	1	12	1,000	
E	Y	2000	1	24		45,000
F	Y	1995	1	36		72,000
G	Y	1998	2	36	1,000	70,000
H	Y	1997	1	12	1,500	80,000
I	Y	2000	1	12	200	43,000
Average			11	23	1,125	59,343

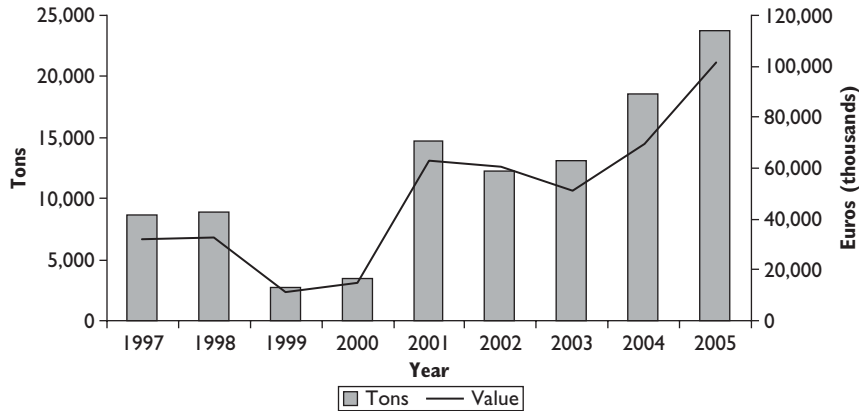
Source: Stefano Ponte, “Bans, Tests, and Alchemy: Food Safety Standards and the Ugandan Fish Export Industry.” Danish Institute for International Studies 2005.

^a Plants built after 2001 (already to HACCP specifications) are not included here.

^b Estimate includes product testing, extra quality management labor, materials, and annual training.

- Recognition of the importance of quality management, and of building a secure reputation for quality, led to actions beyond the minimum needed, such as implementing ISO 9001 and GMPs.
- The fish processors and exporters were natural actors to take the lead in determining and disseminating information about the standards required within the value chain. They were responsible for a large part of the value-added

Figure 4.49 Uganda's Nile Perch Exports



Source : EUROSTAT data, calculations by J. E. Austin Associates, Inc.

process and were the portion of the value chain most knowledgeable about export markets' requirements. They could serve as the "control point" for the rest of the value chain. The government had reason to listen to them because they employed a large number of people and recognizably controlled the market linkage that tens of thousands of people working within the value chain helped to supply.

- There is multilayer monitoring at the fish processing and export stages, but monitoring is much weaker at the landing sites and with the fishermen. Currently, local governments do not have the capacity to do much monitoring, so the exporters and processors have most of the

responsibility to ensure that they receive fish that meets the EU market's quality requirements.

- Fishermen and fish traders also understand and remember that markets can be "turned off" and, consequently, have incentives to supply fish that meets quality requirements.

NOTE

1. Under the SPEED project, this and other assistance to the fish industry was provided by J. E. Austin Associates, Inc., and the prime contractor, Chemonics Inc.

Identifying Needed Support Services for the Value Chain

Profitable value chains are supported by services that allow the chain to grow, be more efficient, and enhance its competitiveness. The overall objective is to improve the depth and breadth of services currently being provided to the value chain, enabling them to be commercially sustainable, and to help those services emerge where they are not being provided. The availability of new and better services should enhance the profitability of the whole value chain. Commercially sustainable services will typically involve specialization on the part of the service deliverer; thus, there are important linkages with the deepening of the value chain, as discussed in Tool 4, *Upgrading and Deepening the Value Chain*.

The range of services that can add value and strength to a value chain is vast. Examples include input supply, market

information and product development support, business management and consulting, transportation and logistics, quality assurance (including certifications), skills, extensions and training, veterinary services, and credit and other financial services. Box 4.14 describes an example of an enterprise-linked extension services model. Box 4.15 describes the actors of a sector organization.

It is absolutely in the interest of businesses, entrepreneurs, and associations to ensure provision and access to services that would enhance their value chain's profitability. In many cases, demand for services can also offer opportunities for small and medium enterprises to enter the value chain market as suppliers.

In the specific case of financial services, relationships between value chain actors can also enable financial flows by

Box 4.14 Ugandan Cotton—Enterprise-Linked Extension Services Model

Uganda's cotton production dramatically decreased during the 1970s, and the sector has not yet fully recovered. Supported by USAID,^a the government of Uganda (GoU) sought to increase Uganda's cotton production and revenue by encouraging small farmers to grow more and higher quality cotton. Greater production would enable ginneries to operate closer to full capacity. By involving private business in serving the needs of the farmers at the input and financing stages, the ginneries were able to encourage farmers to increase the supply of cotton available to the ginneries. This was accomplished through a model that has been successfully replicated through eight lead ginners representing the interests of supporting ginners in eight designated cotton production zones; the model has also been extended to other sectors.

The Enterprise-Linked Extension Model for the cotton industry begins with a ginnery that is performing at undercapacity, where there is nevertheless market demand for cotton. For example, the Nykatonzi ginnery has a productive capacity of 20,000 bales per year, yet in the early 2000s, it was only processing about 10,000 bales annually.^b

The farmers already had supplier relationships with the ginneries; however, the industry and the GoU recognized that these farmers needed extension services if they were going to produce cotton in sufficient quantities for the ginneries to operate efficiently.

Inputs and service needs were identified by analyzing the underperformance of the sector compared with historic levels, including value chain and GAP assessments. Farmers did not have access to needed inputs,

(Box continues on the following page.)

and they lacked the technical knowledge to increase their yields. The identified needs included:

- Training and extension
- Technical advice
- Access to inputs
- Financing of inputs
- A guaranteed buyer

Since output could be boosted through the use of these inputs, the ginneries worked with stockists to provide these inputs to the farmers. The purchase agreements between the ginnery and the farmer provided a risk-mitigation mechanism for the stockists' investment. The farmers' need to purchase these inputs led to the development of financial services programs for the farmers. The ginneries worked with financial service providers to give the farmers access to the financial resources they needed. All of these steps were able to take place because the farmers had guaranteed buyers in the ginneries through purchase agreements.

For extension services, ginneries were encouraged to communicate their needs and engage directly with farmers. The ginners, with support from the USAID/Agricultural Productivity Enhancement Program (APEP), set up demonstration plots and trained farmers in cotton production techniques, including the use of fertilizers and pesticides; farmers were trained by lead farmers, collaborating farmers, and site coordinators. An employee of the ginnery, called a site coordinator, oversees the plots, coordinates field trips, provides information to farmers, and supervises lead

farmers who act as extension agents. Lead farmers pass on cotton-production technologies to collaborating farmers for adoption through trainings, field days, and hands-on exercises. Technical advice is provided by the ginneries and USAID/APEP.

The benefits to the ginneries included increased and more reliable cotton supply, greater operational efficiency, and greater loyalty among farmers to the ginnery. The benefits to the farmer included increased production, productivity, and profits; greater knowledge of the market; sophisticated production techniques; and a guaranteed buyer for their supply. The model has successfully increased cotton production and revenues in Uganda. More ginneries are in operation, and farmers have been able to increase their yields threefold to around 600 kg/hectare. As a best practices benchmark, Australian yields in 2005 were 2,080 kg/hectare.

Results

The model successfully increased cotton production and revenues in Uganda. It has now also been replicated in several sectors, including maize and sunflowers. In the maize sector, corporate linkages have been strengthened, farmers have been economically empowered, and support services have been created. Production and sales volume of maize remain high, and quality has improved. In the sunflower sector, an additional US\$6 million dollars in farm income has been generated in three years, with 35,000 farmers joining a dedicated production system.^c

Sources: Lisa Carse and Martin Webber, J. E. Austin Associates, Inc.; Uganda Bureau of Statistics.

^a Initially the SPEED (Support for Private Enterprise Expansion and Development) Project, and subsequently APEP. Both projects were implemented by Chemonics, Inc.

^b Ralph Chaffee, April 2, 2002, Enterprise-Linked Extension Services in Uganda; SPEED Project.

^c Mark Wood, USAID/APEP Project, 27 March, 2007.

making the potential client more attractive to traditional financial institutions. The benefits of these buyer-supplier value chain relationships—specifically, a more secure market and improved skills—make potential borrowers (suppliers) more creditworthy to financial institutions.

Services can be delivered through many appropriate mechanisms. Services along the value chain can be provided by both public and private entities; commercially sustainable

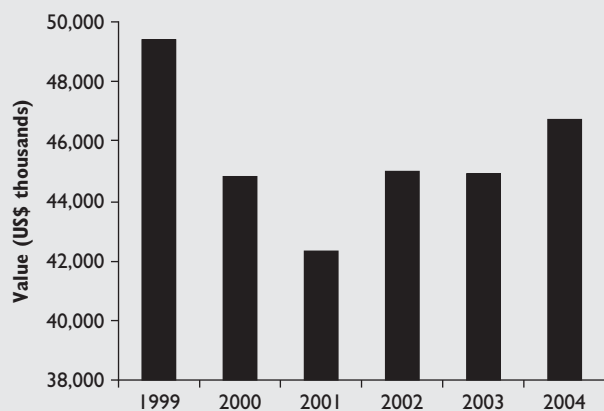
approaches are certainly preferable. Additionally, services may be delivered as part of another commercial transaction, such as in the case of embedded services. For example, a processor extends credit in the form of “virtual” working capital to a small farmer when the processor provides seeds, fertilizer, or pesticides as part of an outgrower scheme.¹ In this context, for example, formal financial institutions can enter the equation and make credit flows available, perhaps

Box 4.15 Sri Lankan Cinnamon

World trade in spices, their related products, and herbal health care products are estimated to be US\$200 billion per year with an annual growth rate of over 5 percent. In Sri Lanka, growing and processing spices provides cash income to over 400,000 smallholders and many processors. Sri Lanka commands over 80 percent of the world's true cinnamon production and exports close to 13,000 mt per year in the form of quills in different grades, mainly in bulk form, at a value of US\$50 million.

Cinnamom zeylanicum, the source of the spice, is a small, unassuming evergreen that is native to Sri Lanka's west and southwest. Cinnamon has been popular for ages, imported to Egypt as early as 2000 BC. Demand for cinnamon helped drive the European "age of discovery" beginning with Vasco da Gama's first trip to Asia in 1497. There is "true" Ceylon cinnamon, and there are other spices which are incorrectly referred to as cinnamon, such as Cassia (*C. aromaticum*), Indonesian cinnamon (*C. burmannii*), and others (e.g. *C. loureirii*). The price differential between true cinnamon and Cassia is 4:1. While European and Latin American markets distinguish the varieties, the U.S. market does not. Thus, in the U.S., low-quality cassia sells for a fraction of the price of the Sri Lankan product.

Figure 1: Value of Sri Lankan Cinnamon Exports

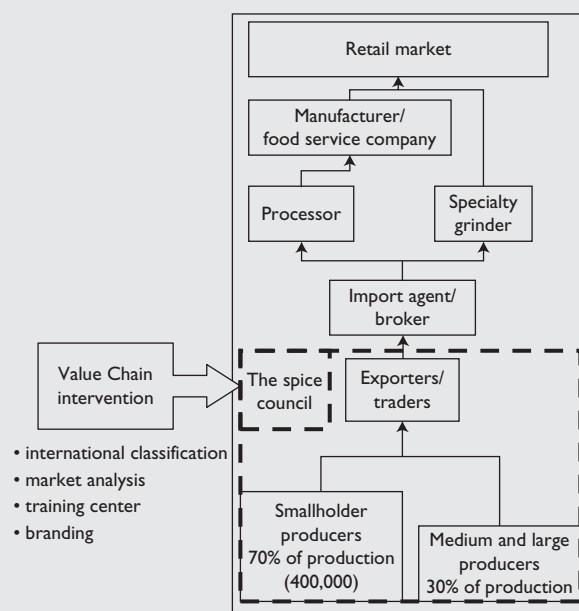


Source: Michael Gorman, J. E. Austin Associates, Inc., and FAOSTAT data.

Members of the spice industry cluster formed the Sri Lankan Spice Council (TSC) in 2001 to establish Sri Lanka as one of the top five branded, value-added spices and allied products marketers in the world. TSC has worked hard to differentiate its Ceylon cinnamon from lower-quality substitutes. One problem that TSC addressed was that Ceylon cinnamon and Cassia are classified under the same Harmonized System (HS) code of the World Customs Organization (WCO). In collaboration with the U.S. Department of Commerce and Sri Lanka Customs, and after deliberations with the WCO, TSC succeeded in obtaining a separate subheading for "Ceylon cinnamon" in the HS code.

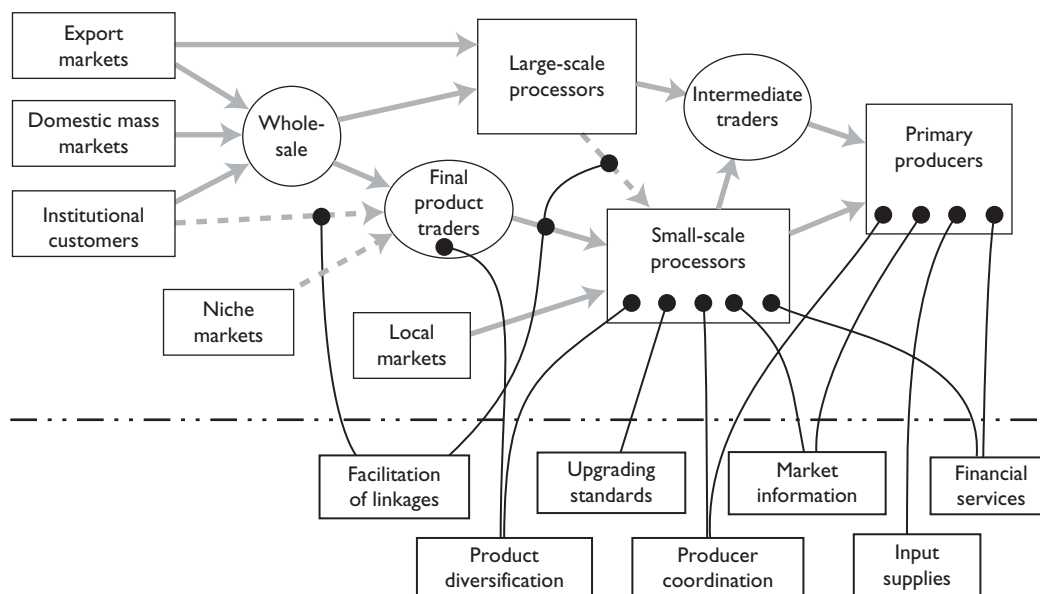
TSC has carried out several actions to improve product quality and market access. TSC carried out a market analysis to locate the best sales prospects for whole spices and to identify the kind of bottling and packaging that is required for optimal value creation in the United States. TSC has also worked with local spice smallholders and suppliers to improve postharvest handling and management of spices in order to increase the quality of spices that are delivered to Sri Lankan exporters.

Figure 2: Cinnamon Exports' Value Chain



Source: J. E. Austin Associates, Inc.

Figure 4.50 Mapping Actual and Potential Business and Financial Services



Source: Albu and Griffith (2005), "Mapping the Market: A Framework for Rural Enterprise Development Policy and Practice," at www.practicalaction.org/?id=mapping_the_market.

even extending the offer to other financial services (savings, transfers, and longer-term loans). This would extend the depth, breadth, and sustainability of the services that were previously provided (mainly short-term working capital).

To implement this tool, it is useful to map the particular services that are currently being provided (their sustainability, quality, and location within the chain), as well as those services that are potentially viable that can improve the chain's performance. Figure 4.50 provides an example of what the resulting map could look like.

The mapping is, of course, related to Tool 2, Designing Informed Strategies across the Value Chain, as well as to Tool 3, Conducting Benchmarking and Gap Assessments of Value Chains. Indeed, sound value chain analysis involves mapping the actors and, by benchmarking against competitors, identifying needed services that could enhance the value chain. The focus here, though, is in implementing the results of analytical methods, and, given its importance and potential, this implementation is treated as a separate tool in this section.

Once the map of current and potential services is complete, interventions can be developed to introduce a service for which there is potential demand within the chain, as well as to improve the quantity, quality, and sustainability of those currently being offered.

Entrepreneurs, businesses, and practitioners will need to carry out feasibility analyses and develop business plans.

Within development projects, the approach will often involve one or more pilot initiatives carried out in close collaboration with value chain participants, providing adequate support to encourage emergence of the market for service. In most cases, services that are provided on a market basis will be more sustainable, as well as those provided by specialized institutions. As many of the services are from sound, replicable businesses, they can be good examples of the replicable business models discussed in tool 5.

A STEP-BY-STEP SUMMARY OF TOOL 10: IDENTIFYING NEEDED SUPPORT SERVICES FOR THE VALUE CHAIN

- Along the value chain, map services that are currently being provided as well as those services that are potentially viable and can lead to improvements in the chain's performance. Benchmarking and analyzing gaps against other value chains are particularly useful tools for identifying potential services not being provided.
- Include in the map indications of the services' sustainability, quality, and location within the chain.
- Conduct feasibility studies and develop business plans to introduce services for which there is potential demand within the chain and to improve the quantity, quality, and sustainability of those currently being offered. In

most cases, services that are provided on a market basis will be more sustainable, as well as those provided by specialized institutions.

NOTE

1. The term “outgrower scheme” is often reserved for schemes where agribusiness has considerable control over

the smallholder production process, providing a large number of services, such as input credits, tillage, spraying, and harvesting. The smallholder provides land and labor in return for this comprehensive extension/input package. The high-value horticulture export sector is currently the focus of considerable development of outgrower schemes (for example, Hortico in Zimbabwe and Homegrown in Kenya).

CASE STUDY 12

Identifying Needed Support Services for the Value Chain— Zambian Cotton

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INTRODUCTION

Commercially viable extension services can be vital to a value chain's health. In the case of Zambia's cotton industry, support services were provided in a variable market that featured too many independent cotton traders and service providers, ultimately resulting in significant loan defaults, decreases in production, and the failure of many service providers. This case examines how a large private firm identified and altered the way it provided extension services to small growers, helping to stabilize and reinvigorate Zambia's cotton value chain.

POINTS TO CONSIDER

When reviewing this case, consider the following questions:

- What led to the need to provide support services?
- When is it appropriate to consider implementing different models?
- What role does the private sector play in implementation?

BACKGROUND

From the late 1970s until 1994, Zambia's cotton purchasing, processing, and marketing was controlled by the state-owned Lint Company of Zambia (LINTCO). During that period, LINTCO purchased seed cotton from an estimated 140,000 small farmers at a fixed price and extended services such as the provision of certified seeds, pesticides, sprayers, bags, and

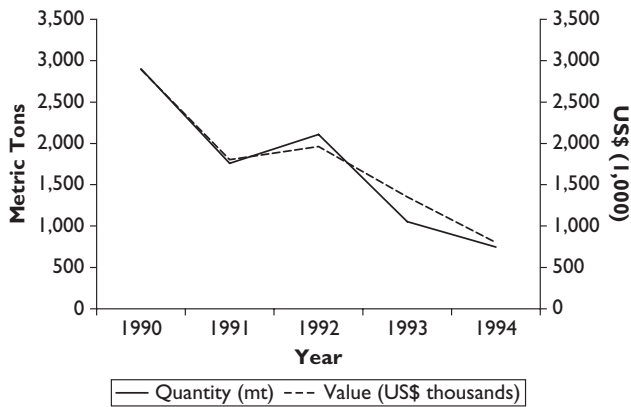
advice on growing techniques. LINTCO was the principle buyer of seed cotton, the sole provider of extension services, and the sole distributor of inputs on credit. Production fluctuated during this period but generally trended downward (figure 4.51). By the early 1990s, LINTCO was operating at a loss, having accumulated substantial unpaid debts.

These trends began to change in 1994. Zambia's president, Frederick Chiluba, implemented a wide-ranging restructuring of Zambia's economy, including privatizing the cotton industry through the Zambia Privatization Agency (ZPA). ZPA facilitated the sale of LINTCO to Lonrho Cotton and Clark Cotton, two private ginners and exporters. The two firms operated in different regions of the country, and both worked through direct outgrower schemes that offered inputs and extension services on credit to farmers. When farmers sold their cotton to ginners, the cost of the inputs and services they received before harvest was deducted from their selling price. Because both ginners operated in otherwise underserved markets, their practice of providing seed, other inputs, and services on credit involved minimal risk. Repayment rates averaged 86 percent.

The expansion of cotton production attracted four new ginners and delinters to the market.¹ National cotton production increased through 1997.

To serve the increased demand for cotton, some ginners contracted with independent outgrower agents to recruit more farmers to produce and source cotton to them. These outgrower agents received inputs from the ginners, distributed

Figure 4.51 Zambian Cotton Exports, 1990–94



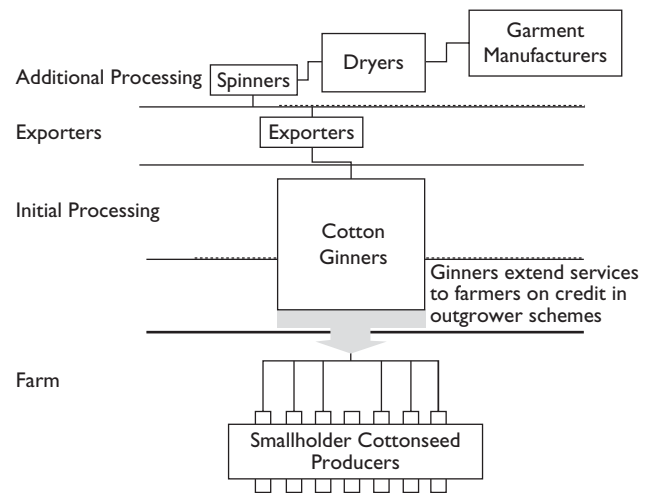
Source: FAOSTAT data.

them to their farm networks on credit, and when harvest time came, sold the cotton gathered from the farmers back to their respective ginners. In the same way that the increased cotton production attracted new ginners, the apparent success of the outgrower agents attracted additional independent agents to the market. These agents purchased inputs from other sources and offered them to any farmer on credit. In return, that farmer would sell cotton back to the independent agent, who would sell to any ginner willing to pay.

This unchecked proliferation of ginners and independent agents led to many problems. By 1998, ginning capacity exceeded production by 50,000 tons per year (Tschirley, Zulu, and Shaffer 2004). With too many agents competing for a limited number of farmers, sourcing was chaotic. This competition led to growing distrust and a lack of transparency in price setting, with agents and ginners vying to outbid each other for cotton. Some farmers, despite having agreed to outgrower contracts with specific ginners, sold their cotton to any agent willing to pay more than the contract price. Some agents purposefully sought to outbid outgrower contracts to acquire cotton. The entire value chain became volatile as ginners and outgrowers experienced increased incidences of defaulted loans. Some agents compensated for large portfolios of defaulted loans by marking up the inputs they sold to the remaining farmers who had remained loyal. This made it even more difficult for those remaining farmers to make a profit and resulted in even higher rates of loan defaults.

By 1999, the entire Zambian cotton value chain was in a crisis (figures 4.52 and 4.53). At this time, Lonrho, while negotiating its own sale to Dunavant, began laying the groundwork for a new service and extension model. At the time of its sale, Lonrho was projected to post a US\$2 million

Figure 4.52 Zambia's Cotton Value Chain



Source: J. E. Austin Associates, Inc.

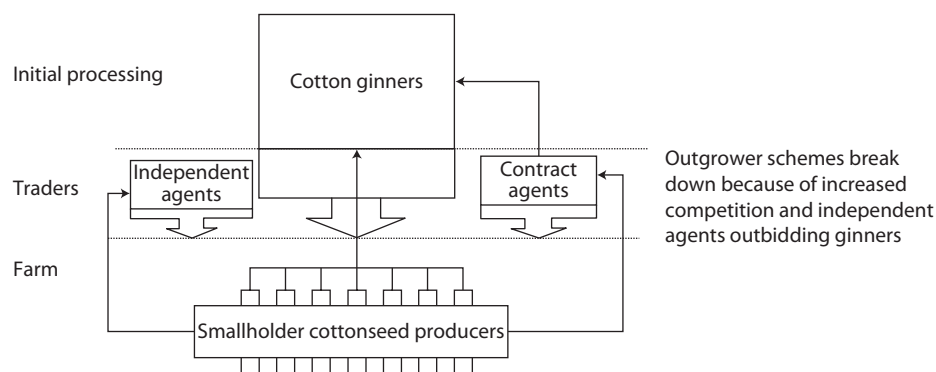
per year shortfall. To lower the likelihood of their own default, the remaining ginners stopped making embedded service contracts with growers. In 2000, with no other means to finance production, farmer output decreased to 50,000 mt, with just 2,500 mt exported (both less than half of 1998 levels). Many of the outgrower agents that contributed to the repayment crisis closed down, and the entire value chain had an average credit default rate of 53 percent. Amaka Holdings, a ginning company, went out of business, leaving the remaining ginners to retool in an effort to survive the market crash.

DUNAVANT'S DISTRIBUTOR MODEL

After taking over Lonrho's operations, Dunavant, a privately held U.S.-based cotton company, further implemented and perfected Lonrho's service and extension model. The new approach impacted Zambia's cotton industry in two ways. First, the service-extension model showed that outgrower schemes could work with little risk of loan defaults if the schemes were properly designed and managed. Second, Dunavant used its distributor model to significantly expand its production network (see figure 4.54).

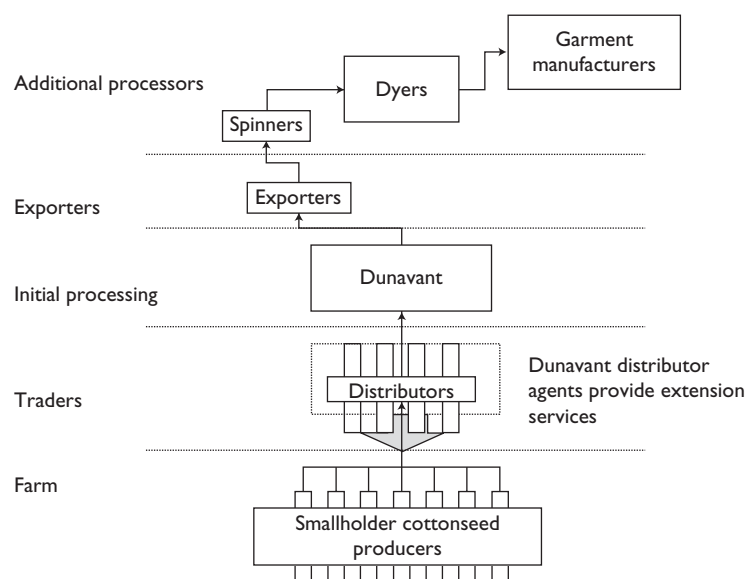
Dunavant's distributor model was very different from previous schemes. In the past, Lonrho relied on a large number of direct company employees, including almost 800 extension agents, to carry out the required activities. Overhead in the previous model was significant, and this burden was greatly exacerbated when borrowers defaulted. In the new distributor model, Dunavant used almost no direct-hire employees to

Figure 4.53 Zambian Competition for Cottonseed



Source: J. E. Austin Associates, Inc.

Figure 4.54 The Dunavant Distributor Model



Source: J. E. Austin Associates, Inc.

deliver services. Instead, “distributors” were mobilized via formal written contracts to identify farmers. The distributors would acquire the inputs from Dunavant on credit, deliver them along with technical advice to the farmers, and ensure that farmers sold their cotton back to Dunavant in order to recover the input credit. In this scheme, the distributor’s compensation was directly tied to the amount of credit recovered. Paid on a graduating scale, the more credit a distributor recovered, the more the distributor earned.

Table 4.17 illustrates the distributor compensation plan. Distributors could earn up to 21.5 percent ($0.65 \times 0.05 +$

$0.85 \times 0.075 + 1.0 \times 0.125 = 0.0215$)² in commissions based on their efforts. To maintain performance, Dunavant dropped any distributor who could not bring in a minimum of 50 percent of their credit portfolio. By 2003, the company raised this minimum credit recovery rate to 60 percent. In some of the better-performing regions, the cut-off rate went to levels as high as 80 percent.

Another unique aspect of Dunavant’s distributor model was the “work-in, live-in” principle. Distributors were required to farm cotton themselves and live in the same area as their farmer network.

Table 4.17 Dunavant Compensation Plan

Recovery percentage	Compensation rate
65–84	5 percent of the total credit
85–99	Additional 7.5 percent of the total credit
100	Additional 12.5 percent of the total credit

Source: Dunavant, 2006.

Dunavant showed its commitment to the success of the program by offering two types of training: credit management and cotton production and harvesting best practices. These courses laid a strong foundation of sound business operations and management for the distributors, allowing them to assess farmers' creditworthiness while rapidly growing their portfolios.

As Dunavant's distributor network grew, its outgrower network followed suit with the average distributor handling 65 growers each. In step with this growth was Dunavant's realized increase in credit repayments. In the year prior to the scheme's implementation, Dunavant's reported recovery rate was 67 percent. After one year in the system, the rate

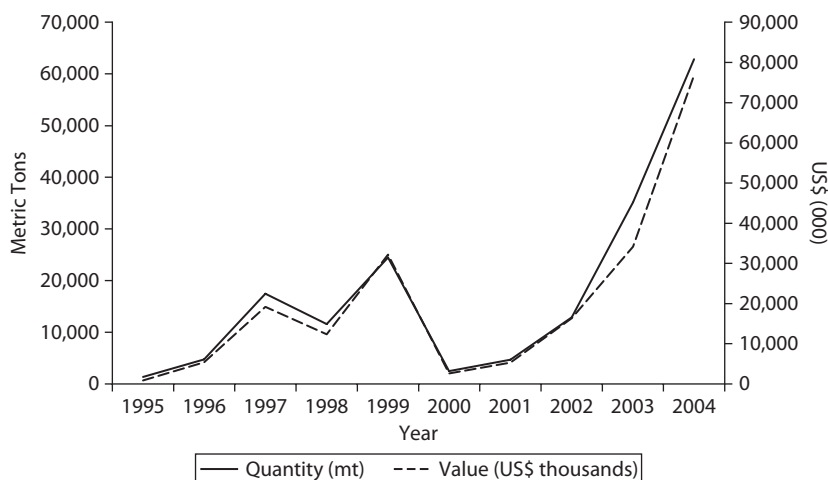
grew to 80 percent—in the second year, to 88 percent and, after three years, to 93 percent.

CONCLUSIONS: GROWTH OF A SECTOR

Dunavant's successful rollout of its distributor model of providing services to farmers encouraged other ginners to follow with similar arrangements. Not all ginners replicated the model exactly, and most did not place as rigorous an emphasis on training and distributor selection as Dunavant. Still others, such as Zambia's other large ginner, Clark Cotton (Clark's southern African holdings were purchased by Cargill in 1996), maintained the old model and continued to extend services to farmers via its own employees.

In all, the entire Zambian cotton value chain has experienced rapid growth since the sharp drop of the early 2000s (figure 4.55). This rapid recovery was led entirely by the private sector, in large part because of Dunavant's ability to identify, design, and deliver innovative ways to extend services to small farmers. As of the 2005–06 season, Dunavant was outperforming other Zambian ginners in terms of volume and produced an estimated 115,000 mt of cotton lint. Clark/Cargill is second in the Zambian market with 60,000 mt.

Figure 4.55 Zambia's Cotton Lint Exports, 1995–2004



Source: FAOSTAT data.

NOTES

1. Amaka Holdings opened in 1997, but is now closed, having gone into receivership. Continental Ginnery opened

in 1997, Mulungushi Textiles (now Zambia China Mulungushi Textiles) opened in 1999. Northern Growers began service in 1986, and expanded in 1997.

2. Tschirley (2004).

