

John Humphrey

## Shaping Value Chains for Development:

Global Value Chains in Agribusiness



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Editor:  
Deutsche Gesellschaft für  
Technische Zusammenarbeit (GTZ) GmbH  
Dag-Hammarskjöld-Weg 1-5  
Postfach 5180  
65726 Eschborn  
Internet: <http://www.gtz.de>

Trade Programme  
Sectoral Project Trade Policy, Trade and Investment Promotion  
Sectoral Project Agricultural Trade  
Phone: 06196-79-0  
Internet: <http://www.gtz.de/trade>  
Contact persons:  
Wolfgang Zehender, Helmut Albert  
Author: John Humphrey  
Institute of Development Studies,  
University of Sussex, Brighton, UK

Trade Programme

Div. 41 Economic Development and Employment

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# **Shaping Value Chains for Development:**

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**John Humphrey**

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## Acronyms

ASEAN	Association of Southeast Asian Nations
BSE	bovine spongiform encephalopathy
CAC	Codex Alimentarius Committee
DFID	Department for International Development
ETI	Ethical Trade Initiative
EUREP	European Retailer Produce Working Group
EU	European Union
FDI	foreign direct investment
FLO	Fair Trade Labeling Organizations International
GMO	genetically modified organisms
HACCP	Hazard Analysis Critical Control Point
IEC	International Electro-technical Commission
IFOAM	International Federation of Organic Agriculture Movements
IPPC	International Plant Protection Convention
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ISO	International Organisation for Standardization
MRL	maximum residue levels
OIE	Office International des Epizooties, World Organisation for Animal Health
PMO	Produce marketing organisation
SAI	Sustainable Agricultural Initiative
SMEs	Small and medium-sized enterprises
SPS	Sanitary and phytosanitary standards
TBT	Technical barriers to trade
TRIPS agreement	Trade-related aspects of intellectual property rights agreement
WTO	World Trade Organisation

## 1. Introduction

One of the key challenges for development is to reduce rural poverty in developing countries through increasing production and export of agricultural products. However, changes in the nature of markets and trade for these products in recent years have created new challenges. Addressing these requires initiatives at multiple levels, in both developing and developed countries and within the system of international regulations governing trade.

The new challenges arise in the areas of markets and competition and also from the increasing importance of public and private standards in regulating trade:

1. The increasing importance of large buyers in global food value chains. The requirements of large buyers (not only retailers but also processors) for quality, reliability of delivery and product differentiation have raised the level of competence required of producers and the level of coordination in value chains. In the case of many non-traditional agricultural exports, issues of product quality and freshness (and hence time to market), product differentiation and increased processing place great demands on production systems and may favour large-scale production.
2. Increasing concentration at various points in the value chain, including input suppliers (seeds, feedstocks, chemicals, input packages for GM products, etc.), processors and retailers. This concentration has implications for the questions of access to agribusiness value chains for small producers, and also the returns producers obtain from participating in these chains. It raises questions about market structures and market power, as well as strategies to offset this power: regional branding, geographical indicators, niche products and alternative marketing channels.
3. The increasing importance of both public and private standards in food industry. Public, mandatory standards relating primarily to human and animal safety (sanitary and phytosanitary standards, SPS) have become more extensive and stringent. At the same time, private sector standards, and in particular standards developed by coalitions of private companies and business associations, have become increasingly important factors in access to marketing channels. Such standards relate to food safety, social standards and environmental impact.

This study analyses these challenges from a global value chain perspective, examining their implications for policies at both the micro and meso levels (technical assistance, local institutional capabilities, producer organisations, etc.) and the broader, macro level of the framework of institutions and policies that regulate agricultural production and trade, including standards-setting, intellectual property rights and global competition policy, as well as trade capacity building and trade promotion initiatives.

The global value chain approach places particular emphasis on the coordination of different actors along the chain of activities involved in the production, processing and distribution of products. It highlights the linkages between enterprises, how their activities are coordinated and the role of lead firms in determining what is to be produced, how and by whom.

Clearly, the prospects for developing country producers are not solely determined by the internal dynamics of global value chains for agricultural products, or even the impact of standards on agricultural production systems. Production and trade in agriculture are influenced by quantitative restrictions, tariffs and tariff escalation, which have been at the centre of multilateral trade talks, with particular emphasis being given to tariffs, quotas and subsidies for agriculture in the European Union and the United States. Irrespective of these reforms, poverty reduction in developing countries depends upon producers being able to take advantage of the market opportunities that arise.

This paper is divided into four further sections. Section two discusses the major trends in agricultural markets. Section three explains how these trends can be understood through the application of global value chain analysis. Section four examines the implications for micro and meso-level interventions. Section five considers the insights from global value chain analysis for policy in the areas of standards setting, intellectual property rights and competition policy.

## **2. Trends in global agribusiness**

Trends in global agribusiness are complex and multi-faceted. This section focuses on the three trends in global agribusiness markets highlighted in the introduction. It outlines the changes taking place for each one and its impact upon production systems in developing countries.

### **2.1 The rise of the retailers**

The increasing prominence of large retailers in the global economy has been widely discussed in recent years. This section is concerned with the implications of the role of large retailers as lead firms within global value chains. Concentration in other parts of agribusiness value chain will be discussed in the next subsection.

Food and grocery retailing has been consolidating rapidly in Europe. The five largest food chains in Europe (the whole continent) increased their share of total retail food turnover from 13% in 1990 to 26% in 2000 (Jacobsen 2002: 7). Data from PlanetRetail shows that Europe's top 30 grocery businesses increased their share of the European market from 52% in 1992 to 69% in 2001 (PlanetRetail/M+M 2002). This increasing share is driven by both concentration in individual markets and the increasing internationalization of the largest European retailers. Companies such as Ahold (the Netherlands), Metro (Germany) and Carrefour (France) operate in more than 10 European countries, as well as controlling substantial shares of their domestic markets.<sup>1</sup>

In the United States concentration was held back, first by regulatory constraints and then by leveraged buyouts and financial restructuring in the 1980s. But concentration did occur in the 1990s, and the top five food retailers increased their share of the United States market from 27% in 1992 to 43% in 2000 (Wrigley 2002: 63).

The increasing importance of supermarkets in the retailing of fresh and processed food has led to a substantial reorganisation of agribusiness supply systems. One significant impact has been on relationships between retailers and processors/manufacturers of food products:

"With the substantial consolidation of retail and procurement markets at both the national and aggregate EU level, the nature of the supply chain has changed considerably. Where manufacturers may traditionally have driven distribution by developing brands and then used a network of wholesalers and retailers to sell and distribute goods to consumer, it is now retailers who mostly drive the supply chain....The upshot of this revolution has been that producer market power has largely given way to retailer buyer power, where retailers hold the whip hand over producers" (Dobson *et al.* 2003: 121).

This change has had a substantial impact on food processors and manufacturers. Even the largest branded manufacturers have had to come to terms with giant retailers. For example,

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<sup>1</sup> Ahold is an exception to the general trend. It has been scaling down its operations following its well-publicised financial problems.

Unilever is one of the world's largest producers of food and personal care products, with a turnover of over €50 billion in 2001. In spite of its size, just four supermarket customers — Wal-Mart, Carrefour, Ahold and Tesco — accounted for 13% of all its sales (van der Laan 2003).<sup>2</sup>

Large buyers have transformed themselves from resellers of products made by others into firms that go out to find suppliers for the products that they believe that they want for their customers. Increasingly, they play a role in product development, branding, supplier selection and distribution. It is what supermarkets buy, how they organise their supply chains and how they define and respond to consumer trends that gives them competitive advantage.

One of the indicators of this lead role in value chains is the increasing importance of private labels in retailing, as is shown in Table 1.<sup>3</sup> The table indicates changes in levels of private label sales by leading food retailers. It shows the percentage share of food sales accounted for products marketed under the retailers' own labels.

**Table 1: Private Label Penetration (value shares) by Member State (%)**

	1980	1990	1992	1995	1997	AC Nielson 2001
UK	22	31	25	29	42.3	43.1
Netherlands			16	16	19.1	18.6
Belgium/Lux			16	22	24.9	26.2
France	11	20	16	16	18.2	20.1
Germany	15	24	6	11	12.6	22.5
Spain	2	9	8	10		15.7
Finland			8	8		
Sweden			8	8		
Italy			4	6		10.9

Sources: Data for 1980, 1990, 1992, 1995 and 1997, Dobson Consulting (1999: 50). AC Nielson data, Tassinari (2001). The data for 1980 and 1990 are directly comparable. The data for 1992 and 1995 are directly comparable.

Even though the data is incomplete and the figures are not comparable across all the time periods, the overall trends are clear:

- There are big differences in the penetration of private label goods in different European markets. Private label goods are more important in northern Europe than in southern Europe, with the United Kingdom significantly more advanced than other countries.
- Private label penetration increase in both the period 1980-1990 and the period 1992-1995.

The trend towards own-label products creates new challenges for manufacturers. However, the direct impact of this trend on agribusiness systems in developing countries has been more marked the area of fresh produce, as described in the following sub-section.

<sup>2</sup> Of course, this trend has not been confined to the food sector. Concentration has affected many different areas of retailing. The proposed merger of Proctor and Gamble with Gillette, announced in January 2005 seems to be more motivated by the power of large retailers than by competition with Unilever.

<sup>3</sup> This is not new. The traditional UK retail outlet, Marks & Spencer, has sold products entirely under its own label for many decades, and its operations inspired Richardson's seminal contribution to the study of industrial organisation (Richardson 1972). However, private label goods have been increasing importance for European supermarkets, particularly in northern Europe.

### 2.1.1 Impact on developing countries 1: horticultural exports<sup>4</sup>

The trade in fresh vegetables from Africa to the UK began the 1960s, and until the mid-1980s, the business was very fragmented. Traders in Kenya would buy produce in wholesale markets or at the farm gate and export it to the United Kingdom, where it was sold in wholesale markets and distributed to consumers through a variety of retail outlets. Half of these outlets in 1980 were specialist fruit and vegetable shops, which were often individually owned.

After 1985 the retailing of food and household goods in the UK became more concentrated, and by the mid 1990s major retail chains sold more than 75 percent of fresh produce (Gray and Kleih 1997: 30). The large supermarket chains viewed fresh produce (fruit and vegetables) as a critical sector for competitive strategy. This is based on increasing the range, quality and seasonal availability of produce and securing continuous, year-round availability. Supermarkets offer an increasing range of chopped, packed and mixed products, catering to a cash rich but time poor clientele who are willing to pay a premium for ready-to-eat or ready-to-cook fresh vegetables, and they can be enticed by new products and product combinations.<sup>5</sup>

The new requirements could not be met while continuing to use wholesale market distribution channels. These gave the supermarkets little influence on the type and quality of produce supplied. The pursuit of product differentiation, quality, freshness, traceability, safety and so on required control and coordination as far upstream as the growers. The supermarkets replaced the arm's-length market relationships of the wholesale chain with more durable, information-intensive relationships. Supermarkets increasingly specified how products should be grown, harvested, transported, processed and stored. These requirements were by specified and monitored by (i) the use of detailed, written procedures for growing (including the use of pesticides and chemicals), harvesting, processing and transport, (ii) frequent interchange of information with selected, "preferred" suppliers, and (iii) auditing and inspection of importers, exporters and farms. The ability to specify and enforce these requirements was achieved through working with a small number of importers and their suppliers, involving a switch to longer-term relationships along the value chain, but simultaneously greatly increasing the dependence of suppliers on their large customers.

Supermarkets switched to renewable annual contracts and began to work much more closely with approved African suppliers and the largest and most capable UK importers. Leading exporters in Kenya increased own-farm production at the expense of purchasing vegetables from both smallholders and large contract farmers. This gave them more control over processes and more capacity for innovation. The importers moved from being traders to being value chain managers, providing technical support, auditing and quality control services. Importers frequently worked with exporters to meet new challenges posed by the supermarkets.

These changes can threaten exclusion for those suppliers that are unable to respond to the challenge. But for those suppliers that can respond, opportunities arise for adding value to products and differentiating their overall product and service offering from other suppliers. More specifically, there are opportunities for:

- Increased processing, much of it taking place close to growing sites. Retailers are often willing to outsource value chain functions to suppliers, providing new opportunities along the chain.

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<sup>4</sup> This section is based on Dolan and Humphrey (2000; 2004).

<sup>5</sup> UK supermarkets used the same strategies to promote flower sales (Hughes 1999) and Marks & Spencer in the UK, which sells food as well as clothing, pioneered chilled meals, creating a supply chain to meet its needs (Doel 1996).

- More generally, increasing product differentiation and investing in innovation. Cost is not the only factor in competitiveness (Altenburg *et al.* 2004: 3).
- A much greater emphasis on freshness and agility within the logistics system, also requiring improved systems within supplying countries.
- Emphasis on non-contractible parts of the supply relationships, such as reliable delivery, trust, flexibility in supply, ability to innovate. This rewards competence and increases the switching costs for the buyers. This may increase the length of contractual relationships for sellers.

However, the large retailers also become gatekeepers to markets. Access to the fastest-growing market segments depends upon satisfying the demands of retailers, and competing with other suppliers that also want to serve these large customers.

The importance of retail concentration has been most clearly visible in the horticulture sector. While this is just one part of agricultural production, its importance in total developing country agricultural production and trade has increased sharply. In 1980-81, horticultural products (fruit, vegetables and flowers) accounted for 14.7% of developing country food trade. At that time, traditional tropical food products (coffee, cocoa, tea, natural fibres, sugar, confectionary, nuts and spices) accounted for 39.2% of developing country agricultural trade. Twenty years later, the relative importance of these sectors had changed markedly. By the period 2000-01 horticulture's share of developing country agricultural trade had risen to 21.5% while the share of traditional tropical products had fallen to 18.9% (Jaffee 2005: 2 the). Even within the horticultural products category, non-traditional exports such as sweetcorn, fresh mushrooms mangoes and single-strength orange juice were growing much more rapidly than traditional products such as concentrated orange juice, oranges and canned pineapples (Huang 2004: 3).

In spite of this, the problems facing producers and exporters of traditional tropical products cannot be ignored. Particularly important in this context are opportunities for product differentiation through the development of niche products, and these are discussed in the following section

### **2.1.2 Impact on developing countries 2: niche products**

The overall trend to product differentiation and increasingly complex value chain linkages has been driven in large part by trends in retailing. Included in these trends are private, company standards that have been developed by companies to demonstrate to consumers that their products are superior to those of competitors. As increasing numbers of consumers, particularly in the United Kingdom, make choices on the basis of social and environmental concerns, supermarkets recognise that their standards can extend beyond claims about product characteristics (particularly quality) and towards codes of conduct for social standards and environmental impact.

Nevertheless, retailers are not the only actors in this field. Product differentiation is also a strategy of producers and intermediaries (producer associations, traders, NGOs, etc.). In particular, product differentiation strategies have been used by these actors in response to declining prices for agricultural commodities and increasing competition from new entrants to global food markets. In the words of a World Bank report on coffee, they are part of a strategy to move "outside of the commodity box" (Lewin *et al.* 2004). An example of product differentiation is provided in Box 1. It shows how a particular brand of coffee differentiates itself from other coffees by making claims that respect to product quality, environmental impact and social impact.

### **Box 1: The value chain challenges of differentiating coffee**

The Food Brands Group in the UK markets a variety of coffees under the "Percol" brand name. The top end of its range is called "Sanctuary"<sup>TM</sup>. It claims to be a "Bird friendly, single estate, organic Arabica coffee". One of these estates is "in the Altamaya region in the northern Peruvian highland" and consists of a cooperative of 47 small farmers.<sup>6</sup> The packaging makes claims about various aspects of this product:

- The product has superior quality because it is grown on a single estate and grown organically. The latter claim is supported by certification from the UK Soil Association, whose logo is displayed on the packet. Information is provided about the precise location where the coffee is likely to have been grown (with a disclaimer that the coffee may not always come from this location).
- The product is "bird-friendly". Shade-grown coffee does not destroy the forest canopy. This claim is supported by certification from the Smithsonian Migratory Bird Centre.<sup>7</sup>
- The product has social benefits. While this product does not conform to Fairtrade standards, a claim is made that Percol is committed "to the coffee growing communities and environment" and that the company has "a mission to care for the people and the environment where it is grown". Reference is made to "The Coffee Kids Charity" and "raising money for health and education projects to improve the quality of life for children and their families where coffee is grown".

The result is a product that sells for a 10% premium over other Fairtrade organic coffees.

Product differentiation based upon such claims is part of a broader trend towards the increasing importance of credence characteristics in the food industry. Reardon *et al.* (2001: 424-5) define credence goods in the food sector in the following terms:

"A credence good is a complex, new product with quality and/or safety aspects that cannot be known to consumers through sensory inspection or observation-in consumption. The quality and safety characteristics that constitute credence attributes include the following: (1) food safety; (2) healthier, more nutritional foods (low-fat, low-salt, etc.); (3) authenticity [including place of origin]; (4) production processes that promote a safe environment and sustainable agriculture; (5) 'fair trade' attributes (e.g., working conditions)."

These claims differentiate the credence goods from standard products by identifying particular characteristics that give them increased value. These claims may relate to intrinsic product characteristics, or extrinsic characteristics relating to their social and/or environmental impact. These claims act as a form of product branding, identifying particular labels with particular characteristics that may be valued by consumers.

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<sup>6</sup> This information is taken from the product packaging. More information can be found at <http://www.percol.co.uk>.

<sup>7</sup> For more information on shade-grown, "bird friendly" coffee, see Philpott and Dietsch (2005) *it*.

**Table 2: Product differentiation through credence claims**

Nature of claim	Example of claim
1. Private voluntary initiatives (PVI)	According to Linton (2005: 10), "One example of a PVI is Starbucks' 'C.A.F.E. (Coffee and Farmer Equity) Practices'. This incentive- and performance-based program uses independent third-party verifiers to audit farms on environmental and social indicators. Suppliers who wish to apply to the program must first pass a quality profile and economic transparency requirements; their final scores on all the indicators determine their ranking of preference as a Starbucks supplier." In this case, a service sector company establishes a claim for its particular product, basing its credibility on third-party certification.
2. Enterprise branding	Particular enterprises can brand themselves as having certain merits. One example would be the Thandi brand, developed for wine and fruit: "Thandi's aim is to empower previously disadvantaged farming communities. With support and mentorship from leading players in the fruit and wine industries, these communities export top-class produce to countries all over the world" ( <a href="http://www.thandi.com">http://www.thandi.com</a> ). This claim is allied to one about the quality of the product.
3. Regional branding	Claims about product characteristics, quality or production processes can also be made at the regional level. Examples would include Jamaican Blue Mountain coffee, the Copper River brand of wild salmon (Morrissey 2005), or the Kenya Flower Council, whose code of conduct on issues such as labour conditions, pesticide use and water use is designed both to deflect widespread criticisms of the impact of the flower industry on labour and the environment in Kenya, and also to differentiate Kenyan flowers from those emanating from other countries. This type of branding can be developed through regional associations, both public and private.
4. Broad certification schemes	Product differentiation is also based on schemes that are not geographically specific. Particularly important in this area are have been labelling schemes designed to identify particular characteristics of product or production processes originating from designated producers. Fairtrade and organic certification schemes are two examples.

Claims can be made about products at multiple levels, as shown in Table 2. At each level, the key questions are:

1. The costs of building the credence claim and making consumers aware of it. There are significant economies of scale in branding. Narrowly-based claims provide more benefits to specific actors, but the costs are spread across fewer agents.
2. The consequences of making claims for the organisation of the value chain. The point about credence claim is that they are difficult or impossible to verify through inspection of the product. It follows that products subject to credence claims need to be traceable and to have their identity secured as they move along the value chain. They have to be kept separate from products that do not possess the credence characteristics. In the case of the coffee example presented in Box 1, traceability has to be maintained between the supermarket shelf and production in Peru.
3. The development of such credence goods frequently involves collaboration between different agents along the value chain. For example, credence claims frequently relate

to production characteristics, but the claims are made to consumers based in distant markets. This requires the coordinated activities of producers, certifiers and traders or retailers. In addition to this, multiple agents may be involved before farmer groups are able to claim organic certification or the Fairtrade label. One extensive study of organic agriculture in Latin America (IFAD 2003) highlighted the role of local and international NGOs and also intermediaries (traders) in developing farmer groups and their capacities to obtain organic certification, as well as linking them to markets.

The full potential of such product differentiation is hard to establish. In the case of the coffee sector, the overall penetration of what has been labelled "sustainable coffees", which includes certified organic, Fairtrade, and ecofriendly coffees (Lewin *et al.* 2004: 118-9) is not large in absolute terms. The market share of sustainable coffees in Europe in 2001 average 1.6% (Lewin *et al.* 2004: 120). However, it has also been suggested that upwards of 600,000 to producers in 24 countries have been certified for Fairtrade, and the overall market for sustainable coffees has been rising rapidly. Similarly, the European market for organic and Fairtrade bananas remains small, but it is growing quickly. One study suggests that organic bananas accounted for 2.5% of the total European market for bananas and 1% of the US market. Sales of organic bananas in global markets grew by more than 300% in volume terms between 1998 and 2002. Over the same period, imports of Fairtrade bananas into Europe doubled (Dankers and Liu 2003: 33-4). According to Philpott and Dietsch, there is an increasing tendency for Fairtrade, organic and shade-grown certification to be linked together. In the case of coffee growers in Chiapas, for example, they note that "farmer organizations say FLO inspectors require organic certification before allowing fair-trade" (Philpott and Dietsch 2005: 13). The owners of the "bird-friendly" registered trademark, the Smithsonian Migratory Bird Center, are also linking their certification to local organic certifiers such as BioLatina (Philpott and Dietsch 2005: 14).<sup>8</sup>

Such specialty markets may be small in absolute terms, but the returns can be high.<sup>9</sup>

"These market options are especially valuable because there are only a few remunerative crops with which smallholders can participate competitively in the marketplace. Today's flooded commodity market is but one instance where many producers earn minimal prices and barely recover their costs while many sustainable or differentiated coffees sell at considerable premiums. Furthermore, a number of other benefits accrue to growers and their communities that follow sustainable growing practices that are somewhat independent of the success or failure of sustainable coffees in the marketplace" (Lewin *et al.* 2004: 126).

However limited the impact of these initiatives relative to the overall scale of the global problem of coffee overproduction and declining prices for coffee producers, it represents a partial solution to a problem that might otherwise be solved through migration to urban areas and the collapse of rural production.

### **2.1.3 Impact on developing countries 3: supermarkets in developing countries**

Research on supermarkets in developing countries has recently suggested that they are increasing their penetration of retailing. They switch their sourcing from the wholesale markets used by small retailers to a small number of preferred suppliers and introducing their

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<sup>8</sup> Philpott and Dietsch are employees of the Smithsonian Migratory Bird Center, which is part of the Smithsonian National Zoological Park in the United States. In turn, this is part of the Smithsonian Institution and.

<sup>9</sup> Jamaican Blue Mountain coffee obtains export values 15 times higher than the average price for coffee exports (Lewin *et al.* 2004: 117).

own grades and standards. This is a claim made on the basis of studies of supermarkets in Latin America (Reardon and Berdegú 2002).

The implications of this finding are very significant. Developed country supermarket sourcing in developing countries is associated with large-scale farming and smallholder exclusion. One response to this problem is to focus smallholder efforts on the domestic market, or on the less demanding segments of the export market (for example, fruit rather than vegetables as the former have a longer time to market and require less coordination). If, however, supermarkets are recreating similar sourcing patterns in the domestic markets of developing countries, then the prospects for small farmers would be much bleaker. Policy interventions directed at small farmers would necessarily have to focus on helping them to meet the requirements of supermarkets (domestic or overseas).

In fact, the penetration of supermarkets into developing country retailing, and particular in the selling of fresh produce is not as important as it might seem. While it is true that there has been increased penetration of supermarkets in the retailing systems of countries in Africa and Southeast Asia, their impact on food marketing, and the marketing of fresh food in particular, remains contested. While Neven and Reardon argue that supermarkets are having a substantial impact on the sale of fresh vegetables in Kenya (Neven and Reardon 2004), this view was challenged in the recent Regoverning Markets e-conference.<sup>10</sup> This established that not only was supermarket penetration of food retailing limited, but also that the supermarket share of fresh food retailing was much lower than for processed and packaged food. In the case of Kenya, it is estimated that even in Nairobi, where most supermarkets are located, "supermarket chains captured only 4.4% of the FFV (fresh fruit and vegetable) market, and essentially all this was in the top income quintile."<sup>11</sup> This caution is advisable. In fact, the article that first generalised the results from Latin America to other parts of the developing world was also quite cautious, recognising that supermarket shares of sales of fresh vegetables were much lower than for food retailing as a whole.<sup>12</sup> For fresh produce, traditional marketing channels remain an important outlet.

This suggests that a broader view of the marketing channels and small farmer prospects in developing countries needs to be maintained. For example, it may be the case that much broader benefits for small producers could be obtained by focusing on the efficiency of the marketing of traditional products and the functioning of well-established marketing channels. Similarly, while supermarkets may be one type of agent who sourcing strategies may be the target of development interventions, processors may also be an important target. To the extent that much food bought in the supermarkets of developing countries is processed, the processors act as intermediaries between producers and supermarkets. Their sourcing policies will be important for smallholders.

At the same time, the discussions in the Regoverning markets e-conference, and the results of the research programme, indicate clearly that transformations in the processing sector and

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<sup>10</sup> This e-conference was hosted by Bill Vorley at IIED in London in October 2004. It was part of a programme of research on food and agricultural markets. See <http://www.regoverningmarkets.org> for full details of the research. The contributions to the e-conference are available at <http://www.regoverningmarkets.org/discussions.html>.

<sup>11</sup> Contribution of Dave Tschirley, Department of Agricultural Economics, Michigan State University to the regoverning markets e-conference.

<sup>12</sup> In the case of São Paulo, one of the most sophisticated retailing environments in the developing world, supermarkets accounted for 75% of total food sales, but only 25% of fresh food sales (Reardon *et al.* 2003: 1143). Similar contrasts between total food and fresh food supermarket sales in Argentina, Brazil and Costa Rica are presented in Balsevich *et al.* (2003: 1148).

broader trends in agribusiness value chains are creating problems for developing country producers. These are the subject of the next subsection.

## **2.2 Concentration in the global food industry**

Concentration in retailing is only one part of a broader process of concentration at multiple stages within the global food industry. There is evidence of increasing concentration in (1) fast-food, (2) input suppliers (including technology), and (3) manufacturing and processing. There are fewer companies at different points in the value chain, and these companies tend to use fewer suppliers. While the full effect of these changes in agricultural production and processing have been most clearly documented in developed countries, their impact in developing countries is likely to be similar.

### **2.2.1 Fast food**

The fast food industry's impact on supply chains has been documented by various authors. In the course of the 1970s, McDonald's reduced the number of its domestic ground beef suppliers from 175 to just 5. This decision had a profound effect on the structure of the beef processing industry in the USA and was one of the central drivers of concentration (Schlosser 2001:136-37). McDonald's example was followed by other fast-food companies, and these firms could leverage the newly concentrated beef production system that McDonald's had helped to create. A similar process has occurred among potato suppliers in the United States, also documented by Schlosser. Such impacts have been internationalized as fast-food chains have spread, taking their sourcing strategies with them, driving local agricultural production systems towards larger producers using more technology-intensive growing methods, as well as larger, more centralized food processing plants. The consequences for potato production in Argentina of the sourcing strategies of fast-food companies is discussed by Mateos and Capezio (2001).

### **2.2.2 Input suppliers**

Input suppliers have often been neglected in the analysis of the transformation of agribusiness systems. However, important changes have taken place. In particular, with the increasing introduction of "technological packages", farmers become dependent upon suppliers. On the one hand, their knowledge of production practices is derived from input suppliers, who may supply complete packages of related products, as illustrated by the case of shrimp production:

"Shrimp producers [in Thailand] obtain the major part of their technological 'packages' from large feed and chemical companies. This includes know-how concerning the use of aerators and pumps, the use of chemicals, stocking rates, feed conversion etc. Obviously, these input-producing companies are interested in intensive farming systems with high inputs and high outputs"(Altenburg *et al.* 2004: 70-1).

In this case, one of the largest suppliers of inputs into the shrimp and poultry sectors in Southeast and East Asia is the Thai-owned CP group. In the USA, firms such as Cargill and ADM have strong positions in trade in the raw materials for animal feed products (corn, etc) and processing plants for the production of animal feed. The increased use of technological packages is also very evident with genetically modified products. Seeds, fertilisers and knowledge of production systems are provided by the GM companies as a complete package.

Concentration in the seeds sector has also been extensively documented. Srinivasan (2003) has examined concentration in the seed industry and ownership of plant variety rights. Similarly, the Commission on Intellectual Property Rights has drawn attention to the implications of increasing concentration in the seed sector, not only because of its implications for control over new varieties, but also because of the ways in which patents can

be held that effectively block innovation by other companies (Commission on Intellectual Property Rights 2002).

Innovation among input suppliers may also lead to changes in concentration at other points along the chain. The transformation of production technologies may increase vertical coordination as input suppliers drive through technological change at multiple points in the value chain. In the United States, the initial shift from decentralised, small-scale rearing of chickens towards large-scale production based on production on marketing contracts between farmers and feed companies was the result of the latter's shift to new feed regimes that increased productivity (Martinez 1999: 2-8).

### **2.2.3 Food processors and manufacturers**

Increased concentration is also clearly evident in the food processing and manufacturing sector. In the case of globally-traded products such as coffee and cocoa, there has been concentration at the processing stage. Fold (2002: 235-6) documents concentration in the cocoa industry in the United States and Europe. There are many fewer processors of cocoa. Similarly, Fitter and Kaplinsky (2001: 26-7) highlight both concentration among traders of coffee beans during the 1990s and market concentration in the European roasting sector.

In the livestock sector, there have been strong processes of concentration among processors, with clear consequences for supply chains. In the United States, the four-firm concentration ratio for beef packers increased from 72% to 81% between 1990 and 2001. The four-firm concentration ratio for pork packers increased from 37% in 1987 to 59% by 2001 (Hendrickson and Heffernan 2002). In the pork sector, the transformation of producer-processor relationships has been well documented in the United States:

- The four-firm concentration ratio in pork processing rose from 32% in 1985, to 56% in 1998 and 63% in 2003 (Oligopoly Watch 2003).
- Production coordinated through production contracts or direct ownership of production units by processors (vertical integration) increased from 11% in 1993 to 59% in 1999 (Lawrence *et al.* 1997: 24; Martinez 1999: 10-11). The extent of the integration between producer and buyer varies from agreements about timing, pricing and quantities to the buyer providing detailed specifications of production processes and being involved in "the management of farm production and the provision of important inputs (Martinez 1999: 13).
- The percentage of pig-to-finish production units with contracts increased from 11% in 1992 to 34% in 1998. The share of output taken by these contracted units increased from 22% to 63% (Key and McBride 2003: 121).
- The size of production units increased. Production operations with an inventory of more than 1000 hogs raised their share of the total number operations from 37% in 1987 to 47% in 1992 and 71% in 1997 (Martinez 1999: 9).

In this case, the driving forces for switching towards production contracts resulting in greater involvement by processors in the activities of pig producers are three-fold. First, working with a small number of large producers who meet specific production schedules provides the processors with assured supplies so that the processors' facilities are kept fully utilised. These practices are also aimed at obtaining high-quality produce. Improved quality or reduced risk of poor quality the benefit of contracts most cited by processors. Working with larger suppliers with long-term contracts provided greater opportunities for rewarding and securing higher quality stock, which in turn enabled higher quality products to be produced (Lawrence *et al.* 1997). Second, turning independent producers into contracted pig farmers also allows processors (should they wish to do so) to profit from the supply of inputs into the production process and to introduce more effectively improvements in production. Third, the processors are able to secure consistency and productivity improvements by playing a more direct role in

the management of production. Given the huge size of processing companies in Europe and North America, their restructuring of agribusiness value chains should be seen as a tendency in its own right, and not merely a reflection of pressures from supermarket customers.

Food manufacturing has also become more concentrated into the United States and Europe. Data for increasing concentration in the United States between 1967 and 1992 is presented in Table 3. While concentration ratios have not increased in all sectors, there have been substantial increases in a wide range of sectors. For the food and tobacco industry as a whole, the mean concentration ratio rose from 44% to 53%. The top 100 companies increased their share of output from 51% to 75%.

**Table 3: Four-firm concentration ratios in US food processing industries, selected sectors 1967 and 1992 (%)**

Sector		1967	1992
2011	Meat packing plant products	51	75
2015	Poultry and egg processing	15	34
2021	Butter	15	49
2026	Fluid milk	22	22
2041	Flower and other grain mill products	30	56
2043	Cereal breakfast foods	88	85
2051	Bread, cake and related products	26	34
2063	Refined beet sugar	66	71
2082	Malt beverages	40	90
2091	Canned and cured seafood, inc soup	44	29
2095	Roasted coffee	53	66
2096	Potato chips and similar products	41	70
20+ 21	Mean concentration ratio for all sectors	44	53
	Share of sales taken by top 100 companies	51	75

Source: Cotterill (1999: 12-14).

Cotterill also supplies data on concentration ratios in food manufacturing in Europe. Across 10 European countries, the average country-level three-firm concentration ratio was more than 70% for baby foods, canned soups, ice cream, coffee, yoghurts, chocolate confectionary, pet foods, breakfast cereals and tea. Equally important, the same companies appear as the leading firms across different sectors and in different countries. Cotterill identifies the largest company across twenty sectors in ten European countries (188 cases, with information on 12 cases not available). Eleven companies account for 85 of these 188 leading sectoral firms (Cotterill 1999: 16).<sup>13</sup>

#### 2.2.4 Impact on developing countries

As with retailing, the impact of increasing concentration at different points in the value chain on producers and exporters in developing countries takes place through three channels. First, concentration in manufacturing and processing has a significant impact upon export requirements for producers and exporters in developing countries. Suppliers to export markets have to meet the same requirements as described for producers in North America described above.

Second, global processors/manufacturers may create the same types of transformation in developing countries as described above for developed countries. Reardon and Farina (2001)

<sup>13</sup> The eleven large firms were (in order of number of cases cited), Nestlé, Unilever, Orkla, Kellogg, Heinz, Mars, Coca-Cola, Danone, KJS, Barilla and United Biscuits.

analyse changes in dairy systems in Brazil. They argue that the sourcing systems of large processors exclude small producers for much the same reasons are seen in the case of the pork sector in the United States. They refer particularly to the requirement that milk be refrigerated at the farm level as responsible for the marginalisation of thousands of small producers (2001: 11-12). Similarly, analysis of the transformation of agricultural systems in the transition economies Eastern Europe and Central Asia also suggests that multinational processing companies have had a significant impact upon the requirements placed upon local producers. A study by Swinnen found significant vertical coordination of farm production by large intermediaries in dairy, sugar, cotton and grains, and that this level vertical coordination was higher than seen in many western countries (Swinnen 2004: 17-18).

Third, changing consumption trends and trade liberalisation transforms the characteristics of domestic markets in developing countries and drives changes in their productive structures. Landes (2004) has commented upon the greatly increased demand for fruit, vegetables and animal products (poultry, milk, etc) in India, with big increases in poultry meat consumption in southern India. This is largely because "integrated producers have significantly reduced marketing costs and consumer prices in the region" (2004: 31). Abolition of quotas and tariff reductions for some (but by no means all) agricultural products has also changed consumption patterns in India, with an increase in consumption of imported, edible oils because of tariff reductions and lower prices. Such changes create both challenges and opportunities for domestic producers, but taking advantages of the opportunities will require the resources to respond to flexibly to market changes. For many producers, these changes will have a much more substantial impact than any changes in export markets.

### **2.3 Global standards**

The enormous quantity of literature on global standards in food and agriculture, and the complexity of the institutions that define standards in different areas bear eloquent witness to the increasing importance of global standards. Messner (2004: 32-33) notes that not only is there a "confusing proliferation of global standards", but that they play an important role in structuring the global economy.

The scope of standards has increased enormously. Traditionally, standards (particularly in manufacturing) have been technical standards relating to product characteristics:

"The term 'standard' itself is used to refer to a document, which can be conceptualized as an information product, and, in other contexts, to refer to the technical specifications or operating characteristics of tangible, physical commodities of varying degrees of complexity. Generically, a 'standard' is to be understood, for the present purposes, as a set of technical specifications that may be adhered to by a producer, either tacitly or as a result of a formal agreement. It is helpful to distinguish among several types of standards — reference, minimum quality and interface or compatibility standards" (David 1995: 16).

The main function of such standards is to increase transparency in markets and facilitate the division of labour between enterprises. However, this technical definition of the scope of standards can be compared to the much broader definition offered by Nadvi and Wältring:

'Standards are agreed criteria, or as Hawkins states 'external points of reference', by which a product or service's performance, its technical and physical characteristics, and/or the process and conditions under which it has been produced or delivered can be assessed" (Nadvi and Wältring 2004: 56).

It is useful to distinguish standards along the lines outlined in Table 4:

- First, there are standards that relate to testable physical characteristics of products. Such characteristics vary enormously, as the quote from David above highlights.
- Second, process standards may be used as a means of ensuring (or giving increased confidence) that products meet certain desired physical characteristics. These are used in preference to testing when testing is more expensive, technically difficult or impossible. For example, product quality (and in particular, the consistency of product quality) may be difficult to determine in advance of use. Similarly, the HACCP system is designed to increased likelihood that products will be free from problems that would arise if hazards were not identified and controlled for.
- Third, process standards can be an end in themselves. In this case, the desired characteristics are not those of the product, but of the process. Labour and environmental standards are two examples of process standards where the value of the goal to be achieved lies in the processes themselves. Two products that are physically identical could be valued differently according to whether the production process is environmentally sustainable or the labour used in their production is treated in accordance with particular labour standards. In such cases, conformance to the process standard does not have any physical impact on the nature of the product and cannot be determined through examination of it.

**Table 4: The nature and purpose of standards**

<b>Goal of standard</b>	<b>Means of control</b>	<b>Examples</b>
1. To ensure that products conform to specified physical characteristics	Inspection and testing of products	Testing of honey for presence of antibiotics Verifying that products are not contaminated with extraneous materials
2. To ensure that products conform to specified physical characteristics	Certification of process standards at various stages in production, transport and processing Inspection of processes and facilities by governments of importing countries	ISO 9000 HACCP Organic products
3. To ensure that processes conform to specified characteristics in order to achieve goals defined in terms of the process or its impact.	Specifications of process standards at various stages in production, transport and processing	ISO 14000 EurepGAP labour and environmental standards

In the case of agribusiness, the most important distinction is between mandatory standards developed and/or adopted by governments and standards developed by the private sector — either by individual firms (company standards) or by groups of firms or business associations (collective private standards). Overall, the main trends in standards are the increasing complexity and importance of public, mandatory standards in global markets and the increasing importance of private, collective standards on agribusiness trade and value chains.

### **2.3.1 Public standards**

Standards are becoming more numerous and stringent. There are many reasons for this. There is increasing awareness of the health risks associated with food. Product testing is now more sophisticated, making it possible to test for ever lower levels of impurities and contamination. Increasing stringency also arises from globalisation in agribusiness and the

great increase in processed and prepared foods, which create new risks in food value chains (Busch 1997).

### *Product standards*

In the case of the EU there has been a tightening up of product standards, in part because of a process of harmonisation and rationalisation of standards across product areas and across countries, which has tended to level-up standards and increase their stringency, and in part because of a broader tendency to identify and try to remedy food safety problems.

One of the most important changes in product standards was EU directive 42/2000/EC on Maximum Residue Limits (MRLs) for active ingredient/commodity combinations, which came into force in July 2001 as part of the EU pesticide regulation harmonisation programme. The impact of this legislation has probably been greater than anticipated for two reasons:

- The programme required safe levels of pesticide use to be established by scientific testing. Where adequate data to determine safe levels was not already available, interested parties (usually agrochemical companies) could submit data that would provide a basis for setting safe levels. In the absence of such data, the safe level defaults to the "Limit of Determination", the minimum detectable level. Given that pesticides used on many developing country crops were not economically attractive enough to justify investment in testing by agrochemical companies, the MRL for many of these products has been set at the "limit of analytical determination" (The Services Group 2004: 24-25).
- The maximum residue limits are set within a safety culture that places the onus on importance and retailers to take responsibility for the safety of the food that they handle and sell.<sup>14</sup> This places them under an obligation to exercise due diligence over supply chains and production processes, which is an ill-defined and open-ended responsibility. This tends to lead to defensiveness and over-elaborate control systems. This is not necessarily a problem for developing countries that have well-established supply systems, but it does create problems for new entrants, and it does create some reluctance on the part of importers and retailers to source products from small farmers.<sup>15</sup>
- Maximum residue levels are only one of the areas in which increased stringency standards has created new challenges for developing country farmers and exporters. New EU regulations requiring inspection of all in-coming batches of plant products is another case where product inspections create new costs for developing country producers, and in particular for producers sending small batches to the EU.

### *Process standards*

One distinctive feature of the development of public food standards in recent years has been the increasing importance of process standards. There are at least three motivations for this.

First, process standards can be used as a substitute for product standards when inspection fails to detect food that is unsafe. One clear example is the substitution of product standards checked at the point of importation by process controls closer to the points of production and processing in response to food scandals. The case of Guatemalan raspberry imports into the USA is a case in point. After repeated cases of contamination of raspberries imported into the United States with cyclospora, some of which were traced back to Guatemala, the FDA imposed a ban on imports of Guatemalan raspberries. This prohibition was eventually relaxed by the US government, but only for raspberries that are produced in accordance with the Model Plan of Excellence developed by the private sector Guatemalan Berry Commission

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<sup>14</sup> See the discussion of Regulation EC No. 178/2002 below.

<sup>15</sup> The reluctance of UK supermarkets to use small farmers as suppliers, even when they are organised into outgrower schemes, is widely commented upon within the fresh produce industry in the UK.

and the government of Guatemala. This provides for full traceability from products sold to US consumers back to individual growers in Guatemala, as well as defining a set of production practices aimed at securing food safety. While the introduction of this system allowed some exports of Guatemalan raspberries to resume, the number of exporters declined to three in 2002, compared to 85 in 1996 (Calvin 2003: 82).

Second, process controls can be used to promote agricultural practices that are socially and environmentally desirable. Regulations banning the use of child labour would be an example. Similarly, controls over the use of particular production technologies (for example, fishing practices that adversely affect dolphins or turtles) are designed to ensure that imported products are produced in ways that limit damage to the environment.

Third, and perhaps most importantly, the increasing use of process controls represents a change in food safety philosophy. This is clearly illustrated by Regulation (EC) No. 178/2002 passed by the European Parliament in January 2002 but coming into effect in January 2005 (CEC 2002). This established the European Food Safety Authority. The preamble to the regulation sets out a clear approach to food safety that incorporated the following elements:

- Food safety requires consideration of "all aspects of the food production chain as a continuum from and including primary production and production of animal feed up to and including sale or supply of food to the consumer because each element may have a potential impact on food safety" (paragraph 12).
- Reduction, elimination or avoidance of risks to health requires risk assessment, risk management and risk communication (paragraph 17).
- "It is necessary to ensure that a food or feed business including an importer can identify at least the business from which the food, feed, animal or substance that may be incorporated into a food or feed has been supplied, to ensure that on investigation, traceability can be assured at all stages" (paragraph 29).
- Traceability is a central feature of any food safety system; "To this end, [food and feed business] operators shall have in place systems and procedures which allow for this information to be made available to the competent authorities on demand" (article 18, paragraphs 1 and 2).
- Food business operators should have "primary legal responsibility for ensuring food safety" (paragraph 30).

This approach to food safety operates through the assessment and control of processes and the risks that might arise at successive points along the value chain. It represents a shift from "fire fighting" and product testing towards prevention of problems occurring at source. Such concerns are operationalised through:

1. Risk assessment at different stages in the value chain, including requirements for such assessments placed upon foreign production systems. The requirement for HACCP to be applied in the value chain for seafood exports to the United States and European Union is an example of such risk management. Such risk management not only requires risks to be assessed, but also for particular risk-reduction measures to be adopted (for example, concrete floors and some form of covering for even elementary food processing, the use of chlorinated water and the use of designated non-porous materials for surfaces that come into contact with food).
2. Traceability requirements, as illustrated above, so that unsafe food can be traced back along the value chain and corrective or preventive measures applied.<sup>16</sup> Once again, the

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<sup>16</sup> Definitions of traceability, transparency and accountability in food chains are provided in Appendix 1.

minimum requirement that agents know from whom particular batches were bought, and to whom they were sold, is likely to be operationalised through more extensive traceability systems up and down the chain as a means of guaranteeing that firms are showing due diligence (Doherty 2004: 15)

3. Specific, product-related procedures, such as those required for control of particular animal diseases such as foot and mouth disease or BSE.

In addition to this, importing countries may set out standards with respect to the environments within which food production is undertaken in exporting countries. Controls over the physical environment may be required to prevent plant or animal diseases entering the importing country. Examples include the US Department of Agriculture's requirement for fruit fly infestation control programmes to be implemented for exports of certain fruit and regulations concerning control of animal diseases such as for foot and mouth disease applied by many different countries.

The European Union has proposed that countries exporting produce to the EU will need to develop food quality systems in place to provide equivalent levels of protection to those established in the European Union.<sup>17</sup> While the EU will offer support for developing countries,<sup>18</sup> the legislation will place new burdens on export industries. In particular, it will remove the possibility that private sectors working in the context of weak or failed states will be able to operate their own systems and satisfy their buyers in the European Union irrespective of the capabilities of national systems of food safety. Once again, this problem may be particularly relevant for new entrants to global markets, whose governments have not previously needed to develop EU-compliant food safety systems, and for whom low initial export volumes might weaken the case for developing such systems.

### 2.3.2 Private standards

Messner (2004: 33) argues that private actors, both NGOs and corporations, increasingly drive the development of the standards. Some high-profile standards in the food sector have been developed by companies to differentiate their products from those of competitors. These include Tesco's Nature's Choice, Carrefour's Filière de Qualité and Loblaw's President's Choice (Fulponi 2004: 11). However, the more pervasive impact on private standards in agriculture arises from the development of collective private standards by what Casella (2001) has called "private standards setting coalitions". Such coalitions may be entirely private, such as the Global Food Standards Initiative or the Sustainable Agriculture Initiative.<sup>19</sup> However, the dividing line between the public and private is frequently blurred.

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<sup>17</sup> "Community controls in third countries are required in order to verify compliance or equivalence with Community feed and food law as well as with the legislation on animal health and, where appropriate, welfare. Third countries may also be requested to provide information on their control systems. This information, which should be established on the basis of Community guidelines, should form the basis for subsequent Commission controls, which should be carried out within a multidisciplinary framework covering the main sectors exporting to the Community" (CEC 2004: para. 39). These points are further elaborated in Articles 46 and 47 of the food and feed law.

<sup>18</sup> "It is appropriate to take account of the special needs of developing countries, and in particular of the least-developed countries, and to introduce measures to that effect. The Commission should be committed to support developing countries with regard to feed and food safety, which is an important element of human health and trade development. Such support should be organised in the context of the Community's development cooperation policy" (CEC 2004: para. 44).

<sup>19</sup> Short descriptions of different private standards are provided in Fulponi (2004: 29-33), and there are accounts of various such bodies in Dankers and Liu (2003). This report will not replicate the information easily obtained from these two sources.

The International Organisation for Standardization (ISO) "declares itself to be a not-for-profit, non-governmental organization. Its member bodies are either government, parastatal, tripartite or non-governmental bodies — the last-named group often consisting of industry representatives. There can only be one ISO member per country" (Dankers and Liu 2003: 18). Similarly, the International Federation of Organic Agriculture Movements (IFOAM) is an NGO, but it works together with UNCTAD and FAO to standardised regulations on organic agriculture, and it also plays an important role within the European Union. Even when there are not institutional linkages, private standards setting coalitions can lead to the development of new government regulations.

Less obviously, perhaps, the development of private standards setting coalitions can be seen as a response to increasing pressures to conform to public standards and also to meet the concerns of consumers and pressure groups with regard to food safety and the environmental and social impact of food production and processing. Such initiatives develop at two levels. First, standards such as the British Retail Consortium technical standards for food are a response to the obligations created by new legislation. Fulponi observes that it "was initially motivated by the need to meet legislative requirements of the Food Safety Act, 1990" (Fulponi 2004: 31). Second, there are initiatives to standardise these standards themselves. The Global Food Safety Initiative, for example, was set out with the explicit intention of harmonising private standards. It creates a set of principles against which actual and developing food safety standards can be benchmarked.<sup>20</sup>

**Table 5: Attributes of collective private standards**

<b>Attribute</b>	<b>Example</b>
Chain coverage	Some standards focus on specific parts of the chain, such as agricultural production or processing. Others focus on retailing. Yet others, such as the Global Food Safety Initiative, aim to benchmark standards at multiple points along the value chain.
What is controlled	Standards may relate to particular characteristics of the product or to the processes that produce them. In the latter case, standards may focus on management systems or particular characteristics of particular processes.
Attributes controlled for	Standards applied to many aspects of the product or process, including food safety, labour conditions and environment impact.
Generic, vs. product or sector specific standards	Some standards apply across food production generally, while others apply to particular sectors, or even particular products. For example, the SAI is developing specific standards for products such as green coffee and palm oil, while at the other extreme the ISO 9000 standard can be applied across many different sectors.
Certified or not certified	Some standards are enforced through certification, which provides assurances that the certified enterprise has processes and systems in place that meet the specified requirements. EurepGAP, for example, involves certification. Other standards are not enforced through certification.
Labelled or not labelled	Standards such as those for organic produce allow particular product to be labelled, and hence credence claims to be made direct to consumers. Other standards do not result in labelling. The information they provide is primarily for business customers.

<sup>20</sup> Similarly, the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance brings together various bodies involved in social and environmental certification and labelling and sets guidelines for its members (Dankers and Liu 2003: 27).

Given the multiplicity of collective private standards and the different levels at which they operate, a systematic examination is impossible. The key lines of differentiation between standards are summarised in Table 5.

From the point of view of development policy and practice, one of the most significant impacts of standards relates to their distributional consequences. Standards that require compliance by farmers may impose costs associated with (i) investment in new equipment and systems, (ii) obtaining certification, and (iii) developing the capabilities required to meet new standards, particularly when they impact upon management systems and agricultural production processes. The nature of these challenges can be illustrated through the analysis of the impact of one particular standard, EurepGAP.

#### *The EurepGAP standard*

EurepGAP was developed and applied to the production and processing of fresh produce (fruit, vegetables and flowers) by EUREP, an association of European fresh produce importers and retailers. It principally concerns pesticide and chemical use and application, and the environmental impact of farming systems. It also contains some provisions relating to labour standards. At the centre of the system is a commitment to lowering pesticide use: "Adoption of IPM/ICM [integrated pest management and integrated crop management] is regarded by EUREP members as essential for the long-term improvement and sustainability of agricultural production" (EUREP 2001: 3).<sup>21</sup>

Although EUREP only has significant membership among large retailers in the UK and The Netherlands,<sup>22</sup> EurepGAP's reach is broader. First, non-member retailers and importers may use EurepGAP certification as an indicator of supplier quality. Second, interviews in Kenya and the UK confirm that companies will not set up compartmentalised systems for certified and non-certified produce. As a result, exporters and importers working with EurepGAP certified produce will tend to supply other companies with certified produce. For example, UK importers will supply certified produce to wholesale markets even though the certification is not required in this segment of the market.

EurepGAP has been created not only in response to the increasing stringency of mandatory standards such as EU regulations on MRLs for pesticides, but also as a response to pressures from NGOs and consumer groups over issues such as environmental and social impact. It is a cost-effective (for the buyers) route to ensuring that the products they sell conform to these requirements.

For producers, the cost equation looks very different, and small farmers face particular challenges. First, the standard depends upon paper-based systems for monitoring both processes and product flows. A list of the EurepGAP control points is presented in Appendix 2. Second, maintaining traceability from the shelf back to the field requires changes in the way products are harvested, labelled, handled and recorded as they move along the value chain. This requires new capabilities. Third, there are economies of scale in the adoption of such systems, particularly with regard to the cost of certification and training requirements.

EurepGAP increases the obstacles to small-scale producer participation in export markets. The limited evidence currently available suggests that larger farmers and exporters have a few

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<sup>21</sup> For more information, see <http://www.eurep.org>.

<sup>22</sup> Five leading retailers in the UK are members of EUREP, as are five in the Netherlands. Outside of these two countries, membership is more limited: there are two members in Switzerland and Ireland, but only one member in Norway, Sweden, Belgian, Spain, Finland, Germany, France and Austria (see [www.eurep.org](http://www.eurep.org)).

difficulties in meeting the requirements. In fact, there may be benefits from improved organisation and reduced use of pesticides (reduced costs and better worker safety) (The Services Group 2004). For small farmers, the challenges of compliance mean that their access to export markets becomes increasingly dependent upon working with large farmers or processors/exporters. These companies have the ability to support the introduction of new farming systems, provide training and monitor compliance. This is usually achieved through outgrower schemes, but the cost of certification and supervision appear to undermine the economic case for such schemes. While EurepGAP allows for group certification through produce marketing organisations (PMOs), the cost of certification alone comes to "US\$ 6000 for a group of about 25-30 farmers with individual cost of US \$200 for an average farmer with two hectares" (The Services Group 2004: 36).

Local certification bodies (for example, AfriCert in Kenya) reduce the direct cost of certification. Development agencies and NGOs are also promoting farmer groups. Nevertheless, these initiatives alone will not be sufficient to sustain outgrower schemes and cooperatives as sources of EurepGAP-compliant produce. In particular, certification creates new risks for buyers. One leading Kenyan fresh produce exporter, interviewed in March 2005, observed that EurepGAP created a new range of areas in which things could go wrong and for which close supervision would be required. Similarly, a UK fruit importer observed that EurepGAP certification only proved that correct procedures were being followed at the time of certification. Given the risks to company business and reputation from unsafe produce, his firm would continue to source from a narrow range of suppliers whose capabilities were known through experience and through direct inspection and audit.

One problem which does not appear to arise with EurepGAP is equivalence. Private standards do not have an obligation to apply the principles of "equivalency" and mutual recognition, as specified by the agreement on technical barriers to trade (TBT) for public standards. However, in practice, it is in the interests of organisations such as EUREP to provide for flexible application of its principles to suit specific national conditions, and the standard allows for regional interpretation guidelines that are worked out by the national technical working groups. Some developing countries are making use of this opportunity (ChileGAP is already approved, and MalaysiaGAP, ChinaGAP, MexicoGAP and KenyaGAP are being developed). This flexibility results from the aim of EurepGAP to become a globally recognised and adopted standard. Allowing national equivalent standards and flexibility in the application of standards make such adoption more likely.

### **3. The global value chain approach**

These trends in global agribusiness have been noted by researchers and practitioners working with a variety of analytical frameworks. Vertical coordination has been emphasised by a wide range of theoretical approaches to agribusiness systems:

"Most analytical frameworks related to agribusiness research deal directly or indirectly with vertical coordination issues applying a diverse set of theories with emphasis on overall agribusiness system efficiency...development economists and agribusiness researchers generally agree that the growing number of complex contractual arrangements replacing spot markets is a defining characteristic of the agroindustrialisation phenomenon" (Cook and Chaddad 2000: 213).

The distinctiveness of the value chain approach to this issue is outlined in this section.

#### **3.1 The chain metaphor**

Many authors have used the metaphor of the "chain" in the analysis of production and distribution networks. The common features highlighted by such approaches are:

1. The metaphor highlights the fact that most goods and services are produced by a sequence of activities. In many cases, these are carried out by multiple enterprises.
2. The fragmentation of activities means that attention must be paid to how they are linked together. In the economics literature on fragmentation, particular emphasis is given to service links between productive enterprises, which include "services such as transportation, insurance, telecommunications, quality control, and management coordination" (Arndt and Kierzkowski 2001: 4).
3. While many graphical depictions of chains show them as flows of goods between actors (firms) or activities, much more than this flows up and down chains, as it made explicit in the following extract from a World Bank document on agro-food systems in Africa:  
 "Within individual supply chains products and their affiliated ownership rights move from producers to consumers, payment and working capital move from consumers to producers, technology is disseminated, and information on current and future demand is passed back from retailers through to primary producers" (World Bank 2003: 5).
4. The efficiency of the productive system as a whole depends upon the efficiency of each individual element and the linkages between them. This then leads to a focus on systemic competitiveness, as developed by Esser *et al.* (1995). This focus can emphasise one or more of three systemic elements:
  - a. The broad institutional framework within which inter-firm relationships develop. Here, the emphasis is on macroeconomic conditions and policy-making processes.
  - b. The local institutional framework that supports inter-firm relationships. The analysis of systemic competitiveness developed by Esser and others at the German Development Institute draws upon the literature on industrial districts and clustering, highlighting the importance of public policy and institutions, particularly at the local and regional levels.
  - c. The nature of the linkages between firms, with particular importance being given to the ways in which persistent, network relationships between enterprises are constructed and managed. This literature draws upon network theory and transaction cost analysis.<sup>23</sup> It allows for the possibility that some of the inter-firm linkages that sustain cooperation in the division of labour within clusters might also operate within the context of enduring relationships and divisions of labour between firms in value chains, even if these firms are not co-located.

### 3.2 The distinctiveness of the value chain approach

Chain analyses which focus on the private sector can be divided into two broad categories. Some analyses derive predominantly from the literature on supply chain management, emphasising the role of the lead firm in organising its supply chain. The supply chain is seen as an alternative to market relationships: "Supply chains represent an additional (or alternative) form (to markets) for facilitating transactions and coordinating the activities of agro-food participants...Supply chains are vertically structured and are typically led or managed by a particular company - normally a producer, wholesaler or retailer" (World Bank 2003: 5). It is easy to shift from viewing markets and supply chains as alternative forms of economic organisation to being prescriptive and advocating supply chains as a superior form of organising productive systems, as in the following quote:

"Globalisation offers opportunities to developing country producers and exporters. One such opportunity is the year-round provision of fresh agricultural produce.

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<sup>23</sup> See, in particular, Håkansson and Johanson (1993) on inter-firm networks, and Williamson (1979; 1985; 1993, among many others) on transaction cost economics and governance arrangements.

Transnational companies, as well as retailers and importers are expanding their international operations to meet new consumer demands....Producers in developing countries are capitalising on opportunities by entering into partnerships with other businesses active in the global food chain.... In various cases, local farmers have linked their production activities to the interests of transnational companies, thus achieving vertically controlled operations in a cross-border supply chain" (van Roekel *et al.* 2002: 4).

It is true that there are attractive opportunities in OECD markets that require increased coordination to be realised. However, by characterising this coordination as "partnership", by emphasising the role of lead firms and by stressing the positive outcomes of such linkages, the analysis privileges a single way of organising agribusiness supply chains. In contrast, the global value chain approach does not privilege one type of coordination and explicitly addresses the questions of power inequalities. Its distinctiveness lies in the following elements.

### **3.2.1 The changing nature of lead firms**

Global value chain analysis evolved from global commodity chain analysis, which emphasised the importance of global buyers, particularly retailers and brand-name companies, in creating global production, distribution, and marketing systems. Much of the literature on globalisation in 1970s and 1980s emphasised the role of transnational manufacturing corporations as the main agents of globalisation. Gereffi's pioneering work in this area (Gereffi and Korzeniewicz 1990; Gereffi 1994) recognised the increasing influence of retailers relative to manufacturers (including agricultural processors) highlighted in section 2.1. Gereffi used the term "buyer-driven global commodity chain" to highlight the role of these new actors. Value chain analysis identifies the impact of these new buyers by focusing upon, first, the different positions of lead firms in value chains, their competences, and what this implies for the activities of other agents in the chain, and second, what different types of buyers are trying to get out of the chain and its implications for the structuring of value chains in the competences of firms within them.<sup>24</sup>

### **3.2.2 Value chain governance: what it involves**

Global value chain analysis emphasises the different ways in which activities along the chain are coordinated. Global value chain analysis defines chain governance as the process of specifying, communicating and enforcing compliance with key product and process parameters along the value chain (Humphrey and Schmitz 2004). Governance occurs when one firm follows parameters set and enforced (through monitoring and sanctions) by another. At any point in a value chain, the three key parameters to be specified are:

1. What is to be produced: product design and specifications.
2. How it is to be produced, process specifications.
3. How much is to be produced, and when: production scheduling and logistics.

The question of governance arises when some firms in the chain work to parameters set by others. Parameters that are specified also have to be monitored and enforced. Therefore, value chain governance involves institutions for monitoring and enforcing compliance, as described in section 2.1 for the case of the governance of fresh vegetables chain linking Kenyan producers with UK supermarkets. The monitoring mechanisms included supplier selection, monitoring of capabilities through supplier audit and regular inspections. The sanctions applied to enforce compliance with the specifications combined reward (higher prices and larger volumes compared to other buyers) and sanctions (the threat of exclusion

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<sup>24</sup> For example, see the discussion on the transformation of horticultural value chains by UK supermarkets in section 2.1.

from the lead firm's supply chain, or at the very least reduced purchases, together with penalties for poor performance).

### 3.2.3 Why does value chain govern occur?

Value chain governance (or vertical coordination) is such a strong characteristic of agribusiness supply systems that it is easy to take it for granted or regard it as inherently superior to arm's-length market relationships. However, value chain governance involves considerable cost in monitoring and enforcement. The up-front costs of developing systems and relationships with suppliers also lead to less flexible sourcing. Therefore, under what circumstances does it pay to govern value chains? No firm will incur the expense of developing arrangements with specific suppliers in order to purchase products that can be purchased effectively through arm's-length market relationships. The reasons for governance lie in three factors:

- The purchase of non-standard products. The more that buyers pursue a strategy of product differentiation (for example, packaging, labelling, varieties, processes, etc.), the greater the need to work directly with suppliers on issues such as product design, specifications, delivery schedules and handling.
- Assurances about supply performance. Failures by suppliers create risks for buyers and impose costs. These risks and costs have greatly increased as a result of the trends described in sections 2 and 3. First, the increasingly complex standards environment puts retailers' reputations at risk, particularly when they are legally responsible for applying due diligence along the supply chain. Second, the increasing use of "credence" claims requires systems to check and enforce the processes that underlie these claims. Third, modern supply systems depend upon frequent, reliable delivery of products. This time-sensitivity creates new risks of failure.
- Innovation that requires simultaneous changes at various points in the value chain. An example from the agribusiness field would be the transformation of production systems for poultry in the 1950s in the United States (Martinez 1999). Innovation in the feed industry led to increasing vertical coordination between the producers and poultry farmers through production and marketing contracts. Without greater control over poultry production, the feed producers could not maximise the returns from their innovations.

For these reasons, vertical coordination tends to increase in agribusiness systems. This process is self-reinforcing. The greater the degree of vertical coordination, the greater the tendency to rely on a small number of suppliers, which increases the risks and costs associated with their failure. With standardised products sourced from many suppliers, the failures of one can be compensated by other suppliers. The more that supply chains are concentrated, the more difficult it is for failures to be offset by other suppliers.

Gereffi *et al.* (2005) have presented an analytical framework based upon the costs of coordination to identify and explain different ways in which value chains are structured in order to deliver effective governance. They argue that governance structures in value chains are determined by three factors: (i) the amount of information that needs to flow along the chain in order to coordinate the various activities within it; (ii) the extent to which this information can be codified (i.e. turned from tacit, hard to-communicate knowledge into codified information that can be pressed easily from one agent to another); and (iii) the extent to which suppliers are competent to meet the requirements placed upon them.

Clearly, many of the tendencies outlined in section 2 increase the amount of information that has to travel along the value chain. Agricultural commodities used to be traded on the basis of arms length market relationships. These products were standardised — produced without reference to the needs of particular buyers — and limited information about products flowed along the chain. Many small producers could be involved and the output of one producer was

much the same as another's. Daviron (2002: 155) refers to this as the condition of "producer anonymity". With the shift towards non-standard products and increased concern with process control, the amount of information that passes between agents in the chain increases substantially. There is much greater coordination of deliveries, product development (new products, new varieties, new packaging, etc.) and control over production processes (predominantly performance with product, labour and environmental standards).

As well as increasingly complex information flows, these developments create new challenges for supplier competence. For example, the EU maximum residue levels (MRLs) directive obliged growers to abandon the use of certain pesticides and chemicals and to introduce integrated crop and pest management. It also increased risks for buyers, by creating new product safety requirements. The requirements for traceability and the introduction of HACCP create further challenges for supplier competence, as shown in Box 2. Product standards such as MRLs are particularly problematic as they place onerous requirements on the value chain without providing any system for meeting them.

#### **Box 2: Regulatory requirements, certification and supplier competence**

The interaction of regulatory requirements, certification and supplier competence in global agribusiness value chains can be illustrated by the response of value chains to external regulatory requirements for reduced pesticide use.

In the first instance, a reduction in allowable pesticide residues and increased restrictions on pesticide use creates challenges for suppliers. Buyers (whether the end-user or the importer) may need to provide technical assistance in areas such as Integrated Crop and Pest Management or the use of less harmful pesticides. The lack of competence of the suppliers in relation to the new requirements placed upon them and the risks to buyers from non-compliance create a need for extensive technical assistance and coordination. Over time, the supplier base as a whole should become more competent. Suppliers learn, and those that fail to learn are excluded from the chain. Buyers then become able to choose between different suppliers, reducing their need to provide technical assistance.

At the same time, buyers as a whole can reduce their commitments to suppliers while containing the risk of non-conformance through certification schemes. The response to the new regulatory requirements becomes codified and established in a system that monitors and enforces compliance. This is one of the factors behind the development of EurepGAP. This should reduce the need for direct coordination by buyers — until the next change in standards.

#### **3.2.4 Reducing governance costs**

The logic of increasing value chain governance and the reasons why large firms have shifted away from market coordination is clear enough. However, firms will try to reduce the costs of governance, and this can be achieved in three ways:

1. Increasing supplier competence, by investing in the competences of existing suppliers and by working only with the most competent suppliers. Both of these strategies lead to further concentration on the value chain. The more that suppliers can be trusted to meet requirements, the less needs to be invested in monitoring their performance. This has knock-on effects down the value chain. Buyers such as UK supermarkets seem to favour exporters that do not source from small farmers, as this is considered to be more risky than sourcing from exporters' own farms or large contract farmers. Intermediaries in value chains, such as importers and exporters come to play an increasing role in monitoring and technical assistance.
2. Increasing the codification of knowledge flows among the chain. Certification schemes have a role to play here. They set out clear and well-known procedures to be followed by suppliers, with clear mechanisms for certifying compliance. To a large extent, the rise of sectoral standards such as EurepGAP can be seen as a response to the increasing

importance of public, mandatory standards such as labour standards and MRLs. They substitute, to some extent, for direct monitoring and control by buyers, and also transfer the direct costs of monitoring and control from the buyer to the suppliers, who bear the costs of certification. Nevertheless, the success of this substitution depends upon the extent to which standards can be developed that meet all the buyers' requirements and the credibility of these standards.<sup>25</sup> In many manufacturing industries, if not so much in agribusiness, this codification can be extended to product design. Widely-accepted industry standards and systems for classifying product characteristics (for example, the formalisation of colour schemes in the textile industry) together with compatible, automated systems for stock control and procurement, reduce the costs of switching suppliers even when they are located in countries far across the globe.

3. Reconfiguring the value chain so that the "handover" points between enterprises are either eliminated through vertical integration or shifted to points at which the complexity and extent of information transfer is reduced. The increasing use of exporters' own farm production is an example of vertical integration. The introduction of category management by UK supermarkets<sup>26</sup> is an example of how functions within the value chain can be transferred between agents. In the case of category management, some of the functions of product development and supply chain coordination are transferred from the supermarkets to lead suppliers.

These three tendencies together create what Gereffi, Humphrey and Sturgeon. (2005) call "modular value chains". Highly competent suppliers provide buyers with a broad range of products and services, including supply chain management. Once again, this favours concentration along the value chain.

However, these processes are not unilinear. First, the advantages of repetition, routinisation and standardisation may stifle creativity and innovation. The search for product differentiation may create new sources of complexity. Second, supplier competence can be undermined by both the introduction of new requirements (possibly part of an innovation strategy, possibly the result of the external regulatory environment) and by the introduction of new suppliers, most often driven by the desire to cut costs and open up new locations for agricultural production. Third, there are some products for which small producers retain advantages. Large processors and exporters may continue to buy produce from small farms where (i) small farmers are able to mobilise family labour to reduce costs in labour-intensive production, (ii) availability of land is limited, or (iii) demand uncertainty combined with plentiful supply makes it attractive for buyers to reduce their market risk by not investing in productive assets. Value chain analysis suggests, however, that these advantages may be offset by increased coordination costs. Therefore, small farm production is most likely to be competitive in sectors where coordination costs are relatively low— standard products, products without complex logistics requirements or scheduling, and products where reputation risk is low. Certification may reduce reputational risk (although see section 2.3.2 below), but it does not eliminate it, and it does not address the issues of innovation and scheduling, which also favour increased reliance on large producers. These issues are discussed further in section 4.3.

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<sup>25</sup> According to one UK fruit importer, no amount of certification would substitute for knowledge about suppliers built upon experience.

<sup>26</sup> Category management refers to the system whereby supermarkets outsource the management of broad product ranges (for example, citrus or stone fruit) to a "category manager" who takes responsibility for promoting the product, working with suppliers, and managing the value chain. This is discussed in Dolan and Humphrey (2004).

### 3.2.5 Value chain governance and power

There are economies of scale in governance. Large firms have the management capabilities required to coordinate complex relationships with suppliers and customers. Dealing with a few large suppliers or customers is easier than dealing with many small ones. At the same time, large buyers have more buying power and therefore more opportunities to enforce compliance with their wishes. Therefore, governance is associated with buyer power.

Increasing buyer power in global value chains has four main consequences for producers in developing countries:

1. Access to export markets. To the extent that a small number of firms control significant amounts of global trade in agriculture and food products, securing contracts with these firms, or their suppliers, is critical. Concentration is associated with rising barriers to entry and the threat of exclusion, particularly for small farmers.
2. Opportunities for upgrading. One of the ways that developing economies can increase returns to involvement in global value chains is to take on new activities. The way in which successive activities are bundled together or split apart affects the opportunities for adding value to exports. Lead firms play an important role in determining this. The dangers of developing country producers being trapped in narrowly-confined value chain activities with low skills and low returns was emphasised, for example, in the 2002 Trade and Development Report (UNCTAD 2002: 74-76). However, value chain analysis also points to the real opportunities for upgrading arising from the outsourcing of activities by enterprises in developed countries. One clear example of this is the transfer of post-harvest processing of fresh vegetables to producer countries. In the case of Kenya, Humphrey *et al.* (2004) calculate that greater levels of processing in fresh vegetables creates a substantial number of new jobs. Given lower cost of labour in developing countries, increased processing is much more cost-effective, further stimulating it.<sup>27</sup>
3. Systemic competitiveness. The new efficiencies required to compete in global markets are to a large extent systemic. Meeting the service requirements of large customers requires a complex support system of logistics infrastructure and supporting enterprises. Countries that are established exporters of agricultural products developed their support systems over time. It is one further barrier to new entrants to global markets.
4. Returns to participation in global markets. The risks and returns that suppliers obtain from participation in global value chains will depend upon the incidence of monopoly or oligopoly power in value chains. Large sellers are able to exert pressure on small buyers, and large buyers are able to exert pressure on small suppliers. The literature on concentration in agribusiness value chains, discussed in section 2.2, has highlighted the pressures on small producers emanating from both large processors and large retailers. Further evidence is cited in Box 3. Such practices have been widely documented in both the United Kingdom and the United States. There is every reason to believe that exporters from developing countries face similar pressures. While retail concentration continues, research in UK supermarkets has established that products from different producers in different countries are available on supermarket shelves at the same time of year (Dolan *et al.* 1999: 14). Retailers can choose between many different suppliers. This inequality in market power and this is likely to give supermarkets increased power, and this pressure will increase as new entrants to global markets offer a greater range of potential suppliers.

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<sup>27</sup> A similar tendency can be seen in a completely different sector — insurance claims processing. Transferring claims checking to low-cost locations such as India not only reduces the cost of the work but also makes it feasible to adopt much more detailed verification of claims because of the lower cost of processing.

### **Box 3: The impact of supermarket concentration on suppliers in the UK**

Hard evidence of the impact of retail concentration on agricultural producers in developing countries is not easy to find, even though there is a wealth of case study and anecdotal material. Such hard evidence does exist for British suppliers in the UK market. First, Dobson quotes evidence on buyer practices that indicates clear power inequalities and sustained pressure on suppliers:

"Through aggressive bargaining strategies, including the use of de-listing tactics, and the increasing use of auctions for awarding contracts, retailers have been able to drive down the prices and margins that producers receive. Allied to these moves has been the increasing use of vertical restraints placed on producers. These buyer-induced restraints generally take one of two main forms: either aimed at further rent extraction or limiting producers' freedom or incentives to supply elsewhere. The first form includes listing charges, shelf-space fees ("slotting allowances"), promotion support payments and retroactive discounts on goods already sold. The second form includes exclusive supply obligations and other non-compete contract clauses as well as most-favoured-customer type contracts. As the report by the Competition Commission [report] illustrates, these practices are widespread in the UK" (2002: 17).

Second, there is clear evidence that retailers with higher market shares are able to obtain lower prices from suppliers than retailers with low market shares. The UK Competition Commission report on supermarkets, published in 2000, produced data which showed that retailers with a market share of less than 5% tended to pay around 4% more than the average supplier price, while retailers with more than 15 percent market share paid between 2% and 4% less than the average price (cited by Vorley 2003: 25).

Milberg (2003) argues that profits gravitate to points of concentration on the value chain. If one of the characteristics of global production is increasing concentration downstream (at points near to the consumer end of the chain in developed countries) and fragmentation and competition upstream, then profits will be concentrated in developed countries. Analyses of markets for commodities such as coffee and cocoa reveal a tendency to an increasing disparity of margins along the value chain, with increasing gaps between producer prices in developing countries and consumer prices in developed countries. Morisset (1998) compared the consumer prices, wholesale prices and world market prices for five basic food commodities (beef, coffee, rice, sugar, and wheat) in six industrialised countries between the early 1970s and the early 1990s and found a widening gap.

The consequences of different levels of concentration at different points in the value chain are reflected not only in markups and profits, but also in exposure to risk. The consequences of uncertainty and adaptation to unforeseen circumstances can also be distributed unevenly across value chains. For example, UK importers complain that it is a common practice for supermarkets to reduce the prices paid to suppliers when excess supply leads to reductions in prices to the consumer. However, if shortages lead to higher prices, the increased consumer price is not passed on. In this particular case, the downside risk of lower prices is transferred to the supplier, but not the upside gain.

In the face of these pressures, product differentiation and product branding by suppliers becomes one means of creating countervailing power. As Paul Duguid (2003) has argued, the point in the value chain at which a brand is defined has an impact on the options for the different companies in the chain, and through this the returns they can expect to obtain. Duguid developed this argument through an analysis of brand identities in the European drinks industry in the 19th-century. At this time (long before the recent rise of brands in consumer markets), there were many legal disputes over brands and property rights because ownership of the brand identity gave increased power within the value chain. Whether an alcoholic drink is branded by the producer (Chateaux Margaux), a geographical area (Champagne), a manufacturer/wholesaler/distributor (Taylor's port, Gilbey's gin), or a retailer

(Tesco Shiraz) creates different possibilities for supply chain organisation. The consequences are outlined in Table 6.

**Table 6: Branding and value chains**

<b>Location of brand control</b>	<b>Consequences</b>
Brand is controlled by single producer	Downstream value chain agents can only satisfy their customers' requirements through buying from the producer that controls the brand. Example: single estate olive oil.
Brand is based upon geographical indicator	Downstream value chain agents can only satisfy their customers' requirements through buying from producers that have the right to use the geographical indicator. Example: Champagne.
Brand is controlled by processor, wholesaler or distributor	The intermediary develops a brand, often as a result of some form of processing. This allows the distributor to source its product from various different producers and exporters. This in turn means that the monopoly brand holder negotiates with various suppliers, potentially enabling it to reduce margins further back along the value chain (Duguid 2003: 19). Examples: Kellogg's cornflakes, and many other products produced by multinational food companies.
Brand is controlled by the retailer	Retailers develop own label produce, giving them the flexibility to source product from different suppliers, and therefore enabling them to reduce margins in the supply chain. One clear example is supermarket own-label fresh fruit and vegetables. Multiple suppliers can be used to source similar or identical products.

Not surprisingly, producers (at various levels — firms, groups of firms, regions or countries) may try to develop certification schemes, labels or brands. This not only communicates information about products, but also changes power relationships in the value chain. Examples would include the Kenya Flower Council certification scheme and the development of the Thandi brand in South Africa. The latter is linked to black empowerment initiatives and was first developed for wine. It has been given particular impetus since the involvement of Capespan in the development of the Thandi brand for fruit.<sup>28</sup> Such developments may be contested by other actors in the value chain.

#### **4. Redefining challenges for technical assistance programmes**

The current interest of policymakers in value chains arises in part from the tendencies outlined earlier. The power of global buyers (processors as well as retailers) is a "fact on the ground" that is hard to ignore. There have been significant processes of concentration and increasing coordination across a range of agribusiness sectors. Nevertheless, the current level of interest in value chains also derives from broader trends in development thinking, and in particular an increasing recognition of the importance of the private sector in the development process.

This recognition of the role of the private sector arises from three factors. First, trade liberalisation has placed greater emphasis on market orientation and, in particular, export

<sup>28</sup> For more information on the Kenya Flower Council, see <http://www.kenyaflowers.co.ke/>. For more information on Thandi fruit and wines, see <http://www.thandi.com/>.

markets. This inevitably increases the salience of competitiveness for development programmes. Second, structural adjustment programmes and the tendency towards shrinking the role played by the state have focused attention on the roles to be played by public agencies and the private sector in agricultural development. This questioning involves both the output side (the role of state marketing boards vs. private intermediaries) and the input side (the appropriateness of different providers of agricultural service inputs). Recognising the different roles and different contributions of the public and private sectors should also lead to consideration of how they (and other agencies, such as NGOs) should collaborate together in public-private partnerships (PPP).

The contrast between long established and more recent approaches to agricultural development are summarised in Table 7. While any such contrast between the "old" and the "new" inevitably overemphasises differences and caricatures both approaches, the table captures an important shift in emphasis. The two broader shifts, away from state provision and towards the private sector, and away from the production/technology/output approach and towards a more market-oriented approach, are reinforced by the switch towards non-traditional agricultural exports, where issues of market differentiation, vertical coordination and systemic efficiency are much more in evidence. This means that the broader context in which these poor farmers becomes more complex and potentially more turbulent (see section 4.2).

**Table 7: Changing approaches to agricultural development programmes**

<b>Traditional approach</b>	<b>More recent approach</b>
Emphasis on increasing output and productivity	Broader concern with incomes, livelihoods, vulnerability and poverty reduction
Emphasis on technology	Broader emphasis on economic and social relationships
Focus on "supply-side" interventions, based on the providers' perceptions of producers' needs <sup>29</sup>	Increasing focus on market demand and the specific requirements for supplying different buyers and markets
Assumption that producers will sell into markets characterised by arm's-length market relationships	Recognition of structuring of markets through vertical coordination and role of buyers and intermediaries
Public sector extension services seen as prime deliverers of support to farmers	More emphasis on mobilising private sector support for producers
Interventions focused on producers	Systemic interventions from a value chain perspective, with the recognition of the potential importance of post-harvest activities for poverty reduction
Focus on traditional agricultural commodities	Support for expansion of non-traditional agricultural exports

The value chain approach combines a systemic perspective (focus on the value chain) with an emphasis on governance structures (modes of interaction between enterprises). As a result, support programmes targeted at agricultural producers must:

- Recognise that a stakeholder approach must include key stakeholders that may be located far away from the production systems being targeted for support. This should be linked to an understanding that a value chain analysis may indicate points of leverage that can be

<sup>29</sup> This point is made in respect to SME development programmes by Altenburg (2004). Humphrey and Schmitz (1996) refer to this as "customer orientation". In a later paper, they contrast a "production-out" perspective with a "market-in" perspective on enterprise development (Humphrey and Schmitz 2004).

targeted effectively by government and donor interventions, but also that powerful interest within value chains may not easily be mobilisable for development goals.

- Adopt a market focus and an understanding that market segments are differentiated according to the differing requirements of different types of buyers.
- Recognise the importance of knowledge flows within value chains and the strengths and limitations of inter-firm knowledge flows and buyer support for producer capabilities.

The coffee example presented in Box 1 illustrates this point, and it is developed further in Box 4. The integration of a cooperative of small producers in the Peruvian Highlands with the premium, mainstream coffee market in Europe depends upon collaboration and division of labour between producers and buyers, in all likelihood supported by technical assistance. Finding the right buyer can be very important for producers. The buyer solves many of the challenges of penetrating export markets. But this case also raises important questions. Under what conditions are producers likely to be integrated into such systems, as opposed to being excluded? What are the limitations to private sector promotion of small agricultural producers? What risks are there and small producers depend upon powerful buyers for access to export markets?

#### **Box 4: Promoting the livelihoods of coffee exporters**

The case of product differentiation for coffee was discussed in Box 1. The same case highlights the importance of a value chain approach to agricultural development. The apparent success of this product and its potential benefits to producers highlights:

- Finding the right buyer can be an important part of promoting agricultural exports. The buyer provides a marketing outlet and support for farmers.
- Value can be added to products in a variety of ways. In this case, organic production, environmental sustainability, origin and the characteristics of the producers have been used to differentiate the product and charge a premium price.
- The producers were responsible for ensuring coffee quality, but many other aspects of adding value to the product were the responsibility of the buyer. The buyer may have provided technical assistance (directly, or through third parties) in order that the quality and consistency of the coffee could meet the premium market targeted.
- Certification is one important element of identifying the product as a premium product.
- Certification (organic and bird friendly) did not lead to the product being traded through arm's-length market relationships. The link to a specific buyer remained important.
- The benefits to the producers of entering into the relationship with the buyer need to be investigated further. Some benefits have been claimed by the buyer. In addition to specific contributions to community projects, the most likely benefits to producers would be in having an assured market outlet and a stable year-round price, but the extent of this guaranteed market would depend upon the specific contractual relationship and the ease with which the company could continue marketing the product while sourcing from different producers.

The full range of these questions cannot be addressed here. This section addresses three issues:

1. Value chain diagnosis of the challenges for promoting agricultural production and developing marketing channels.
2. How much should the promotion of non-traditional agricultural exports be focused upon small farmers, and what alternatives are there for these farmers?
3. Under what circumstances are lead firms in global value chains likely to transfer knowledge to other agents in the chain and act as a source of increasing capabilities for developing country producers and processors?

#### 4.1 Value chain diagnosis

GTZ work on agricultural services (see [www2.gtz.de/agriservice](http://www2.gtz.de/agriservice)) includes multiple projects and intervention tools that could be complemented through a systematic application of a value chain perspective. The potential is illustrated by a tool developed for "Determining training requirements for upgrading production chains".<sup>30</sup> This tool is aimed at "systematic, quick and efficient determination of necessary skills/knowledge for farmers, processors and their advisers in the improvement of production chains, as a basis for training modules in Good Agricultural Practices (GAP) and Good Processing Practices (GPP)."<sup>31</sup> This surveys knowledge, attitude and practices in production processing, identifying priorities, establishing benchmarks, and identifying training needs and knowledge gaps in conjunction with experts and people from the sector.

Such an approach can be systematised through applying basic value chain tools. The most important tools are:

1. Value chain mapping. This enables simple and rapid identification of key processes and agents within value chains. It also defines the characteristics of different markets and marketing channels, through the identification of the differing needs of different types of buyers. Value chain mapping is an important tool in its own right, and it is also a means of identifying and involving stakeholders. To the extent that the mapping exercise is able to analyse the characteristics of export markets, it may also identify new marketing channels and new potential stakeholders for the local upgrading process. A short summary of value chain mapping procedures is presented in Appendix 3.
2. Identifying the challenges facing the agents (producers, intermediaries, processors, etc.) in the chain. This is most effectively done through an analysis of critical success factors. The value chain methodology, drawing upon the well-established critical success factor approach, explicitly questions the accuracy of the assessments of both critical success factors in different markets and the extent to which the target groups are able to meet the requirements of buyers. The firms at any particular point within a value chain do not necessarily understand fully the requirements of buyers, or the areas where they are exceeding, meeting, or failing to meet these requirements. Examples of critical success factor analysis and how it can be used to identify capability gaps are presented in Appendix 4. Once again, the analysis links local production and producers to the broader context.
3. Consider explicitly the different ways in which the knowledge and skill gaps identified could be filled. For example, a study of the needs of Brazilian SMEs in the automotive components sector analysed the challenge of quality systems certification from a value chain perspective. It identified a number of different routes by which firms could improve their capabilities. These included using consulting firms, accredited certification institutions, customers, and the automotive component manufacturers association (Quadros 2004: 282-3). In other circumstances, input suppliers (equipment suppliers in manufacturing, seed and chemical companies in agriculture, for example) might also play a role in supporting the development of quality systems.

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<sup>30</sup> This example is chosen because the documentation available in English is sufficiently comprehensive for comments to be made.

<sup>31</sup> This document, entitled *ld-training.pdf*, has been available on the GTZ intranet. The terms "GAP" and "GPP" used in this document should not be identified with broader conceptions of good agricultural practice, good manufacturing practice and good distribution practice as defined by the Global Food Safety Initiative (see Global Food Safety Initiative 2004).

The value approach focuses attention explicitly on the rules of different actors within the chain. It can also begin to develop analyses about which chain agents are most likely to commit to upgrading. This issue is further discussed in section 4.3.

This example demonstrates clearly the functions of a value chain approach as a complement to, rather than as a wholesale replacement for, other approaches. The different ways of applying a systemic approach were outlined in section 3.2. The added insights from a value chain approach do not replace the analysis of institutional factors and local linkages. Map 2 in Appendix 3 sketches out the way in which some of the contextual influences on value chains could be represented. The added value of each approach depends upon the characteristics of the production and marketing systems being analysed. Table 8 provides one way of defining the appropriateness of different approaches.

**Table 8: Research methodology matrix**

	<b>Chain actors are interdependent</b>	<b>Chain actors are not interdependent</b>
<b>Chain is highly specific</b>	<i>Supply chain analysis</i>	<i>Production systems study</i>
<b>Chain is not very specific</b>	<i>Service systems analysis</i>	<i>Sector study or partial supply chain analysis</i>

Source: Grossman *et al.*(2000: 9).

What the authors term "supply chain analysis", but which could equally be called "value chain analysis" is most appropriate when chain linkages are highly specific and chain actors are interdependent. This is indicated by complex information flows between firms and a relatively high level of transactional dependence (buyers have few suppliers, and suppliers have few buyers). In fact, within the same value chain linkages inter-firm linkages will fall into different boxes, but some linkages will be more important for the overall competitiveness and dynamics of the chain than others. When applying a methodology, it is important to be aware of the strengths and weaknesses of alternative approaches.

## 4.2 Linking small farmers to global value chains

For development agencies, there are considerable attractions in linking small farmers with export markets, and not just the domestic market:

- For a number of the poorest countries, particularly in Africa, the potential for export growth coming from the mining, manufacturing and services sectors are judged to be so poor that agriculture is the best hope for kick-starting growth.
- Between 40 and 60 percent of the world's poor live in rural areas (World Development Report 2000, cited in Wilson 2002: 2).The most direct route to providing incomes for the poor and for promoting demand for non-farm and off-farm activities in rural areas is through raising agricultural incomes.
- Production targeted at export markets may be particularly effective at raising agricultural incomes. One of the results of an IFPRI survey of the impact of agricultural innovations on poverty was that the main poverty reduction impact of improvements in domestically-oriented production lay in falling food prices for consumers (Adato and Meinzen-Dick 2002). Low inelasticity of demand and the domestic market meant that output improvements were offset by lower prices. In export markets, however, increased output by one country will not have the same effect on prices.
- The prospects for agricultural export growth are greatest in non-traditional agricultural exports such as horticultural products (fruit, vegetables, flowers) and also livestock and

seafood. Fruits and vegetables accounted for 11.7 percent of global trading agricultural products in the period 1977-81. By the period 1997-2001 fruits and vegetables accounted for 16.5 percent of global agricultural trade, and within this broad category, non-traditional exports such as sweetcorn, fresh mushrooms, mangoes and single-strength orange juice were growing much more rapidly than traditional products such as concentrated orange juice, oranges and canned pineapples (Huang 2004: 3).<sup>32</sup>

- Price trends for some non-traditional agricultural exports have been more favourable than for traditional agricultural commodities. Declining prices for commodities such as cotton, coffee and cocoa have been widely documented. In contrast, data on price and quantity trends for fresh vegetables exported from sub-Saharan Africa to the European Union show a much more positive picture (for examples, see Appendix 5).
- The impact of agricultural growth on poverty reduction will be increased to the extent that small farmers participate in this growth.

The desirability of successfully linking small farmers to export markets is not in doubt. The critical question is whether such linkages can be made and sustained.

There is a fairly standard set of policies for supporting such farmers. A recent article by Peter Hazell (2004) refers to better infrastructure for linking to markets, education, new technologies, cheaper fertiliser, credit, property rights and producer-marketing organisations. However, these do not address the problems of compliance with an increasingly complex standards environment, as discussed in sub-section 2.3.1. There are well-defined broad policies relating to the development of the standards infrastructure at national level. Supporting the development of national standards infrastructures, particularly around certification and testing is a clear priority (see, for example, World Bank 2002; World Bank 2003). Similarly, it is well recognised that the public standards infrastructure on the ground in rural areas can also be critical for compliance with animal and plant health requirements that require area-wide programmes.

Similarly, meeting complex standards requires support for knowledge transfer and acquisition of competences. It is important to provide small producers, with more information about both private and public standards in export markets. A GTZ programme in Ghana focused on informing pineapple exporters about the requirements of the EurepGAP standard (Kuehn and Braun 2004). Nevertheless, information about standards alone is not enough. Kuehn and Braun noted that "Certification requirements from Eurep imply managerial and administrative skills as well as infrastructure investments that are often too high to be met by single small producers" (Kuehn and Braun 2004: 2). As a result, later interventions in both Ghana in Kenya have focused upon the formation of farmer groups that will be eligible for certification under Option 2 of EurepGAP.

Given that there are economies of scale in service delivery and in the development of local systems in response to standards, it makes sense to examine horizontal cooperation at different points in the value chain. These can be complemented by policies aimed at promoting value chain linkages so as to facilitate the access of small farmers to export markets. Three different types of strategy are evident:

- A. Promoting cooperatives. This has been a long-established way of coordinating small farmer production. It enables coordination and pooling of production, and also acts as an efficient conduit for technical assistance. In some cases, cooperative formation proceeds simultaneously with buyer linkages and outgrower schemes, providing the buyers with a coordinated group of farmers with which to work. Damiani (2002) describes cases of cooperatives of organic farmers, while the DFID-funded Business Linkages Challenge

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<sup>32</sup> Similar arguments could be made for products such as fresh and frozen prawns, where volume growth has also been impressive.

Fund is supporting one initiative that links a major European buyer of organic cocoa with a producer cooperative in the Dominican Republic.<sup>33</sup>

- B. Promoting outgrower schemes linking small farmers and large buyers. The latter provide technical assistance and also take on some of the tasks critical for compliance with standards, such as pesticide spraying in export horticulture. Five schemes linking smallholders to supermarket buyers are described in Boselie *et al.* (2003). The role of buyers in some cases of export-oriented organic agriculture by small farmers is discussed in Damiani (2002). The review of the GTZ work with pineapple exporters in Ghana (cited above) also seems to suggest this route when it suggests that it may be necessary to work with cooperatives or "clusters with large farms as lead firms" (Kuehn and Braun 2004: 2)
- C. Seeking new marketing channels for the output of small farmers. Fairtrade initiatives are one example of developing alternative marketing channels. Even though these products are now increasingly sold through mainstream retail outlets, the organisation of the chain close to the point of production — producer cooperatives, social spending, and Fairtrade buyers — is very different.

#### 4.2.1 Challenges of incorporating small farmers

The main issue is not whether small farmers can be integrated into marketing channels that meet the challenges of public and private standards, but whether this can be done competitively. The problem presented by standards (and also buyer requirements for consistent and reliable supply) is ensuring the systematic application of defined procedures without unduly raising coordination costs. Outgrower schemes, for example, can address the MRL problem through buyers taking direct responsibility for critical standards-related processes such as pesticide spraying. Large exporters tend to use their own employees for spraying. But how efficient is this? Among the five outgrower schemes analysed by Boselie *et al.*, the authors note that two of the cases there was "an underlying tendency towards sourcing from large-scale growers which are easier to coordinate and can enjoy significant scale economies for certain crops" (Boselie *et al.* 2003: 1160). Similarly, one horticultural exporter in Kenya estimated that sourcing from small farmers costs 20% more than the cost of sourcing from large suppliers.<sup>34</sup>

This problem arises from the costs involved in ensuring continuous compliance with process requirements. The more that compliance has to be monitored by the buyer because of the buyer's lack of trust in the supplier, the more that coordination costs rise. The critical determinant of coordination costs is the buyer's assessment of the level of supplier competence to perform the tasks required. Suppliers that are not considered competent require more technical and managerial support and a higher level of supervision to ensure compliance. New requirements imposed by standards (for example, integrated crop and pest management) create new forms of incompetence and new sources of risk for buyers.

Many small farmers are at a considerable disadvantage, but not all small farmers. There is evidence that small farmers can thrive in the global economy, but only if they are highly competent. Gomes (2004: 97-116), for example, argues that medium-sized farmers are increasing the presence in certain segments of the export-oriented fruit industry in Brazil. However, these farmers are well-educated, often with university education or background in agricultural extension. Similarly, during the recent regoverning markets e-conference Rolando Dy from the Philippines suggested that the successful members of a producer association were "educated farmer-entrepreneurs", while Denise Mainville from Michigan

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<sup>33</sup> See project 23 on the Challenge Fund website, <http://www.challengefunds.org/ProjectPortfolio0902.pdf>

<sup>34</sup> Contribution by Graham Dixie to the regoverning markets e-conference. See footnote 10.

State University observed that successful small lettuce and tomato farmers in Brazil employed "farm managers having agriculture-specific education, for example either degrees in agronomy or technical school". Competence, not size, is the key problem.

In this context, certification requirements such as EurepGAP increase the cost of organising small farmers. It might be thought that certification would reduce coordination costs. Certified small farmers would be shown to be compliance with the required standards. In practice, but this does not appear to be the case. The requirements of EurepGAP (and some of standards) seem to present one more area of potential compliance failure that exporters have to control for. It increases coordination costs rather than reducing them. Exporters in outgrower schemes have to increase their controls to ensure that the correct procedures are being followed. This assessment of the impact of EurepGAP (offered by one leading Kenyan fresh produce exporter) is echoed by a UK fruit importer. In response to a question about buying products from EurepGAP certified suppliers, a UK fruit importer stated that certification observed only proves that the right systems are being employed correctly at the time of certification. The risks of selling on produce with excessive pesticide residues were considered to be so great that the importer continued to work only with known suppliers that could be relied upon to maintain standards. This does not by itself lead to small farmer exclusion, as long as the importer works with known exporters who, in turn, are able to monitor small farmers, but it increases the cost of small farmer production relative to that of large farm or exporter own-farm production.

#### **4.2.2 Alternative export options**

At the beginning of 2005 the issue of compliance with EurepGAP was high on the agendas of various fresh produce exporting countries in sub-Saharan Africa. The importance of this issue was illustrated by the commissioning of reports on compliance costs, active engagement of key actors in these countries with the EUREP Secretariat and a proliferation of interventions designed to facilitate certification processes in these countries — and in particular certification of farmer groups. This concern with EurepGAP could divert attention from strategies designed to promote exports to countries and buyers that do not require this certification and that may represent more appropriate markets for the products in capabilities of small producers. Two opportunities, in particular, should be pursued.

First, there may be scope for expanding exports to less demanding export markets. As a consequence of rising living standards in developing countries and increasing trade liberalisation, export opportunities should increase in southern and Eastern Europe, and the Middle East. Similarly, there will be scope for the expansion of exports of less perishable products (for example, fruit rather than fresh vegetables, or nuts rather than fruit), where value chain linkages are less complicated.<sup>35</sup>

Second, there are niche markets for small farmer production, as discussed in section 2.1.2. The most obvious niche market is organic produce. A large number of studies have found small farmers producing organic produce, in spite of the costs and difficulties of certification (also discussed in Section 5). Frequently, the key to success of such projects is a combination of finding the right agencies to support the transition to organic production, with international NGOs and international buyers playing a prominent role, and finding a buyer that will commit to purchasing and marketing the produce.<sup>36</sup> More research needs to be done on why there seems to be less concern about the reliability of small farmers with respect to consistently meeting organic standards and procedures than there is with respect to small farmers meeting

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<sup>35</sup> The role of small traders in exporting such products is discussed in Humphrey *et al.* (2003).

<sup>36</sup> This is one of the key findings of a study of small producers and organic agriculture in Latin America (IFAD 2003).

export market standards in conventional agriculture (as expressed in the doubts over the reliability of small farmers with respect to EurepGAP).

#### **4.2.3 Risks associated with linking global buyers**

While the importance of linking small producers to large buyers is evident from numerous studies, risks are also involved. The potential advantages were illustrated in the case of shade-grown, organic coffee, presented in Box 1 and Box 4. The division of labour within the value chain between producer and buyer greatly reduces the challenges facing the producer. However, the risks arise from supplier dependence.

In cases where the buyer is investing in the capabilities of the producers (discussed further in section 4.3), the buyer is likely to insist on taking substantial quantities (if not all) of the producer's output. The producers then become dependent upon the buyer. But the buyer will have alternative sources of supply. Cases of this relationship breaking down have been documented. The IFAD report on organic agriculture in Latin America cites the case of organic banana production in the Dominican Republic. The largest exporter of organic bananas developed an outgrower scheme, but following difficulties with outgrowers, it expanded its own farm production with a view to reducing the quantities bought from small farmers (IFAD 2003: 27). Similarly, Dankers (2003: 47-8) sites the case of a project to develop organic, shade-grown coffee production in the north-east of Brazil. This was promoted by Brazilian and Swedish NGOs, with financial support from the region's development bank. Through the Swedish NGO, an arrangement with a Swedish coffee roaster was brokered so that the output of the new cooperative had a market. While this project was initially successful, it took place at the time of continued growth in the global supply of organic coffee. With the increased supply availability, the Swedish roaster decided to discontinue purchasing from this particular cooperative.<sup>37</sup>

The risks of depending upon a single buyer are clear. It is less clear what can be done about this. Small cooperatives will find it difficult to diversify their customers, particularly if the lead customer is providing technical support and/or credit. Fairtrade outlets possibly provide increased security because of their commitment to community development and long-term relationships. However, this market remains limited.

#### **4.2.4 Alternatives to small farmer export**

In the light of these difficulties, two further options should be considered as important elements of strategies to reduce rural poverty through agricultural growth. First, for certain markets it is reasonable to accept that production will shift to large-scale farms, and development interventions should target poverty reduction by focusing on improving conditions for waged employees, and for employees in post-harvest activities. Research by McCulloch and Ota (2002) on export horticulture in Kenya argues that waged employment on large farms is just as poverty-reducing as smallholder production. Targeted interventions could make such employment even more poverty-reducing. Emphasis might be given to programmes aimed at improving the conditions of migrant workers and improving labour standards more generally, with particular emphasis being given to the position of women workers and the gender-sensitivity of labour standards.<sup>38</sup>

The second intervention relates to the potential of the domestic market, which should not be underestimated. Urbanisation, increasing female participation rates and rising incomes (where they occur) are creating a demand for horticultural and livestock products in these

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<sup>37</sup> The question of when buyers are willing to invest in suppliers is discussed further in section 4.3.

<sup>38</sup> This question is discussed by Barrientos *et al.* (2001).

countries. A lot of this demand could be satisfied through small farmer production.<sup>39</sup> Growth in this area could outweigh any potential expansion of small farmer production for export. A strong case for focusing on the potential of the domestic market is made for the case of Kenya by Muendo *et al.* (2004). Unfortunately, some agricultural development programmes are focused exclusively on the export market. For example, the Zambian government, in cooperation with NORAD, provides support for outgrower schemes, but only those aimed at the export market (Emongor *et al.* 2004: 37).

Effective participation of small producers in domestic markets also needs support, although interventions must be managed carefully. The e-conference on "regoverning markets" (see footnote 10 for more details) not only highlighted the importance of domestic markets for small producers but also drew attention to the transparency of these markets (particularly in Asia) and the positive contributions played by traders. The corollary of this is that interventions aimed at enhancing the participation and the returns to participation of small producers should probably work with existing marketing channels rather than creating new ones. New marketing channels supported by donors and NGOs frequently fail to outlive the period of external support. Nevertheless, interventions can be important. One of the biggest challenges is, without doubt, improving the infrastructure linking rural producers with urban markets. There are countless examples of the positive impact of the construction of reliable, all-weather roads in rural areas. These are just as important for domestic production as they are for export production. Another area for intervention is developing grades and standards in markets so that rural producers are rewarded when their quality is above average.

#### **4.3 When do lead firms in value chains enhance knowledge flows and upgrading?**

The increasing recognition of the importance of vertical coordination in agricultural value chains has led to an appreciation of the potential role of value chain linkages in supporting knowledge flows. The rapidly evolving nature of global markets means that knowledge requirements are continually changing. Global value chain linkages offer the prospect of private sector knowledge transfers that should provide up-to-date and relevant information for producers, processors and exporters in developing countries. One of the criticisms of state-financed extension services in the past has been their failure to keep up with the latest knowledge and provide clients with the knowledge relevant to their needs.

Knowledge transfer is not automatic. A recent study of agricultural markets in Zambia highlighted differences in buyers. The study found that in the case of local tomato producers, "All the supermarkets interviewed did not provide any technical assistance to their suppliers except information on crops the supermarkets wanted to buy and the grades and standards the farmers have to achieve" (Emongor *et al.* 2004: 34). Technical assistance, when provided, came from NGOs. In contrast, the same study found that there was considerable technical support for local dairy farmers from international companies involved in milk processing: "Dairy farmers are receiving technical assistance from processor such as Parmalat and Finta. These processors collect milk in bulk from collection centres. They have also provided equipment to the milk cooperatives to test for the quality of milk at the point of purchase" (Emongor *et al.* 2004: 35). Parmalat sources 20% of its milk input from small-scale farmers. The processors are by no means the only source of assistance, however. Milk producers in Zambia have also benefited from projects run by the large American produce and consumer cooperative, Land O' Lakes. This has an international development arm which carries out projects funded by USAID. This company has set up cooperatives and provided equipment and training, particularly in peri-urban areas.

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<sup>39</sup> It was argued in section 2.1.3 that the importance of supermarkets in developing country retailing was probably exaggerated. A policy briefing by Tschirley *et al.* (2004) makes a strong case for focusing on traditional marketing channels.

This example of technical assistance and knowledge management points to the complexities of knowledge sources and value chain linkages. Value chain analysis provides two analytical elements for understanding these complexities: the distinction between different types of buyers and their requirements/capabilities and the overall tendency for lead firms to economise on coordination costs.

Generally speaking, retailers are less likely to provide technical assistance. The typical large-scale retailer is responsible for sourcing hundreds, often thousands, of different product lines. The retailer does not have specialist knowledge of products. Rather than provide "solutions" (instructions and information on what needs to be done and how to do it), it provides "problems" (specifications about the types of products it wants). Even when large retailers are involved in innovation, they are focused on the final product, not the production process. They rely on specialist producers and suppliers. One consequence of this has been the increasing technical competence of exporters and importers that were, until 20 years ago, basically traders. Now they are required to have technical expertise in order to be able to meet the challenges arising from developing new products, new processes and new locations. In this respect, the pivotal role in such chains probably belongs to companies such as Blue Skies in Ghana, and possibly its associated importer. Blues Skies airfreights fresh cut pineapples from Ghana to the United Kingdom for sale in supermarkets. Some of this produce is organic and produced by small farmers. However, the supermarket customer is unlikely to provide specific technical support for organic production or meeting critical UK requirements such as MRLs. Increasingly, UK supermarkets would not have this expertise in-house. At best, it would be provided by UK importers. However, Blue Skies would be in a strong position if it was able to demonstrate its own technical competence, not least because this would open up the possibility of supplying other markets, which would decrease its dependence upon the UK importer. The absence of such capabilities does not rule out all possibility of buyer investment in developing countries. However, such investment depends upon the attractiveness of potential production outweighing the costs and risks of the investment. This tends to occur when new locations are significantly less costly (either because of favourable production conditions or factors such as proximity to markets), or because they offer particular seasonal advantages.

In contrast to supermarkets, processors usually are technical specialists. They focus on well-defined areas, such as livestock (or more specifically beef, pork, poultry, etc.) or dairy or particular types of fruit. Their involvement in processing makes them particularly aware of the factors that lead to differences in yields in processing. Their understanding of the technical and economic impacts of the different characteristics of the products that they process provides them with a knowledge base that can be used for improving productivity, particularly with captive suppliers. As was noted in Section 2.2, processors can be drivers of technical change in agriculture. The challenge for development interventions is to mobilise this knowledge in the service of small farmer improvement, given that the search for improved quality and reliability of supply tends to lead to value chain concentration.

There are other sources of knowledge that come from different parts of the value chain. In the case of the GTZ sector project on organic shrimp production in Ecuador, one of the driving forces in the development of capabilities was the developer of the eco-label, the German company Naturland.<sup>40</sup> In this case, the firm responsible for the certification scheme and label defined the different processes and procedures required to produce organic shrimp, and worked together with multiple stakeholders (public, private and NGO) to create the necessary capabilities. Buyers are far from the only agent of knowledge dissemination.

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<sup>40</sup> See GTZ sector project on Policy Advice for Sustainable Fisheries, lessons learned No 4.

Even if different types of buyers and intermediaries have different types of competences, there still remains the question of when these agents will be willing to invest in the capabilities of suppliers. Any buyer will be hesitant to provide technical assistance if the product can be sourced effectively without it. This follows the principle of economising on coordination costs (which includes technical assistance to suppliers). Provision of technical support for small farmers offers direct benefits to those providing it in the following circumstances:

- There is scarcity of supply, and technical assistance helps to lock in suppliers to a particular buyer. Scarcity of supply often arises when new consumption trends develop or new barriers to entry arise. In both cases, the suppliers' need for knowledge complements the buyers' need for the product. This is one of the reasons for the creation of outgrower schemes for organic produce. Investments by European cocoa producers in outgrower schemes in the Caribbean and Latin America, for example, are partly driven by a scarcity of organic cocoa in the European market. It follows from this that investment in such schemes may be temporary. At the very least, when supply and demand are more in balance the use of outgrowers will have to be justified by factors such as cost competitiveness.
- Alternative sources of supply are restricted by land scarcity. It has been suggested that one of the reasons for continued sourcing from family farms in Eastern Europe is the lack of land freely available for large-scale farming (Swinnen 2004).
- Alternative sources of supply are restricted by transport costs. This is one of the reasons for processor investment in suppliers. In the Zambian case, it would have been expensive to rely on imported milk for the dairy processing sector. Therefore, it pays the processors to develop a local supply capability. Once again, this should be temporary. As soon as there are suitably capable local farmers, these will be used by the processors. There is no particular reason for using suppliers that continue to need assistance.
- Alternative sources of supply are restricted by the location of the processor or intermediaries. Traders or processors of produce for export may have little option but to develop a local supply base. While their overseas customers may be relatively indifferent to the origin of produce that they are selling, the local exporters have particular expertise in sourcing from local economies. In other words, the commitment of Blue Skies in Ghana to the local pineapple producers is much greater than the commitment of the UK customer, Sainsbury's.
- Large parts of the available supply base are unable to meet new challenges, particularly those posed by external regulation. This would be the case with changes in requirements such as reduced pesticide levels and the new practices associated with it such as integrated crop and pest management. It also occurs when consumer tastes change. For example, UK supermarkets have shifted consumer tastes from the Tommy Atkins variety of mango towards the Kent and Keitt varieties. UK importers have been struggling to meet this demand, and in the circumstances they are willing to work with suppliers to ensure that they can offer the retailers as much of the preferred varieties as possible.<sup>41</sup> Once again, this is a temporary phenomenon. As soon as producers are capable of providing the new varieties are widely available, there would be no reason to continue investing in supplier capabilities.
- Particular localities have significant advantages over competitors. Availability at particular times of year and advantages in relation to transport costs can make some locations indispensable to importers seeking a competitive, year-round supply, and therefore they will invest in capabilities in these areas if this is necessary.

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<sup>41</sup> This observation is based on an interview with a leading UK mango importer in October 2004.

- Firms are trading on their image as socially responsible, or supporters of small-scale farming.

These cases show that there are situations in which both producers and exporters in developing countries might receive technical assistance from buyers. The value of technical assistance lies not in the transfer of knowledge about market requirements, but rather in the transfer of knowledge about how to meet these requirements. Generally speaking, large retailers have managed to pass pressure for improved performance and responsibility for securing it back along the supply chain to their immediate suppliers, the importers. This is possible because of competition between importers for the retailers' business. As is usually the case, the more concentrated locations in the value chain are able to make demands on the less concentrated. The lead firm may be the driver for change, but it is not necessarily the agent that implements change or provides the support for it to happen.

It follows from this that the direct business case for investments by major retailers in supply chain capabilities in developing countries is very limited. Knowledge flows may be promoted through pressures for firms to adopt a development stance in their business. The involvement of large retailers in supplier upgrading in developing countries is more likely to be the result of policies related to corporate social responsibility, such as the UK government's Ethical Trade Initiative than because of supply chain considerations.

One final caveat is in order with regard to the mobilisation of private sector knowledge flows for rural development. The private sector has specific capabilities and specific goals. Its support is most likely to reinforce existing specialisations and existing relationships. So, for example, input suppliers are an important source of knowledge about agricultural systems. Input suppliers offer this knowledge because there are direct benefits to the input suppliers through product sales. Such information will be biased towards the products and farming strategies promoted by these input suppliers (Morgan and Murdoch 2000). Agrochemical producers may be reluctant to be the sponsors of integrated crop and pest management if this leads to declining sales (Julian *et al.* 2000: 1179). It follows that such value chain knowledge flows are more effective when incremental changes in farming systems are required.

The overall conclusions on using the private sector for knowledge flows and upgrading are:

1. The key agents for knowledge transfer vary from chain to chain. The "lead" firm may not be responsible for ensuring technical competence along the supply chain. In fact, much of the work of value chain organisation and management is being outsourced by lead firms. This is clearly the case among retailers.
2. There are specific circumstances where the private sector has direct business motives for investing resources in transferring knowledge and upgrading suppliers. These tend to be time-limited, and they are usually directed towards strengthening the capability of suppliers to meet the existing requirements of the buyers. This reinforces existing relationships and existing competences. This is the strength and the limitation of public-private partnerships for knowledge management.
3. Broader commitments to upgrading the capabilities of developing country producers have to be mobilised through schemes that appeal to the broader interest and reputation of businesses, linked to corporate social responsibility, or socially responsible investment initiatives.

## **5. The broader policy environment**

It is widely accepted that developing countries will only obtain the full benefits of their comparative advantages in agricultural production when the agricultural policies of developed countries are reformed. Such reforms include removing protection (quantitative restrictions, tariffs and tariff escalation), cutting subsidies for developed country farmers and stopping

export subsidies. The policy challenges in these areas have been analysed exhaustively, and value chain analysis does not provide new insights. Rather, the contribution of value chain analysis and the analysis of sectoral trends in agribusiness lie in their insights into the impact of the regulatory and competitive environments on productive systems.

A value chain approach is particularly effective at diagnosing sectoral challenges and indicating solutions oriented towards private sector actors and the framework of institutions in which they operate. Nevertheless, the overall effectiveness of such programmes depends upon the broader policy framework. The ability of developing country producers and processors to participate in global markets and to maximise the benefits of this participation depends upon the broader framework of rules and regulations that govern international trade. In other words, the critical question is how to ensure that developing countries are able to take advantage of the opportunities that should arise for increased agricultural trade following trade liberalisation. This leads directly to issues of regulatory frameworks for agribusiness trade, the way that regulations are developed and then implemented, and also to issues around market power in agricultural markets.

In this section, three linked issues are addressed:

- The processes of setting, implementing and achieving conformance with international standards, and how the effectiveness of developing country participation at each stage can be improved.
- Intellectual property rights.
- Concentration in global agribusiness markets and competition policy.

Underlying all of these policy recommendations is a fundamental point about policy formulation. The food industry, including food trade, is usually the responsibility of many different ministries and agencies in developed countries. Many different policies affect developing country agricultural production directly. These policies relate to issues such as maintaining and protecting productive capacity (subsidies, tariffs, and quotas), support for agricultural producers, industry promotion (tariff escalation), consumer safety, protection of animal and plant health (SPS, etc.) and the efficient and transparent operation of markets. Concern about global development and poverty reduction in developing countries may be a limited or non-existent concern for some of the ministries involved in policy formulation. Therefore, implementation of policies for promoting agricultural trade and development requires policy coordination and a broad commitment by governments to securing poverty reduction, sustainable rural livelihoods and environmentally sustainable agriculture in developing countries.

### **5.1 Standards in agribusiness**

Controls over trade in agricultural products are an extension of food laws adopted by countries to regulate domestic production and consumption. These address three issues:

- Consumer protection — correct product descriptions (labelling with respect to contents, origin, etc.) and controls designed to ensure food safety.
- Protection of the food production system through regulations aimed at animal and plant health and increasing market transparency (labelling, upgrading, etc.)
- Protection of business interests through intellectual property rights, including geographical indicators, trademarks, patents, etc.

The use of such regulations is itself regulated through international agreements. The agreements on Technical Barriers to Trade and Sanitary and Phytosanitary Standards establish procedures for introducing standards.

A rules-based system for international trade is essential for maximising the benefits to developing countries from trade. In principle, a rules-based system should provide a level playing field for different nations and traders and prevent the power of the strong being used to disadvantage the weak. However, the current system is failing to do this.

### 5.1.1 Setting standards

The SPS agreement emphasises the need for countries to adopt science-based standards. The recommended means of doing this is through following standards approved by international standards-setting organisations such as the Codex Alimentarius Committee (CAC) and the World Organisation for Animal Health (OIE). These committees work to a scientific agenda, but this does not, by itself, ensure that the standards affect different countries equally. Research on the technical product standards developed by the International Organisation for Standardization (ISO) and the International Electro-technical Commission (IEC) has shown that when a single technical standard is required, there may be a choice between differing, equally feasible solutions that benefit some producers more than others (Mattli and Büthe 2003). This is known in game theory as the "Battle of the Sexes" situation.

In agriculture, such situations arise when solutions to particular human, animal or plant health/safety problems are designed with particular production systems in mind. A solution that works well in the context of one agricultural system may not work well in the context of another. While the application of the principle of equivalence should ensure that different but equally effective solutions are recognised, in practice equivalence may be difficult or expensive to establish. In the case of regimes for the import of organic produce into the EU, countries can request to be listed by the European Commission as having equivalent regimes for certifying organic produce. This means that produce can be imported directly into the EU if it satisfies the country's own system. By 2001, only one developing country, Argentina, had secured listing (Barrett *et al.* 2002: 305). As part of its efforts to secure this listing, the Argentine government ruled out group certification, believing this to be incompatible with EU requirements. This makes it more difficult for cooperatives and outgrowers schemes obtaining organic certification, or at the very least increases the cost of doing so. Therefore, improvements to standards setting procedures should be sought

There are various ways in which the input of developing countries into these procedures can be improved. The analysis of developing country participation in trade and climate change negotiations (Page 2004) suggests the following:

1. It takes time for developing countries to understand the implications of different proposals and to recognise potential common interests. Therefore, the processes of developing and introducing new standards should be stretched out to allow time for learning.
2. Experience matters in international fora. Therefore, programmes that support the participation of developing country delegates to attend meetings and gain experience should continue to have high priority. Similarly, continuity of participation should be encouraged.
3. Developing countries should be encouraged to maximise private sector input into the development of their positions on standards because the private sector is in a position to understand the impact of standards in practice. Private sector capabilities in this area are increasing. In trade negotiations, private sector involvement has increased following their involvement in the development of regional trade agreements (for example, Mercosur). As such regional trade agreements mature and the parties seek greater integration of productive structures through the development of common

standards, the private sector should become more capable of providing inputs into multilateral discussions.<sup>42</sup>

These changes can be reinforced by changes in the way that decision-making is organised in standards setting fora. This issue is not new. It was discussed some years ago by Zarrilli who recommended the following for the Codex Alimentarius Committee (1999: 15):

4. Make every effort to reach consensus. If this is not possible, then the majority required at the first two attempts to introduce a new standard should be increased to two-thirds. Contentious proposals that could not secure such a majority would then have to be discussed three times, giving countries extra time to consider them.
5. Support informal meetings of the parties concerned when disagreements arise.
6. Encourage standards-setting bodies and governments to adopt the Code of Good Practice with regard to transparency and openness of procedures.

These CAC and OIE set base-line standards against which standards requirements set by individual countries are judged. The countries have the right to develop standards that reflect the preferences, but it is particularly important that the base-line against which these are judged reflect broad agreement across nations. Therefore, for a decision-making processes are important, not only in order to provide developing countries with greater opportunities to consider and respond to new measures, but also as a way of ensuring the smooth running of standards-setting organisations in the context of increasing developing country participation in their discussions. It is well known that the increasing participation of developing countries in international governance institutions has placed strain on informal decision-making procedures (for example, the Green Room system at the WTO) that worked well when a few developed countries dominated discussions. Such procedures become unwieldy or unacceptable to some participants when effective participation in discussion expands.

These proposals concern the way in which international standards bodies set standards. It has to be recognised that centrality of such bodies in standards setting has to be preserved. Therefore, three further recommendations are made.

7. Developed countries, and in particular the United States and European Union, should work through international standards bodies and avoid standards escalation. One clear problem with the development of international standards has been the tendency for developed countries to introduce standards that are above the requirements set by bodies such as the CAC, IPPC and OIE. The EU food and feed regulations discussed in subsection 2.3.1 are a case in point. The safeguards of the SPS and TBT agreements are, in effect, bypassed when new and onerous are introduced. As important, such requirements are sometimes imposed as a by-product of "tidying up" exercises.<sup>43</sup> It is difficult for developing countries to contest these standards, particularly when the contestation has to be on the basis of scientific risk assessment. Differences in financial and scientific capabilities are one of the reasons why most disputes over standards are between developed countries. The EU Trade Commissioner, Peter Mandelson, has recently expressed concerns about standards escalation and its impact on developing country agricultural exports. Given that developing countries find it difficult to contest these standards, more caution needs to be exercised by developed countries. Any new

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<sup>42</sup> Regional trade agreements can also serve as the basis for developing capabilities that are useful for participation in global standard setting. It has been noted that while only a very small number of mutual recognition agreements (MRAs) involve developing countries, these countries can gain experience in this area through developing MRAs within new regional trade grouping such as Mercosur and ASEAN (Zarrilli 1999: 19).

<sup>43</sup> A case in point would be the tidying up of in-coming inspections of horticultural produce in some EU countries as a result of harmonisation across the Community.

standards requirement should have attached to it an assessment of the costs of compliance for developing country trade partners.

8. Developed countries should not use bilateral trade agreements as a means of coalescing developing country compliance with higher standards than those developed by international standards bodies. This problem is widespread and is not limited to standards applying to agribusiness. As Sheila Page has argued eloquently, developing countries have much more limited negotiating power in the context of bilateral or plurilateral negotiations than they do with multilateral negotiations. The latter require consensus, while in the former developed countries can use the bargaining power given to them by their control over aid and preferential access to their markets to drive through agreements that would be unacceptable in multilateral fora (Page 2004). Smaller and poorer developing countries are particularly at risk from such pressures.
9. Notwithstanding developing country participation in the setting of public standards, serious problems arise from the increasing importance of private standards. These are discussed in section 5.3.

### 5.1.2 Implementation of standards

As with all rules systems, defining the rules is only the first step. The way that they are applied influences their overall impact. The biggest challenge in this area relates to enhancing the capabilities of developing countries to comply with international standards and to engage in the process of applying standards, contesting them as appropriate. In particular:

10. More support is required for the development of risk assessment capabilities in developing countries so that these countries can both demonstrate the validity of their own SPS measures and contest the validity of the measures adopted by other countries.
11. Article 10 of the SPS agreement refers to special and differential treatment. This needs to be operationalised through recognition of the principal difficulties facing the poorest exporting countries in developed country markets and support to overcome them.
12. Developing countries should be provided with support to contest trade regulations introduced by other countries (developed and developing). The financial cost to both developing country governments and the private sector (businesses and business associations) of contesting decisions that adversely affect exports can be considerable. For example, when the US government alleged dumping by Argentine honey exporters and also illegal subsidies for these producers from the Argentine government, the burden of proof was on the Argentines to show that the allegations were unfounded. The government of the province of Buenos Aires was unable to meet the cost of legal fees, which had been budgeted at \$400,000. At the same time, beekeepers were unable to respond adequately to requests for information from the US government. This problem was summarised succinctly in a New York Times article:  
"[The] United States began its investigation by giving producers and exporters thirty days to answer a nearly 150-page questionnaire in English, but because they could not understand English, failed to realise what was at stake or had incomplete records, the beekeepers did not respond... [In] the absence of what it considered a satisfactory response from the beekeepers, American auditors were authorised to turn to the best available evidence. That turned out to be a magazine article that producers and exporters here say was riddled with errors and false assumptions" (cited by Nogués 2003: 13)
13. The broader means of helping developing countries in this situation would be to reform the current system. This works on the assumption that countries are equally well-placed to contest decisions and apply sanctions. The onus is on the suffering the restriction to prove that it is unreasonable, first to the country applying it and then through the Dispute Settlement Mechanism. For many developing countries, the costs of mounting such cases are prohibitive. Even if successful, redress has to be obtained through applying countervailing sanctions to powerful trading partners. This is not

realistic or even in the complainant country's best interests. Developing countries should have the option of appealing to an independent review panel that would assess the evidence and issue a binding judgment.

### 5.1.3 Conformance

Irrespective of the above measures world agricultural trade will continue to be subject to standards of various sorts. Therefore, it is important to increase the capacity of developing countries to conform to standards. In particular:

14. Private sector certification. The cost of certification can be prohibitive, particularly for smaller producers and exporters. One priority is to promote the development of local certification capabilities. This has two benefits. First, certification costs are reduced. Second, the presence of local certification bodies means that expertise about standards and how to comply with them is also secured in-country. Barrett *et al.* (2002: 309) put the cost of obtaining organic certification from a European certification body (for example, Soil Association Certification in the UK or Ecovert in Germany) at the level of €300-400, plus €500 per day per inspector, plus all travel and accommodation expenses. In Latin America, local certifiers, such as Bio Latina, charge "substantially less" (Barrett *et al.* 2002: 310). The coverage of local certification bodies in Africa, in particular, is patchy. GTZ has supported the development of local certification capabilities in Kenya. Its work with the International Centre of Insect Physiology and Ecology led to the creation of AfriCert Ltd, which is fully accredited as a certification body for EurepGAP. This work needs to be extended.
15. One area of particular relevance for poverty reduction and integration of small farmers into export agribusiness is group certification. Group certification lowers the costs of working with cooperatives and outgrower schemes. At present, the producer groups that have managed to export organic produce successfully to the European Union tend to be organised through Fairtrade companies (Barrett *et al.* 2002: 309). However, it is essential that support for cooperatives and outgrower schemes is based upon a realistic appreciation of market opportunities and strategies linking such schemes to export marketing channels. The discussion in section 4.2.1 highlights the potential obstacles. The certification alone does not guarantee access to export markets.
16. Public sector support. Private sector initiatives need to be supported by an effective public sector standards infrastructure. For some standards, public sector action is required in order to ensure conformance. This is the case with area-wide conformance for freedom from plant and animal diseases. In other cases, public laboratories and a standards and testing infrastructure is required to demonstrate compliance. With the introduction of a new EU requirement for countries exporting to the European Union to have food safety systems in place with demonstrable effectiveness must be accompanied by support for developing countries to strengthen their food safety systems.
17. Within this broader area, it will be necessary to prioritise interventions. These will vary from country to country according to the particular products they export and the problems faced with these products.

## 5.2 Intellectual property rights

The role of intellectual property rights in agribusiness has increased enormously in the past two decades. This impact stems both from the TRIPs agreement and from the increasing importance of science-based innovation in agriculture. This paper need not discuss these issues in any detail. The Commission on Intellectual Property Rights produced a substantial report on this issue in 2002, with chapters on "Agriculture and Genetic Resources", "Traditional Knowledge and Geographical Indicators", "Institutional Capacity" and "The International Architecture" (Commission on Intellectual Property Rights 2002).

One of the recurring themes of the report is the issue of concentration in agribusiness, particularly in the seed sector. This is discussed in more detail in the next subsection. The report's discussion of the importance and benefits of the International Treaty on Plant Genetic Resources for Food and Agriculture also raises important questions about farmers' rights within the context of securing property rights.

At this point, it is only necessary to emphasise the importance of geographical indicators within the context of global value chains. This issue was raised in subsection 3.2 in the discussion of branding and power. Geographical indicators are one means by which developing countries can establish a brand identity in global markets. Once again, there are issues concerning the costs of contesting and enforcing geographical indicators, as highlighted by the CIPR report (Commission on Intellectual Property Rights 2002: 76) and by Kumar (2003). Nevertheless, geographical indicators have become particularly important in the context of increasing concentration in retailing and processing combined with an increase in the number of countries exporting agricultural produce. As Milberg (2003) has argued, the combination of increasing concentration downstream (closer to the end-user) in value chains and increasing fragmentation and competition upstream in developing countries leads to structural imbalance and a tendency for profits to fall in developing countries and to rise in developed countries. The broader question of concentration in global agribusiness is now discussed in the next subsection.

### **5.3 Concentration in global agribusiness**

The overall trend towards increased concentration at various points in global value chains was described in subsection 2.2. Global value chain analysis brings three new elements to the analysis of concentration and monopoly/oligopoly power. First, most discussions of concentration focus on market power and its impact on prices. In addition to this, global value chain analysis highlights the coordination power of global buyers (traders, processors retailers). Large companies act as gatekeepers to markets. Second, the analysis of inter-firm relationships by global value chain researchers has pointed to the ways in which market and coordination power can also transfer risk between agents. Contracts can be drawn up in ways that subject suppliers to the risks of changing supply and demand conditions.<sup>44</sup> Third, the analysis of governance in global value chains highlights the way in which these firms exert influence along the value chain. Large retailers can have a significant impact on what happens in a field in Africa, even though the field may belong to a contract farmer, who sells to an exporter, who supplies an importer, who then supplies the supermarket. When this private sector influence is exerted through the specification of standards and types of certification required, then it also bypasses the safeguards applied to the development and application of SPS. While it is true, for example, that EurepGAP allows for regional interpretation guidelines that are worked out by the national technical working groups and does provide for equivalence and mutual recognition via its benchmarking procedure, there is no formal obligation for private collective standards to include these provisions. Furthermore, there are many examples of private sector policies that place barriers to exports based on tightening up certification requirements. For example, one large UK supermarket, Sainsbury's, has announced that it will only accept imported organic produce certified by one particular certification body, Soil Association Certification Ltd (Barrett *et al.* 2002). These practices affect both large firms and small producers in developing countries. Most

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<sup>44</sup> For example, one UK fruit importer described how its pricing agreement with a supermarket defined a target shelf price for a particular product. The supplier receives a fixed percentage of this target price. When the shelf price rises above the target price, the supplier price remains unchanged — in other words, all the gains go to the supermarket. When the shelf price falls below the target price, the loss are shared equally between the supplier and retailer.

developing country firms (but not all) are small compared to leading global agribusiness companies.<sup>45</sup>

The general problems posed by agribusiness concentration have been widely documented, particularly by campaigning NGOs. Recent reports on this problem include "Managing the Invisible Hand" by the Institute for Agriculture and Trade Policy (Murphy 2002) and "Power Hungry: Six Reasons to Regulate Global Food Corporations", published by the UK NGO, ActionAid, in January 2005. However, the challenge is not to recognise and document the problems posed by increasing global concentration in agribusiness, but to provide policy responses to it.

The governments of developing countries and the producers most directly affected by the policies of large corporations working in agribusiness value chains do not have the resources to address these questions by themselves. At the same time, these governments have to draw a fine line between restraining oligopoly power and seeking to create a climate that stimulates foreign investment and links of global companies to local producers. The producers have little power in the face of large corporations who can switch to different locations. However, there are examples of intervention.

18. Competition policy within developing countries should take into account social objectives, as part of the process of promoting small enterprise. Such provisions have been adopted in South Africa, and in Thailand and the Trading Competition Commission "is in the process of setting fair trade guidelines to restrict retailers' use of bargaining power to demand heavy price reductions from suppliers" (ActionAid International 2005: 51).
19. Consideration should be given to the regulation of business licenses for supermarkets in Central Business Districts of cities as a measure for protecting small retail shops (as happens in some European countries). The potential importance of the regulatory environment is highlighted in a study of the wholesale markets in Europe:  
"proactive regulations favouring the small independent wholesale and retail businesses in and around city centres can greatly help new markets develop. These regulations are generally motivated by the will to preserve middle-scale businesses and employment, and also to favour trade competition. The best example of this is Paris Rungis with the protection area around the wholesale market, the restrictions on supermarkets in the city centre, and the financial help of the State and local governments" (Cadilhon *et al.* 2003: 28).

Nevertheless, the most important policy responses will come from inter-governmental initiatives, the governments of developed countries and from consumer pressure in developed countries. The main areas for policy development at the international level are:

20. Support for the UN sub commission on the Promotion and Protection of Human Rights in its work to develop a set of legally-binding obligations on transnational business (ActionAid International 2005: 39).
21. The WTO should focus on the question of international oligopoly power and its impact on trade. This point is argued cogently by Murphy:  
"The World Trade Organization rules are designed to address *national* policies that distort global markets for agriculture. In particular, they are intended to curb subsidy use and to remove trade barriers. What the rules do not address, except obliquely by reference to state-trading enterprises, is market power and the question of monopoly and oligopoly power....transnational companies in the food sector, rather than

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<sup>45</sup> The obvious exceptions to this generalisation include the large Brazilian processing companies, Sadia and Perdigão, and the CP group based in Thailand.

national governments, really drive agricultural economics. What we don't hear in the debate, and don't properly know, is exactly how much of world agricultural trade is handled by Cargill, or Nestlé or Carrefour—the companies that buy, process and retail the food that finds its way to international markets" (Murphy 2002: 19).

The WTO Trade Policy Review Mechanism and Dispute Resolution Procedure could focus on these issues, while the analysis of the role of state trading boards could be put in the context of countervailing the power of transnational enterprises. Such initiatives could be linked to Special Differential Treatment and issues of food security and rural livelihoods.

22. Developed country governments should take responsibility for reviewing the competitive practices of their companies as they operate in overseas markets. They should cover not only subsidiaries of transnational enterprises, but also the sourcing strategies of firms that work with independent suppliers overseas.

Another set of policies aims to restraining the use of market and coordination power by large agribusiness enterprises. These restraints can be exerted through government pressure on companies to conform to certain voluntary standards, or through appeals by civil society organisations to consumers. In this case, moral pressure is exerted on food companies, whose image and reputation with customers is particularly important. Among the initiatives that are available are:

23. Increasing the accountability of global agribusiness companies and increasing the transparency with which their operations are assessed and reported by establishing reporting requirements and independent assessment of companies known to be selling food products. Such initiatives, if carried out with government support and with the involvement of civil society organisations, would be similar in many respects to the Ethical Trade Initiative sponsored by the UK government. However, policy objectives would be framed more widely and be more concerned with how businesses operate. In some respects the Ethnic Trade Initiative has had to move in this direction.<sup>46</sup>
24. The Ethical Trade Initiative is distinctive insofar as it explicitly recognises the supply chain responsibilities of global buyers. Many of the leading participants in the initiative are not firms that have overseas subsidiaries. They are firms such as retailers and importers that source products from overseas. The recognition of the importance of these firms, which arises directly from increasing vertical coordination in global value chains, needs to be extended to other policy initiatives. The concept of global value chain governance highlights the increasing importance of control without ownership in the global economy.
25. Corporate social responsibility initiatives should be promoted and extended, with a particular emphasis on sourcing strategies and their social impact.
26. Developing country governments should be encouraged to retain controls on foreign direct investment in industries such as agriculture, with commitments to local purchasing and support for the enhancement of farmer capabilities. Specific support for small farmers and for cooperatives is more problematic and needs careful consideration.
27. UNCTAD criteria for assessing FDI should be further developed. It remains the case that many assessments of investment climate and investment policy regimes in

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<sup>46</sup> For example, ETI is predominantly concerned with wages and employment conditions. However, it has become evident that some well-known problems with employment conditions, such as excessive overtime and long working hours, frequently arise as a direct result of the sourcing strategies of global buyers. Sourcing models that rely on just-in-time delivery and last-minute adjustments to volatile demand oblige suppliers to introduce long hours and excessive overtime in order to meet rapidly-changing production schedules. Therefore, pressure on companies has to be directed at the sourcing and selling strategies of the buyers rather than the labour practices of suppliers.

developing countries are focused almost entirely on the degree of liberalisation and "investor-friendliness" without consideration of their developmental impact.

**Appendix 1: Definitions of TTA (traceability, transparency and assurance).**

Completely traceable	Producer traceable	Processor traceable	Distributor traceable	National origin traceable
Definition: the ability to track the identification of a pork product backwards to the initial input of production, i.e. genetic line and feed ingredients	Definition identification of an individual product back to the producer but not to the initial production ingredients	Definition: identification of an individual product back to the processor but not to the producer	Definition: identification of an individual product back to the distributor but not the processor	Definition: identification of an individual product back to the nation of origin but not the distributor
Producer transparency	Processor transparency	Distributor transparency	National transparency	
Definition: the availability of information on the entire production process is available from the producer to the consumer	Definition: the availability of information on the entire production process is available from the processor to the consumer	Definition: the availability of information on the entire production process is available from the distributor to the consumer	Definition: national standards are publicly available. Decisions regarding national standards are open for both industry and public input	
Farm assurance	Processor assurance	Distributor assurance	Retail assurance	
Definition: the process of creating safety and quality standards at the farm-level, which involve regular internal and external verification through testing or auditing	Definition: the process of testing or auditing specific requirements at the abattoir and processor level to ensure safety and quality standards are met	Definition: the process of testing and auditing live animal and product transportation techniques to ensure specific standards of safety and quality are met	Definition: the process of auditing retail handling procedures to ensure that safety and quality standards are met	

Source: Liddle and Bailey (2001: 289).

## Appendix 2: EurepGAP Control Points

Production area	Criteria assessed
1. Traceability	Process flow diagram, hazard points, key responsibilities, action plan for information feedback
2. Record keeping	Appropriate detailed records, farm and operations, safe keeping, responsibility for action, product feedback
3. Varieties and root stocks	Crop husbandry, pests and disease resistance, plant health, use of GMO material
4. Site history and management	Individual recording system, management plan, risk assessment of key operations
5. Soil and substrate management	Soil mapping, soil conditions (erosion), soil fumigation
6. Fertiliser use	Soil analysis and appropriate fertiliser use, records of application, timing and frequency, leaching to groundwater, use of organic manure
7. Irrigation	Predicted appropriate use, water quality and supply
8. Crop protection	Choice of correct pesticide, impact on environment, record of application, type and frequency, appropriate storage, safety and training (protection), maintenance of equipment, correct disposal, residue analysis
9. Harvesting	Hygiene of staff and product, packaging (protection)
10. Postharvest treatment	Appropriate use of chemicals, records of application (time, frequency, reason), product processing, washing, packaging
11. Waste and pollution management, recycling	Identification and minimising of waste and pollutants, action plan
12. Worker health, safety and welfare	Risk assessment of working environment, training, codes of practice (handling chemicals), hygiene, welfare, employment conditions
13. Incremental issues	Impact of farming on environment, wildlife and conservation, action plan
14. Complaint form	Means of documented complaints procedure, integrated traceability

Source: Gogoe (2004: 44).

### Appendix 3: Value chain mapping conventions

The mapping conventions provide a basic map which is the basis for subsequent development and analysis. From this basic framework, different maps can be developed. There are many types of maps:

- Like geographical maps, value chain maps can be viewed at various scales (more or less detailed). Depending upon the nature of the analysis, more or less detail may be needed. Parts of a value chain map can be exploded out to provide greater detail, particularly when maps are used to show information such as costs, employment or wages in different parts of the chain.
- Like geographical maps, value chain maps are abstractions and simplifications. Reality is always more complicated, but overly-detailed maps prevent identification of significant characteristics and relationships in the chain.
- The basic outlines of a geographical map (the continents, etc.) can be filled in with different views of the world: political, relief, weather patterns, etc. Similarly, different aspects of value chains can be mapped onto the basic outline. Firm size, value added, wage levels, information flows, and points of compliance with standards, among other elements, can be mapped onto the basic framework

The following is one way of mapping a chain:

Select the value chain.

Identify not more than six main activities between the start of the production process and sale to the final customer. Work horizontally from left to right, with the final outlets being on the right-hand side.

Identify distinct marketing channels or final outlets (for example, supermarkets, wholesale markets, food processors, etc.). Choose not more than three of these (in some cases there may be just one).

Work backwards along the chain identifying the types of enterprises that carry out each successive function.

Consider the governance relationships between adjacent enterprises in the chain using the following conventions:

- A dotted line to denote an arm's-length market relationship.
- A single unbroken line represents a persistent, network relationship between independent firms
- A thickened line represents vertical integration (successive stages are within the boundaries of a single enterprise).

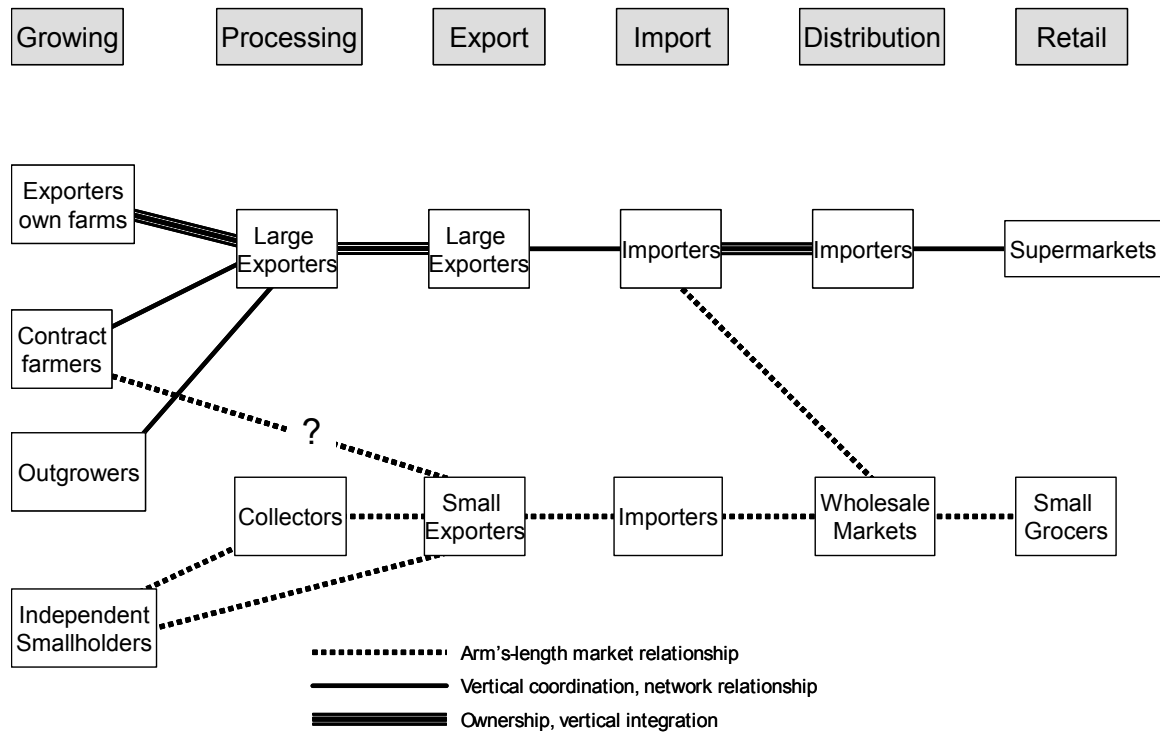
Indicate areas for which adequate information is not available by placing question marks on the map.

Such the process produces the kind of map shown below. Mapping is an iterative process. Having carried out the first six tasks, the adequacy of the map needs to be considered. Are there too few or too many stages? Would it be better to explode some stages out, possibly on a separate map? Are the end points of the chain correct? Are the different marketing channels correctly represented? Is the product category chosen causing problems because it is too narrowly or too broadly defined?

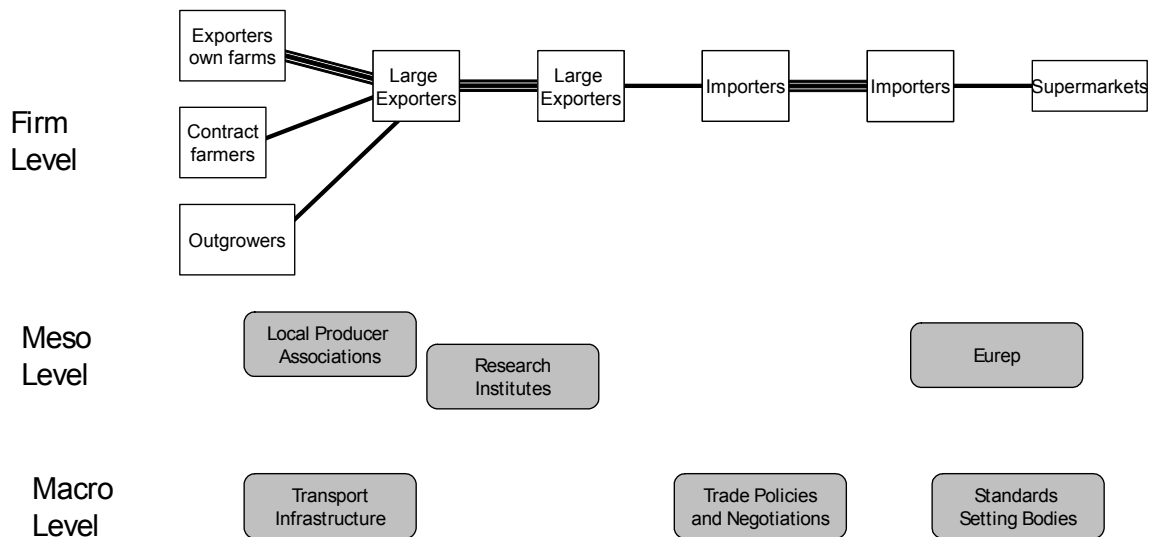
Once there is some basic agreement on the adequacy of the map, the next stage is to consider the differences between the marketing channels and requirements of different types of end users. How does the domestic marketing channel differ from the export channel? What are the differing requirements of different types of domestic buyers (large retail, small retail, processors, etc.) and how does this translate into different patterns of chain organisation? Are the differences in export market characteristics?

This process produces a template that can be used for further value chain analysis. The process of mapping itself is a good ice-breaker for stakeholder interaction.

**Map 1: The Kenya-UK Fresh Vegetables Chain**



**Map 2: The chain in the broader institutional context**

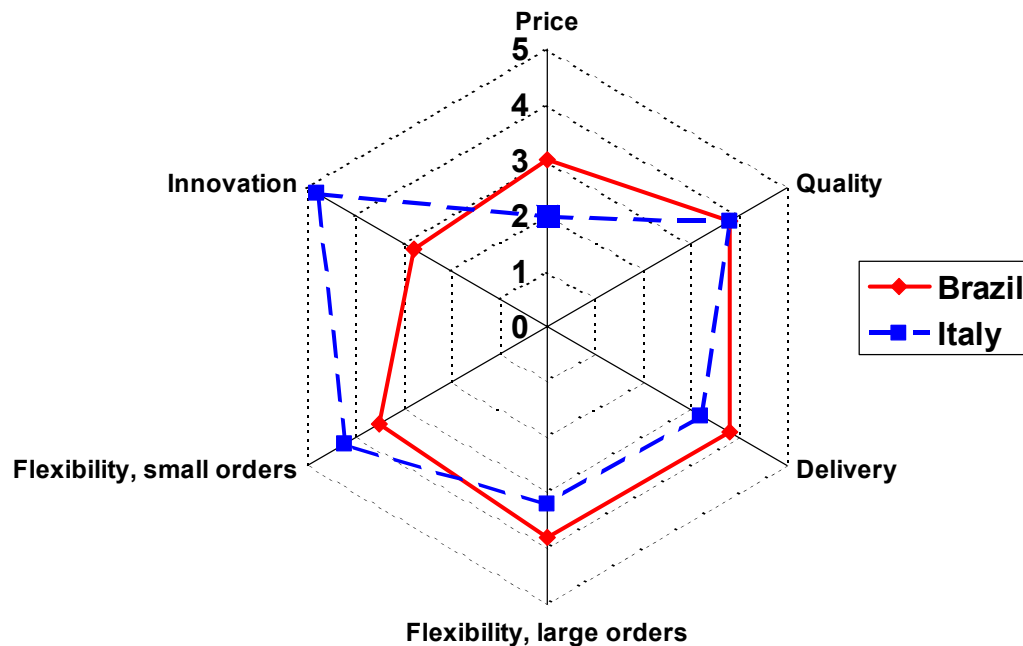


Source: the adaptation of this map from the previous one draws upon a mapping of micro, meso and macro levels of value chain analysis presented by Andreas Springer-Heinze at a GTZ workshop on "Sustainable development and business: the use of the value chain approach" in October 2004.

#### Appendix 4: Buyers' Assessment of Critical Success Factors.

The chart below shows how the analysis of critical success factors can be presented in a way that illustrates the competitive challenges, and therefore the needs for intervention, facing a particular sector. This case is taken from the analysis of the global footwear industry by Schmitz and Knorringa (1999). Based on their previous research knowledge of the industry, the authors identified six critical success factors and asked a number of global footwear buyers based in Europe and North America to rank Brazilian and Italian suppliers. The results were presented in the form of the radar chart below.

Figure 1: Global buyers' assessment of the footwear producers in Brazil and Italy



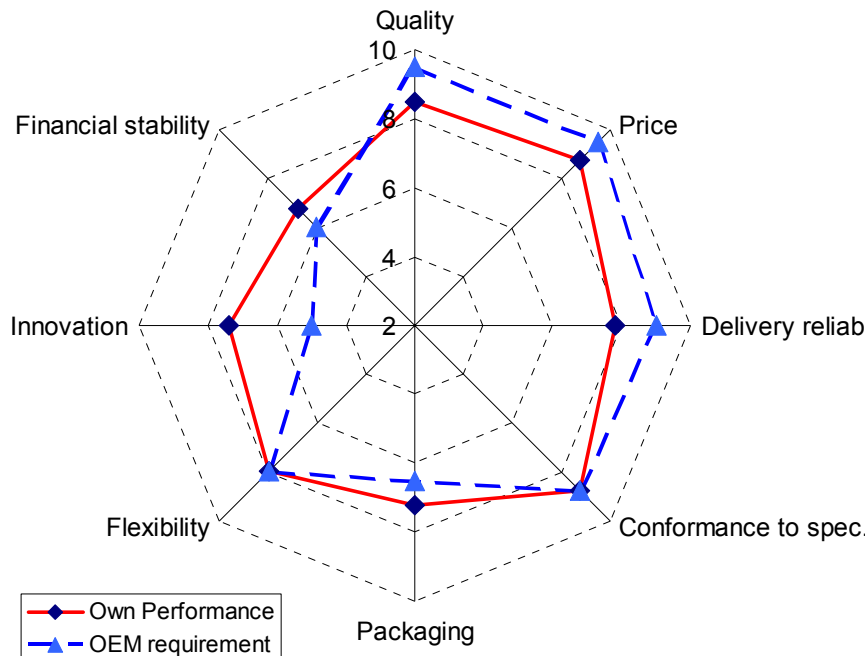
Source: Based upon Schmitz and Knorringa (Schmitz and Knorringa 1999: 11).

The chart shows clearly that Brazilian footwear producers matched or exceeded their Italian competitors in the areas of price, quality, delivery and flexibility in adjusting to changes in large orders. They performed slightly worse with respect to flexible adjustment for small orders. The one area where Brazilian companies fell behind was in innovation. The Brazilian industry was built up through strong relationships with North American buyers who supplied the Brazilian producers with their own designs. This market came under threat from Chinese producers. Brazilian manufacturers wanted to move into higher-value market segments — typically those in which Italian producers had enjoyed a strong position. The chart shows that the biggest challenge in entering this new market segment would be innovative capacity — the ability to produce new designs. As a result of this type of diagnosis, the association of footwear manufacturers in the main region exporting shoes from Brazil, the Sinos Valley in southern Brazil, began to work with local universities and technical institutes to develop courses in design.

The second example of the use of critical success factor radar charts is taken from work by Justin Barnes on the South African automotive components industry (Barnes 1999; Barnes 2000). Figure 2 shows automotive component manufacturers' own assessments of their capabilities compared to what the same manufacturers believed were the requirements of their major customers — transnational automotive assemblers (referred to in the chart as OEM, original equipment manufacturers) with plants in South Africa. The component manufacturers believed that they were close to, or meeting, their buyers' requirements on

quality, price, reliability of delivery, conformance to specifications, packaging and flexibility. They believed that they exceeded the buyers' requirements on innovation and financial stability.<sup>47</sup>

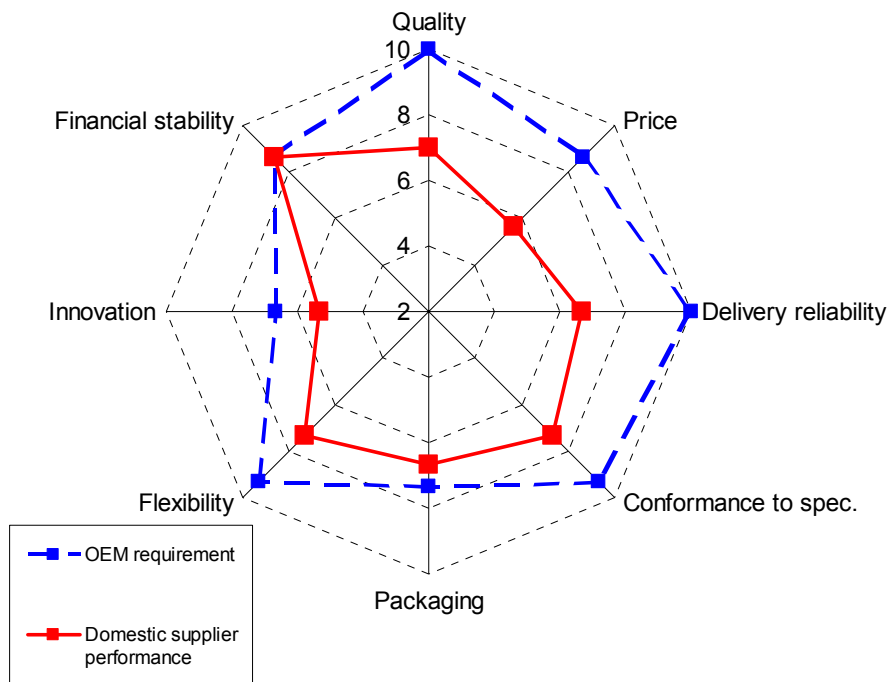
**Figure 2: South African component manufacturers' assessment of own performance and buyer requirements**



Asking the assemblers (i.e., OEMs) themselves the same questions produces a very different picture, as shown Figure 3. From the perspective of the assemblers, there are big shortfalls and supplier performance in the basic areas of price, quality and delivery. This type of analysis can help manufacturers, and particularly business associations, to focus on priority areas for action. While it might be expected that suppliers would have very clear ideas about their customers priorities and the extent to which they meet them, this is often not the case.

<sup>47</sup> The result on innovation may appear surprising. However, if the assemblers provide their own detailed specifications for parts, while the component manufacturers also design products for the replacement market, then the latter's design capabilities may quite easily exceed the requirements of the former.

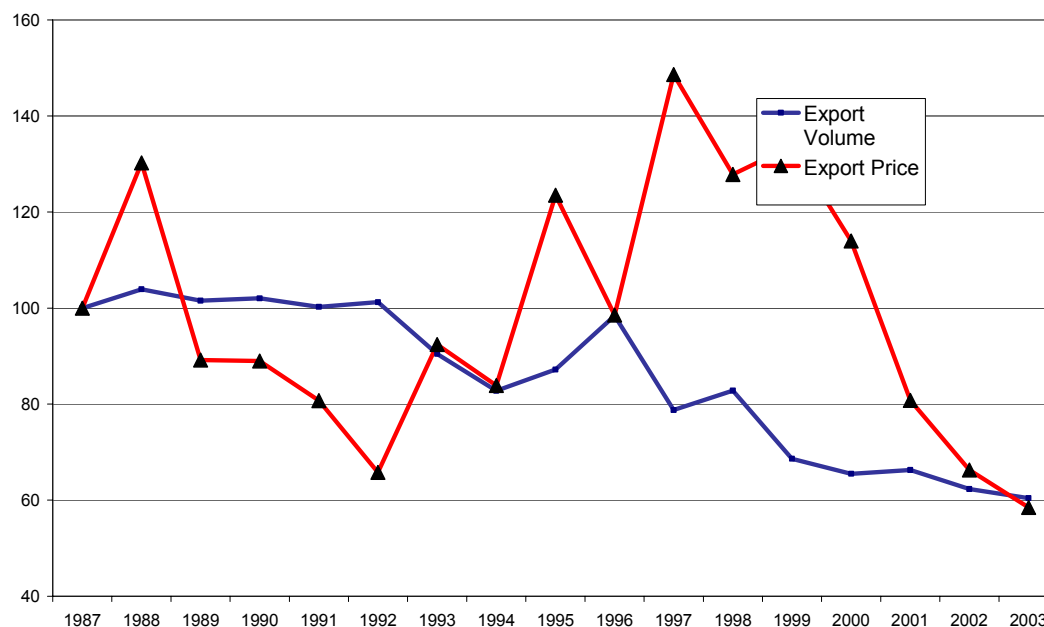
**Figure 3: Assemblers' own assessment of component manufacturers' performance in relation to their requirements**



### Appendix 5: A comparison of price trends

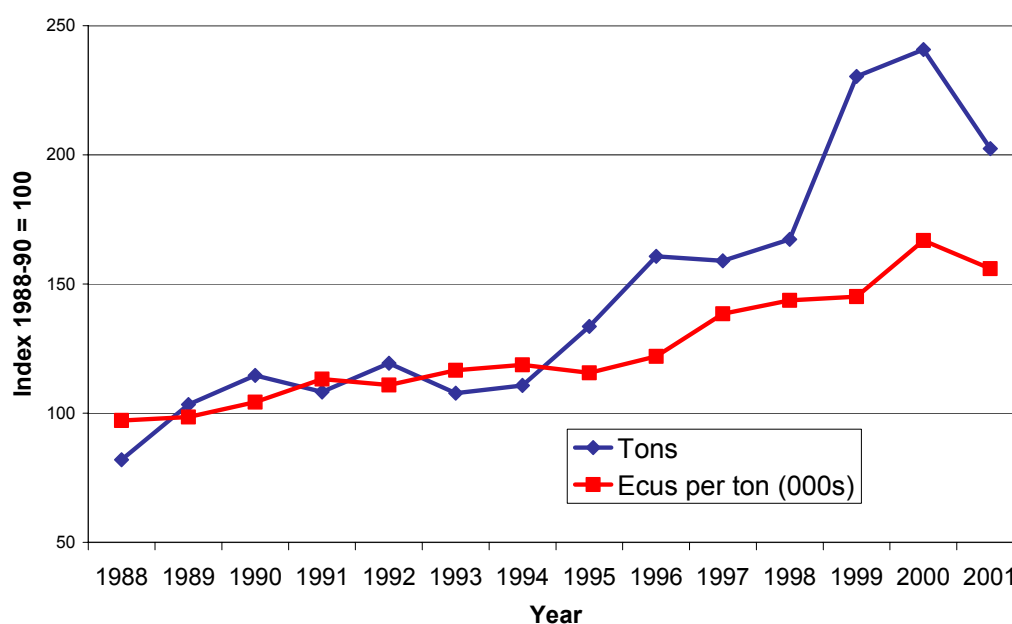
Price trends for traditional agricultural commodities have been analysed exhaustively. The following charts clearly indicate the contrast between traditional among traditional agricultural exports for the case of two commodities exported from Kenya: coffee and "peas and beans". Volumes and prices fall for coffee exports, but rise for peas and beans.

**Figure 4: Kenyan Coffee Exports: 3 Year Moving Averages (Index: 1985-87 = 100)**



Source: Data supplied by Raphael Kaplinsky, IDS.

**Figure 5: Kenyan Exports of Peas and Beans to EU (Index, Mean 1988-90 = 100)**



Source: Eurostat (1998; 2002).

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Deutsche Gesellschaft  
für Technische Zusammenarbeit (GTZ) GmbH  
Dag-Hammarskjöld-Weg 1-5  
Postfach 51 80  
65726 Eschborn, Germany  
Phone (+ 49 61 96) 79 - 0  
Fax (+ 49 61 96) 79 -11 15  
Internet: <http://www.gtz.de>

