

# HORTICULTURE COMMODITY CHAINS: THE IMPACT OF THE UK MARKET ON THE AFRICAN FRESH VEGETABLE INDUSTRY

## IDS WORKING PAPER 96

**Catherine Dolan, John Humphrey and Carla Harris-Pascal\***

### SUMMARY

Production of fresh vegetables for export has grown rapidly in a number of countries in sub-Saharan Africa over the past decade. The fresh vegetables trade has many of the characteristics of a buyer-driven global commodity chain. In such chains, retailers play the key role in governing the chain of activities that links widely dispersed producers to consumers in developed countries. An analysis of decision-making in the chain provide insights into how the chain is structured and how it is developing.

In the UK, the large supermarkets have captured most of the market for imported fresh vegetables. The supermarkets do not own farms, processing facilities or import companies. Nevertheless, they play a critical role in defining what is produced, how and by whom. Their size and market power means that the decisions they take to win customers and comply with food standards regulations define what the other actors in the chain have to do. The requirements they specify for cost, quality, delivery, product variety, innovation, food safety and quality systems help to determine what types of producers and processors are able to gain access to the fresh vegetables chain and the activities they must carry out.

The requirements of the UK supermarkets act as an effective barrier to participation in the chain by small exporters and, to some extent, small producers. However, for those firms that can participate, the reward can be considerable. Vegetables are not only picked and shipped, but also chopped, washed, combined into multi-product packs, labelled and barcoded. Increasingly, these tasks are being transferred to Africa, generating many jobs in the horticulture sector. The paper analyses the way in which the supermarket export business has structured the export horticulture industries of Kenya and Zimbabwe.

In spite of the considerable growth of the industry, new countries are entering the sector all the time, and competition is fierce. The paper considers the strategies that might be used by African exporters to maintain and improve their position within the chain. The strategies include moving into more complex processing and packaging, playing a more effective role in product innovation and diversifying markets.

---

\* Catherine Dolan is a Lecturer at the School of Development Studies, University of East Anglia. Carla Harris-Pascal was a Research Officer at the Institute of Development Studies, University of Sussex. John Humphrey is a Fellow at IDS. The authors gratefully acknowledge the financial support from the Department for International Development which made this research possible. They also thank members of the Globalisation research team, and Raphie Kaplinsky, Khalid Nadvi and Hubert Schmitz in particular, for help with this work.



## CONTENTS

<b>1</b>	<b>Introduction</b>	<b>5</b>
<b>2</b>	<b>Buyer-driven Commodity Chains</b>	<b>5</b>
<b>3</b>	<b>The Governance of the Fresh Vegetables Commodity Chain</b>	<b>9</b>
	3.1 The Outputs of the Chain:	10
	3.2 The Structure of the Chain	13
	3.3 Key Decisions in the African Fresh Vegetables Chain	18
<b>4</b>	<b>The Structure of the Sector in sub-Saharan Africa</b>	<b>22</b>
	4.1 Concentration in the Export Sector	23
	4.2 The Growers	29
<b>5</b>	<b>Securing a Position in the Chain</b>	<b>32</b>
	5.1 Obligational Contracting and Established Relationships	33
	5.2 Keeping Ahead of the Competition	34
	5.3 Positioning Within the Chain	35
<b>6</b>	<b>Conclusions</b>	<b>36</b>



## 1 INTRODUCTION

In recent decades, the world has witnessed the increased integration of developing-country firms into geographically dispersed supply networks or 'commodity chains'. These chains link together firms in developing countries with suppliers and customers in developed countries. The most widely studied examples of such chains have been in the manufacture of consumer non-durables, such as garments and footwear, but this paper focuses on the trade in fresh vegetables. This has become one of the most vibrant sectors in international trade, and during the 1990s, imports of fruit and vegetable products by EU countries surpassed all other categories of agricultural products (Watts 1994).<sup>1</sup>

This paper examines the position of African producers and exporters in the fresh vegetables export trade from the perspective of the global commodity chain analysis developed by Gereffi (1994; 1995).<sup>2</sup> This emphasises not only that independent companies in different countries are linked together in trading relationships, but also that the chain should be considered as a network governed to a large extent by key agents within it. In this paper, it will be argued that the network linking African producers and exporters to the UK retail market is driven to a large extent by the requirements of a small number of UK supermarkets.

Three basic questions are posed. First, governance: how is the fresh vegetable chain structured, which actors define what the chain requires, and how are these requirements transmitted to the various actors in the chain? Second, consequences for African exporters and producers: how has involvement in the chain transformed the production and processing of fresh vegetables in Kenya and Zimbabwe. More specifically, what types of firms are included in the chain or excluded from it? Third, survival: what opportunities and threats exist for those firms included in the chain? Some exporters and producers have thrived as a result of their involvement in the UK supermarket business. What do they need to do to secure continued success?

This paper is divided into 6 sections. Section 2 discusses the concept of buyer-driven commodity chains and its relevance to the analysis of horticulture exports. Section 3 analyses the role of UK supermarkets in determining the outputs, structure and governance of the chain. Section 4 examines how meeting the requirements of the UK retailers has influenced the nature of the horticulture business in Africa, focusing specifically on the cases of Kenya and Zimbabwe. Section 5 discusses competitive pressures in the chain, what African exporters must do to secure continued involvement in this business. Section 6 present conclusions.

## 2 BUYER-DRIVEN COMMODITY CHAINS

The analysis of global commodity chains [GCCs] put forward by Gereffi stresses that trade is increasingly organised through networks linking enterprises dispersed across the global economy:

---

1 Fresh vegetables are one part of the horticulture industry. The industry also includes fresh and processed fruits, as well as cut flowers. Within the fresh vegetables sector, the focus of this paper is on fresh, temperate vegetables, such as green beans, baby corn and mangetout, which have become major export items for some African countries.

2 The term commodity chain may wrongly give the impression that such chains are involved in the production and trade of basic commodities. In fact, such chains are frequently associated with the trade of differentiated products involving sophisticated processing or manufacture.

What is novel about GCCs [global commodity chains] is not the spread of economic activities across national boundaries *per se*, but rather the fact that international production and trade are increasingly organised by industrial and commercial firms involved in strategic decision making and economic networks at the global level. (Gereffi 1995: 113)

This strategic- decision making determines the positioning of the chain in the market, the inclusion and exclusion of actors, and the division of functions within the chain. Gereffi distinguishes between two 'ideal type' governance structures: buyer-driven and producer-driven. Producer-driven commodity chains are typical of capital- and technology-intensive industries, where barriers to entry are greatest in production and in the development of core technologies. In these industries, the expansion of production across national boundaries tends to take place through the creation of subsidiaries. Hence the development of the transnational firm. In contrast, buyer-driven commodity chains are those in which retailers, importers and brand-name companies play the critical role in governing the chain:

One of the main characteristics of firms that fit the buyer-driven model...is that frequently these businesses do not own any production facilities. They are not 'manufacturers' because they have no factories. Rather, these companies are 'merchandisers' that design and/or market, but do not make, the branded products they sell. These firms rely on complex tiered network of subcontractors that perform almost all their specialised tasks....Profits in buyer-driven chains thus derive not from scale economies and technological advances as in producer-driven chains, but rather from unique combinations of high-value research, design, sales, marketing, and financial services that allow the buyers and branded merchandisers to act as strategic brokers in linking overseas factories and traders with evolving product niches in their main consumer markets. (Gereffi 1994: 99)

In sectors such as garments and athletic footwear,<sup>3</sup> the increasing power of buyers to influence the organisation of chains has arisen from considerable concentration in the retail sector, and the rise of brand names. In these cases, retailers and designers have acquired considerable influence over the chain as a result of either their oligopoly power (the cases of large retailers such as J.C. Penney in the United States and Marks and Spencer in Britain) or their control over key elements such as brand-name development and product design (for example, Nike and Liz Claiborne).

In the United Kingdom, the rise of the large supermarket chains has been one of the most dramatic examples of concentration in retailing. Today, the top four retailers (Tesco, Sainsbury's, Asda and Safeway) account for nearly 75 per cent of all food sales in the United Kingdom, including sales of fresh vegetables (Fearne and Hughes 1998). As they have grown in size, they have exercised increasing influence on commodity chains across a wide range of products. They have developed their own brands, in competition with industry leaders such as Heinz, Kellogg and Schweppes. They have developed sophisticated logistics systems, as described by Womack and Jones (1996). They have played a decisive role in developing suppliers

- seen most famously in the case of Marks and Spencer's influence on the UK garment industry, but equally evident across broad areas of the food industry. Generally speaking, these large retailers have avoided direct involvement in production. They specialise in retailing and in the organisation of supply chains, but they have no factories of their own.

The horticultural value chain linking UK consumers and supermarkets with export firms and farmers in Africa has been directly affected by this process of retail concentration. Whereas imported horticultural produce was previously channelled primarily through wholesale markets, the largest UK retailers now control 70-90% of fresh produce imports from Africa. There are signs of similar trends in the other parts of Europe.

A substantial amount of work on buyer-driven commodity chains has focused on the buyers. As key actors in the chain, they make decisions about positioning in the market, the distribution of functions between the constituents of the chain, and inclusion and exclusion. According to Sydow:

*The focal organisation leading the network...is permanently engaged in attracting and selection new members,...in sustaining network relationships by managing conflicts and learning, in positioning and repositioning the network in the market, and in building the structure and the culture of the network.* (Sydow 1992: 114, emphasis in original)<sup>4</sup>

Section 3 analyses how the chain is structured and which actors are responsible for making the key decisions.

This paper is concerned with the impact of the fresh vegetables trade on countries on the development of sub-Saharan Africa. Therefore, the focus solely on the role of buyers in structuring the chain would provide a very limited view of the industry. Section 4 of this paper considers how producers and export firms in Kenya and Zimbabwe have responded to the requirements of UK supermarkets and how this has changed the structure of the industry in the two countries. It considers what types of firms in Kenya and Zimbabwe have been the winners and losers in the process of re-definition of the chain, and the extent to which involvement in the chain generates new skills and value-adding activities in Africa - creating jobs and incomes for African workers. In this respect, it addresses one of the key themes of the IDS globalisation research programme - how the gains from globalisation can be spread more widely between and within developing countries.<sup>5</sup>

This paper also uses a global commodity chain analysis to consider the long-term prospects for sustaining the success and competitiveness of the fresh vegetables industry in Kenya and Zimbabwe. How secure are the countries currently doing well out of fresh vegetables trade? There are some reasons for optimism. If the analysis in Section 4 shows that new skills are being created in Africa, then this strengthens the value of African producers and exporters to their UK customers. Further, Gereffi's definition of global commodity chains in terms of networks of firms directed by strategic decision making implies that relationships in the chain are both durable and information-rich. The buyer-supplier relationship may have the characteristics of long-term partnership and mutual learning which have become more evident in parts of

---

3 See, for example, the commodity chain studies by Appelbaum, Smith and Christerson (1994) and Gereffi and Pen (1994) on the garments industry, and Korzeniewicz (1994) on the sports shoe industry.

4 Quoted in Palpacuer (1997: 18).

5 More information about the globalisation research programme can be found in Institute of Development Studies (1998).

**Table 1: Arm's-length and Obligational Contracting**

	<b>Arms-Length Contractual Relation (ACR)</b>	<b>Obligation Contractual Relations (OCR)</b>
<b>1. Transactional dependence</b>	Buyer seeks to maintain low dependence by trading with a large number of competing suppliers. Supplier seeks to trade with many customers.	For both customers and suppliers, avoidance of independence is not a priority. Buyers have few suppliers, and suppliers have few customers.
<b>2. Ordering procedure and projected length of trading relationship</b>	Open bidding for orders. Short-term commitment desired and real.	Bidding may not take place, established suppliers tend to win continued business. Long-term commitment desired and real.
<b>3. Inspection</b>	Inspection on delivery.	Little or no inspection on delivery for most parts. Customer is involved in establishing and/or monitoring supplier's quality system.
<b>4. Technical assistance</b>	Expertise rarely pooled, and assistance only when paid for.	Extensive unilateral or bilateral technology transfer over time.
<b>5. Communication</b>	Infrequent and through formal channels. Narrowly focused on purchasing department.	Multi-channelled, frequent and often informal.
<b>6. Risk sharing</b>	Risks resulting from price and demand fluctuations distributed according to explicit prior agreement.	Much sharing of risk. Gains and losses distributed on case-by-case basis according to some principle of fairness.

*Source:* Based on Sako (1992: 11-12).

manufacturing industry in the 1980s and 1990s. Once again, this would provide some increased security for suppliers already in the chain.

This issue can be studied from the perspective of the distinction between arm's-length and obligational contracting used in the literature on buyer-supplier relations. A summary of this distinction is shown in Table 1. Arm's-length contracting is seen in its most extreme form in spot transactions in wholesale markets. Buyers and suppliers have very limited contact, and relations are transient. The UK supermarkets no longer source through wholesale markets, and it will be shown in this paper that the fresh vegetables commodity chain has some of the characteristics of obligational contracting summarised in the table. Transactional dependence is relatively high, relations are quite durable and communication is intense. However, there are two reasons for caution. Firstly, the concentration of the retail sector places considerable power in hands of the supermarkets. Secondly, studies of buyer-driven commodity chains show that buyers frequently 'scout for new sources of supply, actively promoting the entry of new suppliers into the chain. Therefore, Section 5 considers the longer-term prospects for African producers and the changing nature of the fresh vegetables chain.



**Table 2: Distribution of Fresh Fruit and Vegetables by Market Outlet (% Share of Value)**

Outlet	1994	1995	1996	1997
Multiples	63	68	72	76
Greengrocers and market stalls	26	21	18	15
Independent Grocers <sup>(a)</sup>	6	6	6	5
Farm Shops/Other	5	5	4	4

Note: (a) Shops selling a range of fresh and processed foods.

Source: Fearn and Hughes (1998: 29).

### 3 THE GOVERNANCE OF THE FRESH VEGETABLES COMMODITY CHAIN

Over the past 30 years, one of the most striking features of horticultural retailing in the United Kingdom has been the increasing dominance of large supermarkets.<sup>6</sup> According to Gray and Kleih, 'Specialist greengrocers and fruiterers had a 46% market share [of the UK market] in 1980 but this had fallen to 26% by 1991' (1997: 30). This process has continued in the 1990s, as can be seen in Table 2. By 1997, the multiple stores (supermarkets and major retail chains) accounted for 76% of UK fresh fruit and vegetable sales,<sup>7</sup> and they were also responsible for most of the import of fresh vegetables into the UK. Supermarket retailing is characterised by oligopolistic competition. A small number of retailers battle for customer loyalty and market share. While the supermarkets frequently proclaim price and value-for-money as their major competitive advantage, in reality the leading supermarket chains do not compete directly with low-price outlets. Rather, they compete with each other largely on the basis of the range of services they can offer, differentiating their offerings through non-price factors.

For a number of reasons, fresh fruit and vegetables has become a key area of competition between retailers. The supermarkets compete on attributes such as a quality, year-round availability, presentation, product range, packaging and innovation.<sup>8</sup> A visit to any major supermarket chain in the UK will reveal innovation in product variety (vine-ripened tomatoes, for example), food preparation (pre-washed and chopped food), packaging (including joint packaging of complementary foods, such as sweet corn and sugar snap peas ready for stir-fry dishes), and the presentation of exotic produce to the mass market (for example, through new recipe ideas).

The dynamism of this trade is rooted in several factors. Changes in dietary habits stemming from increased health awareness, together with demand for convenience foods, have accelerated the consumption of prepared fresh fruit and vegetables in the UK. Retailers are devoting more shelf space to ready-to-eat fruit and vegetables targeted at households who want convenient, high-quality food. While food products as a whole are income inelastic, fresh fruit and vegetables are purchased disproportionately by higher-income consumers. Fresh produce is crucial for attracting and retaining such customers:

6 A recent example of increased retail concentration is the merger of ASDA, the UK's third largest retail chain, with Kingfisher PLC, which makes them the third largest in Europe in terms of operating profits (Weaver 1999b).

7 The seven largest retailers are Tesco, Sainsbury's, Asda, Safeway, Somerfield, Waitrose and Marks and Spencer. In the course of our research, we have interviewed FFV buyers and other managers from five of these companies, as well as UK importers, wholesalers and exporters from Africa. The paper uses the terms 'supermarkets' and 'multiples' to refer to these seven companies.

8 This does not mean price is unimportant. Consumers are sensitive to pricing points (for example, some supermarkets pack vegetables in sizes that can be sold for 99p), and the margins of suppliers are constantly under pressure.

Fresh produce has become what retailers describe as a 'destination' category - fresh fruit and vegetables is one of the few product categories (along with fresh meat and wine) for which shoppers will switch stores. It is also one of the two remaining categories (along with meat) which is virtually all own label and thus over which they can exert considerable influence and control. As a result, over the past fifteen years, the fresh produce department has moved from the back of the store to the front and has doubled its shelf area in store.... (Fearne and Hughes 1998: 5)

Estimates of the growth prospects for the fresh fruit and vegetable market as a whole vary, but it is widely recognised that sales of speciality vegetables<sup>9</sup> and prepared fresh food have grown considerably in the 1990s and are expected to continue growing rapidly in the foreseeable future. Fearne and Hughes (1998: 5) estimate that 'sales of speciality vegetables have increased by 21% in volume terms during the period 1993-96'. They further draw attention to the rapid growth in sales of pre-washed salads, which are sold ready-to-eat. These increased by 34.3% in value terms between 1994 and 1996 (Fearne and Hughes 1998: 25).

The countries of sub-Saharan Africa have found a niche in this trade. Imports of fresh and chilled leguminous vegetables (Harmonised tariff category 0708) into the European Union from outside Western Europe (including the Canary Islands) rose by 133% between 1989 and 1997, reaching ECU 134 million. The major part of these imports (ECU 97.6 million, or 73% of the total) came from sub-Saharan Africa. Kenya alone supplied 38.6% of these imports, worth ECU 51.8 million in 1997 (Eurostat database). Further, the 15 European Union countries imported ECU 41 million of 'other fresh vegetables' (HS 0709, which includes artichokes, asparagus, mushrooms, sweet peppers and capsicum) from sub-Saharan Africa in 1997. While this trade is dominated by countries in Central Europe and the Middle East (Poland, Hungary, Israel and Turkey), Kenya was the fifth largest supplier of these products to the European Union.

Sales of imported speciality vegetables such as asparagus, fine beans, mangetout and babycorn have increased markedly in the UK. The market for imported fresh vegetables has shifted away from Asian vegetables for the ethnic market and off-season supply of temperate vegetables towards an increasing year-round supply of speciality vegetables sold in mainstream markets. Some speciality vegetables, such as mangetout and sugarsnap peas, have already shifted to the fringes of mainstream trading (Seaton 1999).

The way this trade has been structured is considered here in terms of three questions about the fresh vegetable commodity chain: the outputs the chain is meant to produce, the structure of the chain (the actors in the chain and their roles) and who makes the key decisions in the chain.

### **3.1 The Outputs of the Chain**

Paraphrasing the comments of a senior industry manager, UK customers are looking for good quality, wholesome, safe food, with a consistency of flavour, available when they require it at a competitive price. This translates into six outputs required from the chain:

---

<sup>9</sup> Examples of speciality vegetables are shown in Table 5 below.

### ***Quality and Consistency***

Products must be visually appealing with a shape, texture and flavour that are attractive to customers. The supermarkets have extended the concept of self-service to fruit and vegetables, and this reinforces the need for instant, appealing produce. Customers can select their own fruit and vegetables, leaving unattractive produce on the shelves to rot. According to one senior supermarket manager, the produce left on the shelves by customers determines the quality standard. Ideally, the customer should be able to buy a product that is consistent in appearance and taste, not only at any one time, but also preferably across the growing season. For the customers targeted by the multiples, top quality is imperative for marketability. This requires sophisticated quality systems and logistics to ensure that products are grown and then preserved in the best possible state.

### ***Reliability of Supply***

Supermarkets make strong demands on the security of delivery and fear that if products are not available when a customer goes shopping, she/he will switch to other outlets. As one supermarket noted, 'we can find the supply all around the world, but if we can't get it in and in quick time, it's of no use.'. This places emphasis on logistics and security of supply.

### ***Cost***

Although price has not been the critical success factor for supermarket fresh vegetables, margins and prices are under pressure because of the continuing competition and concentration in retailing. Suppliers must be able to keep prices down while maintaining high quality and consistent supply. One element in cost reduction is scale. Supermarkets believe that they reduce their own transaction costs by dealing with fewer, larger suppliers, and that larger suppliers have better opportunities to reduce their own cost bases.

### ***Variety, Value-added and Innovation***

The supermarkets have extended their fresh produce ranges, increasing the number of varieties of basic products (such as tomatoes and apples), and introducing completely new products onto the shelves. They constantly look for new product ideas and presentations. The competition for high-spending, middle-class consumers who want fresh, healthy food that can be prepared quickly has focused on offering an increasing range of products, prepared foods, product combinations and attractive packaging. Processing, packaging and the development of new varieties create a very significant price premium. The ways in which value can be added to the humble carrot is shown in Table 3. In one supermarket in the Brighton area, loose, Class 1 (the best) carrots were selling for 18p per pound (equivalent to 39.4p per kilo) in April 1999. Carrots sold ready-packed in a plastic bag cost more than double the loose price. Peeling and slicing carrots increase the price to £2.83p, while mini-carrots and 'mini-crunch' carrots could be sold at a price up to £6.00 per kilo, or 15 times the price of loose, full-sized carrots.

**Table 3: Adding Value to Carrots**

<b>Product</b>	<b>Weight and Price</b>	<b>Price per kilo</b>
Basic carrots, Class 1	18p per lb, loose	39.4p
Basic carrots, bagged, class 1	87p, 1 kg bag	87p
Peeled and sliced carrots	350g bag, 99p	£2.83
Carrot batons (peeled, chopped, washed, ready-to-eat)	200g bag, 59p	£2.95
Peeled, ready-to-cook mini-carrots	300g bag, 85p	£2.83
Mini-carrots in tray	225g tray, 99p	£4.40
Mini-crunch carrots (peeled, chopped, washed, ready-to-eat)	100g bag, 60p	£6.00

*Source:* Authors' observations in one UK supermarket.

Further value-adding developments designed to attract customers include the development of new product combinations, such as peeled and chopped papaya packaged together with wedges of lime, or packets of vegetable combinations peeled, sliced and washed, ready to be put straight into stir-fry dishes. According to one New Zealand fruit exporter, 'It is all about putting some theatre into the retail environment and we will be placing decorated bins in store, providing point-of-sale material and competition leaflets to attract attention to our apples' (Leighton 1998). Hence, the fresh vegetable value chain has to be capable not only of providing the processing required to add value, but also of quickly developing, producing and marketing new products.

Notwithstanding these observations, it should be noted that the returns to the chain are concentrated in the UK. This is seen clearly in Table 4. In the case of two types of bean, one exported from Zimbabwe and the other from Kenya, the costs of the producer, exporter and packaging amounted to 22.6% and 27.2% of the final price of the product. The greatest margins were at the end of the chain, at the supermarket. While the precise values for these items vary considerably across the growing season, the overall balance of returns is clearly illustrated by the two cases.

### ***Food Safety***

The 1990 Food Safety Act requires retailers to demonstrate that they have shown 'due diligence' in manufacture, transportation, storage and preparation of food (Marsden and Wrigley 1996). In practice, this mean showing that 'reasonable' care has been taken to ensure food safety. In response to this requirement, UK supermarkets have developed systems that allow products to be traced from the field to the supermarket shelf. All supermarkets insist that products be bar-coded with the source of production. For exporters, the UK market is viewed as extremely strict in regard to food safety and pesticide application. Continental Europe is seen as less rigid. As one Zimbabwean exporter claimed, 'you can dip it in DDT and ship it off to the EEC, we can't do that with the UK.' Nevertheless, it is expected that continental Europe (the second largest destination for African produce) will introduce equally strict residue level requirements by 2000 (interview with fresh produce exporter).

**Table 4: Cost Structure of Africa FFV Exports to the UK**

Stage	One tonne export lot of mangetout from Zimbabwe		Export of fresh vegetables from Kenya
	Price per tonne (£)	% of final price	% of final price
Producer	630	11.9	14.1
Exporter	291	5.5	
Packaging	274	5.2	13.1
Air freight and handling <sup>(a)</sup>	1036	19.6	21.2
TOTAL CIF from Africa	2230	42.2	48.4
Importer charges and commission	624 <sup>(b)</sup>	11.8	6.1
Supermarket			
Stockout <sup>(c)</sup>	714	13.5	
Other costs	285	5.4	45.5
Mark-up	1427	27.0	
Total price	5281	100.0	100

Note:

(a) While the air freight charges might appear high, they match those for the Gambia in the early 1990s calculated by Little and Dolan (1993). In this case, air freight costs came to 45% of the total CIF export cost.

(b) Includes airport handling, transport and storage in UK, as well as importer's (i.e. category manager) commission. In the Kenyan example the UK airport costs may be included in the 'air freight and handling' category.

(c) Includes losses from unsold produce, etc.

Source: Mangetout, African exporter. Fine beans, UK importer.

### ***Ethical Trade***

Supermarkets are under some pressure to ensure that their production systems are socially and environmentally sound. The issues of labour and environmental standards have gained increased importance in the minds of consumers, and the UK government has been actively promoting the involvement of retailers in the development of standards. Perhaps more to point, retailers have become acutely aware of the damage that can be caused to their image by exposés of poor labour conditions (particularly child labour) and environmentally damaging production processes. As a result most retailers have developed codes of practice that address procedures regarding healthy and safety, employment conditions, and environmental management throughout the supply chain. As one importer claimed, the pressure for ethical trade is 'actually supporting a highly sophisticated, regulated and exclusive supply chain.'

### **3.2 The Structure of the Chain**

The extent and sophistication of the UK supermarket provision of imported speciality vegetables is shown in Table 5. The range of products was recorded in visits to four leading supermarkets in the Brighton area. In each case, two or more visits were made in a period of under 10 days. These revealed a wide range of fresh vegetables imported from different countries, and a variety of packaging and product presentations, ranging from loose produce (just one case), to cellophane wrapped, trimmed produce in trays, vegetables prepared and ready to cook, and combinations of vegetables in one tray.

**Table 5: Speciality Vegetables in UK Supermarkets, April 1999<sup>(a)</sup>**

Product	Processing and Packaging	Asda	M&S	Sainsbury's	Waitrose
asparagus	trimmed and wrapped in tray			Peru Thailand <sup>(b)</sup>	Thailand
asparagus, bunched	untrimmed in cellophane pack	Zimbabwe			Zimbabwe
asparagus tips	trimmed and wrapped in tray		Thailand		Zimbabwe
asparagus, babycorn and mangetout	trimmed and combined in one tray	Guatemala/ Spain / Thailand <sup>(b)</sup>			
dwarf corn	trimmed and wrapped in tray				Thailand
babycorn	trimmed and wrapped in tray	Thailand	Kenya	Thailand	
babycorn and mangetout	trimmed and combined in one tray	Kenya		South Africa Zimbabwe	Gambia
babycorn, mangetout & carrots	trimmed and combined in one tray		Thailand/ Guatemala / Holland		more than one country
mangetout	untrimmed in cellophane packet	Kenya		Kenya Zambia	Kenya
mangetout	trimmed and wrapped in tray	Egypt* Guatemala* Kenya*	Kenya	Guatemala	Kenya
dwarf beans	untrimmed in cellophane packet	Egypt		Kenya	
dwarf beans	loose			Kenya	
fine beans	trimmed and wrapped in tray	Kenya	Kenya	Kenya	Gambia
fine beans	untrimmed in cellophane packet			Gambia Kenya* Zambia*	Gambia
fine beans and baby carrots	trimmed/peeled and combined in one tray	Kenya			
hard-shell garden peas	washed, and ready to cook in tray		Kenya		
round beans	untrimmed in cellophane packet		Gambia		
stringless beans	untrimmed in cellophane packet				Egypt
runner beans	untrimmed in cellophane packet	Zimbabwe		Kenya	Zimbabwe
runner beans	trimmed, washed and ready to cook in cellophane packet		Zimbabwe	Kenya	
runner beans & carrots	sliced, washed and ready to cook in one tray		Various countries		
sugar snaps	untrimmed in cellophane packet				Kenya
sugar snaps	trimmed and wrapped in tray			Guatemala South Africa	Guatemala
brussel sprouts	trimmed and wrapped in tray		Kenya		
tenderstem broccoli	trimmed and wrapped in tray		Zimbabwe		
courgettes	trimmed and wrapped in tray		South Africa		
globe artichokes	in cellophane packet	Egypt			

Note: (a) The country of origin in the table is that stated on the label. This is sometimes accidentally or deliberately mis-specified.

(b) Where various countries are indicated as a source, with a slash between them, this means different parts of the product combination are sourced from different countries. Where various countries are marked with an asterisk, it means that identical produce was available from different countries side-by-side on the shelf.

In order to put such a considerable variety and quantity of fresh produce on the shelves, and to achieve the requirements set out in Section 3.1, the supermarkets restructured the fresh vegetable commodity chain. When the UK supermarkets first began to sell fresh fruit and vegetables, they bought from the wholesale

markets, employing agents working on a commission basis. The supermarkets' were unable to transmit their requirements effectively to their sources of supply. Further, the indirect and discontinuous relationships between the supermarkets and growers meant that the latter had no incentive to make asset-specific investments to meet supermarket requirements. The wholesale market acted as a barrier to the types of information flows and relationships required by the supermarkets.

Therefore, the supermarkets began to bypass the wholesale markets, buying directly from producers, thus changing the structure of the industry in the UK. The number of intermediaries in the industry has been reduced, and those that remain have to justify their existence through adding value to the product:

Supermarkets have been adept in removing supply chain members who were not perceived to be adding genuine value to the product in its movement from farm to consumer. The number of traditional marketing agents has been decimated and there has been a growth in importance of the pre-packer, acting as the key link between the grower and supermarket and, increasingly, taking responsibility for sourcing supplies, liaising with growers and building global networks for year-round supplies. (Fearne and Hughes 1998: 3)

The development of these relationships with the larger UK producers and intermediaries enabled supermarkets to obtain many of the outputs described in the previous subsection. They were able to deal with a smaller number of larger producers or packers, which had the facilities for adding value to the product. The elimination of intermediaries also allowed for better communication of the supermarkets' needs such as improved management of quality and traceability. The development of these relationships was given added impetus by the 1990 Food Safety Act. In many respects, these developments can be seen as an extension to the agricultural sector of the just-in-time and total quality management principles developed between suppliers and customers in manufacturing. For producers, this was a two-edged sword. They gained a direct relationship with the customer and the expectation of long-term access, but they were obliged to make greater investments and expose themselves to greater risk. The relations between growers and supermarkets are characterised by marked power asymmetries. The increasing dominance of a very small number of supermarkets in the retail trade leaves the much more fragmented producers sector vulnerable to pressure, particularly when the price of entry to the chain is asset-specific investment in equipment and systems. While the most serious complaints against UK supermarkets in this regard have been in the livestock sector (beef, pork and lamb), where market conditions have been particularly adverse for UK producers, there have also been strong criticisms from horticultural producers.

When UK supermarkets started to source from overseas, and from Africa in particular, they took the position that imported products should attain the same standards of product quality, uniformity, packaging, assured supply, etc. as were demanded from UK and European suppliers. Over time, this led to a considerable transformation of the African industry.

The export horticulture trade first developed on a substantial scale during the 1970s in response to market demand for Asian vegetables from ethnic minority populations. These exports were principally channelled into

the wholesale markets, such as London's Covent Garden, and onto small retail stores. By the early 1980s, the UK market began to demand off-season vegetables for mainstream markets, which necessitated sources of supply with counter-seasonal patterns of production. South Africa, Cote d'Ivoire and Kenya were among the first countries to become major players in European horticultural markets. By 1988, these three countries accounted for 79% of sub-Saharan Africa's horticultural exports (Jaffee and Morton 1995).

In the 1990s, the supermarkets became interested in developing new sources of supply for off-season produce, and began to import from Africa on a greater scale. As in the case of UK sourcing, the supermarkets bypassed the wholesale markets in order to reduce costs and exert greater control over quality and traceability. The costs of importing niche produce in small volumes directly from developing country producers would have been prohibitive, so the supermarkets used specialist importers. Some of these were the family firms that had entered the vegetable import business in the 1960s and 1970s (see Section 4 for an account of the development of the African trade in vegetables), while others were linked to large firms in the food business.

Achieving continuous, reliable supply of this range of products from different countries around the world requires a highly sophisticated supply chain. The actors and produce flows in the African part of the fresh vegetable chain are shown in Figure 1.<sup>10</sup> Produce passes through four stages, from growing in the fields to arriving on the supermarket shelves. The first phase is growing the crop. This may be done by smallholders, large contract farmers or on plantations owned by the exporters. This part of the chain is examined in detail in Section 4.

Once harvested, the crop is taken into the hands of the exporters, who are responsible for processing, packaging, storage and transport as far as the UK. It is usually the case that the exporter and importer have an exclusive arrangement for trade between their countries. In other words, an exporter from Kenya will only sell to one importer in the UK, although produce may be exported to other countries. Similarly, an importer will only buy produce from one exporter in any given country.

The links between exporters and importers are usually long term, but they are not symmetrical. Table 6 shows the destination of produce marketed by eleven of the largest exporters in Zimbabwe and Kenya. Most exporters focus a large proportion of their exports on one particular country, and so they are highly dependent on their importer in that country. In contrast, most importers source from more than one country, partly to ensure year-round supply (in which imports from different countries do not compete directly against each other) and partly to guard against interruptions in supply from any particular source.

The importer is responsible for the produce when it arrives in the UK. They transport and store products in the UK, check produce, repackage and label it when necessary, and create product combinations using produce from more than one country.<sup>11</sup> In many cases the importer will also sell the exporter's produce to the wholesale markets and increasingly, directly to the catering industry. Although supermarkets and importers work closely together, they do not have exclusive relationships. Each supermarket receives produce from a range of different UK importers, who in turn supply a range of different supermarkets.

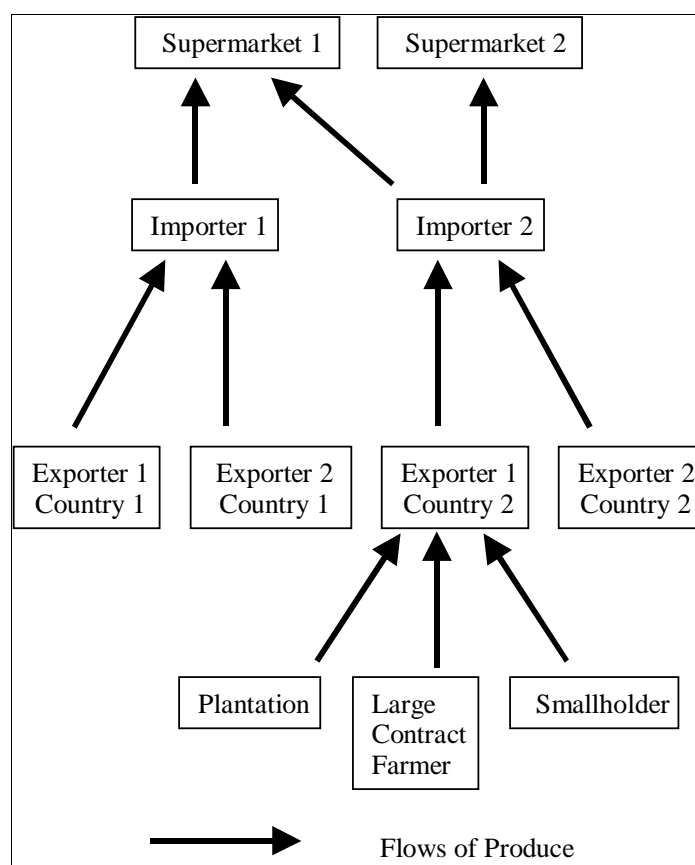
---

10 The African part of the FV chain is the focus of this paper. However, most of the Latin American and Asian procurement of such produce would be managed through the same channels, using the same UK importers.

11 The importer will also undertake tasks such as ripening of fruit.



**Figure 1: Flows of Produce in African FV Chain**



**Table 6: Destination of Exports from Kenya and Zimbabwe, 1998 (%)**

Exporter	UK (%)	Continental Europe (%)	Other (%)
K-1	80	20	0
K-2	70	25	5
K-3	90	10	0
K-4	95	5	0
K-5	4	96	0
Z-1	80		20 (Australia, Asia)
Z-2	80	15	5 (Australia, Hong Kong)
Z-3	52	30	18 (South Africa, Asia)
Z-4	90	5	5 (Australia)
Z-5	10	90	0
Z-6	30	50	20 (Australia, Singapore, Hong Kong)

Source: Interviews.

**Table 7: UK Supermarket Sourcing from Nine Exporters in Kenya and Zimbabwe<sup>(a)</sup>**

	Kenya					Zimbabwe			
	Kx 1	Kx 2	Kx 3	Kx 4	Kx 5	Zx 1	Zx 2	Zx 3	Zx 4
Supermarket 1	●	●		●		●			
Supermarket 2		●	●		●	●	●	●	●
Supermarket 3							●		
Supermarket 4	●			●					●
Supermarket 5			●			●		●	
Supermarket 6		●	●		●			●	
Supermarket 7					●		●	●	

*Note:* (a) The firms in this table are not exactly the same as in Table 6.

*Source:* Interviews with exporters in Kenya and Zimbabwe.

As a result of these different relationships, the linkages between exporters and supermarkets are complex and overlapping. The extent of this complexity is indicated in Table 7. This maps the sales of nine leading exporters in Kenya and Zimbabwe to UK supermarkets. The table shows clearly that the supermarkets source from various exporters - between two and six of the leading exporters in Kenya in Zimbabwe supply to the same UK supermarket. Each supermarket sourced from an average of 3.5 of the nine large exporters in Kenya and Zimbabwe from whom information was obtained.

It is not the case that each supplier to a given supermarket competes directly against all of the other suppliers. Firstly, the growing seasons in Kenya in Zimbabwe are different, although Kenyan producers have moved to year-round supply. Secondly, there is some specialisation by product line. An importer may source fine beans from one exporter and babycorn from another, for example. Thirdly, some exporters are used as 'reserves', supplying in periods of peak demand or for special promotions. However, direct competition does exist. It was seen in Table 5 that a single supermarket could have the same vegetables from various African countries on the shelves at the same time of year. The market for fresh vegetables is very competitive, and the consequences of this will be discussed in Section 4.

### 3.3 Key Decisions in the African Fresh Vegetables Chain

Who makes decisions about the elements that define the chain: (i) definition of the outputs of the chain, (ii) inclusion and exclusion from the chain, (iii) the distribution of activities between different actors in the chain, and (iv) monitoring of the performance of the chain? It will be argued that the supermarkets play a major role in all of these activities.

#### *Outputs*

The outputs required from the chain were specified in Section 3.1. These requirements are determined largely by the UK supermarkets. The supermarkets themselves would argue that they are merely responding

to the demands of their customers and the obligations placed upon them by government. However, the supermarkets make strategic decisions about their positioning in the marketplace, and this determines the range of products and the types of presentations they offer to customers. There are clear variations between supermarkets. For example, it can be seen in Table 5 that Marks & Spencer only provided trimmed produce in trays, which corresponds to their upmarket image. It is also clear that supermarkets have both to anticipate and shape customer needs, and to make decisions about how these needs should be met. For example, supermarket demands for traceability and due diligence throughout the supply chain exceed current legal requirements.

### ***Inclusion and Exclusion***

The most visible processes of inclusion and exclusion concern decisions about individual suppliers. Before particular suppliers are included in the chain, they are subject to an audit of their facilities, and they must satisfy the supermarkets that they can meet the requirements placed upon them. Similarly, in extreme cases of poor performance or major lapses in food hygiene and safety standards, the supermarket might de-list a supplier, excluding them from the chain altogether. Supermarkets have the power to make instant and important decisions about suppliers. For example, following allegations about poor treatment of farmers supplying UK supermarkets from one particular country, a UK importer was ordered by a major customer to suspend supply of all produce from that country immediately. The importer then had to convince the customer that its sources met ethical trading standards.

While such events are visible and dramatic, strategic decisions about the number of importers they wish to have and how they are expected to source products have had a deeper impact on the structure of the industry. The retailers have shifted towards having a smaller number of suppliers responsible for specific product ranges. In the early 1990s, it was still possible for an importer to meet supply commitments by sourcing from a range of countries and from a range of producers within a particular country, according to price and availability of produce. By the late 1990s, supermarkets were almost certain to specify precisely which exporters and producers their UK importers should use. Certain supermarkets entered into exclusive arrangements with UK importers and African exporters, sourcing the whole of their supplies of particular product lines at certain times of year from just one exporter. In this case, the exporters were encouraged to specialise in particular products for which they were considered excellent. During the chosen exporter's growing season, it had exclusive access.<sup>12</sup> The consequence of this change of sourcing strategy was that supermarkets greatly reduced the number of suppliers, excluding many exporters and importers from the chain altogether.

This sourcing strategy is very similar to that pioneered by Japanese firms in the auto industry. Long-term relationships are built-up with a small number of suppliers, and in some cases suppliers will have

---

12 This emphasis on assured suppliers of high-quality products does not preclude occasional use of other suppliers by supermarkets. Product availability is critical, and if the main suppliers cannot meet their targets, produce will be sourced from other suppliers, even if they have not been through the full accreditation procedure. One UK importer said that he was used occasionally to supply up to four different UK supermarkets in order to make up for shortfalls from their main suppliers.

exclusive contracts for particular product lines.<sup>13</sup> However, agriculture is subject to a greater range of uncertainties than manufacturing. Following the disruptions to production in certain African countries caused by El Niño, the single sourcing strategy was being reviewed in 1998-99, and some importers had been encouraged by their supermarket customers to diversify their sources of supply again. The director of one leading UK importer explained that not only was he expected to diversify his sourcing and reduce reliance on his main supplier, but also that his largest customer had specified that a new source should be developed in Egypt. Such developments will certainly open up new opportunities for exporters, but access to the supermarket business will be dependent upon developing a relationship with one of the established UK importers. Once again, it is important to note that this shift in sourcing strategy was initiated by the supermarkets.

### ***Distribution of Activities***

The activities undertaken in the horticulture value chain can be categorised in five major functions: growing, post-harvest processing, transport and logistics, marketing and innovation. The audit/monitoring function will be discussed in the next section. How are these activities distributed among the chain, and who defines this distribution?

Once again, the UK supermarkets have played a major role in defining which activities are carried out by which actors in the chain. The key driving process in the distribution of activities is the decision by the supermarkets to concentrate on their core retailing activities and to look for ways to reduce costs by distributing the risks of procurement, processing and quality to the other actors in the chain. The supermarkets focus their efforts on branding, product innovation, product design and marketing. The implication is that many former supermarket functions (quality control, logistics, storage, distribution, transport etc.) have now been pushed back along the chain.

One of the major changes in the fresh vegetable chain in recent years has been the transfer of processing activities from UK importers to African exporters. These include not only basic tasks such as washing and trimming, but also more technically complicated tasks such as bar-coding and labelling. More recently, African exporters have begun to supply ready-to-eat products, which require much higher levels of hygiene. Once again, the UK supermarkets have played the leading role in initiating these changes, although UK importers have also actively intervened in this process.

The importers have been obliged to shift from a 'trading' role, bringing together disparate buyers and sellers, towards offering technical support, logistics and product development. According to the managing director of Grencell, a major UK importer of African produce, they are 'aiming to be much more than just an importer of fresh produce [and] will be looking closely at the performance of certain lines, as well as examining creative new concepts and directions in marketing the produce' (Weaver 1999a). With their traditional role being transformed by the supermarkets' restructuring of the chain, the importers are forced to find new ways of guaranteeing their usefulness to their customers.

---

<sup>13</sup> The characteristics of this type of supply will be considered further in Section 5.

## *Monitoring the Chain*

If the chain is to meet the requirements placed upon it, its performance must be monitored, and systems put in place to ensure compliance. Any company wishing to supply the UK market needs monitoring systems that ensure compliance with retail (product quality) and legislative (due diligence) requirements. All export firms now have sophisticated quality assurance systems that document seed procurement, planting schedules, pesticide and fertiliser use, spraying, and personal hygiene to guarantee food safety.<sup>14</sup> Yet increasingly retailers have expanded the standards that exporters must meet, moving beyond procedures to ensure regulatory compliance to addressing broader issues such as integrated crop management (for example, Natures' Choice at Tesco), human rights and environmental protection. As a result, African exporters have had to develop new systems of reporting and documentation to demonstrate that retail requirements have been met, and wherever possible, improved upon.

Both importers and supermarkets are key players in the monitoring and auditing of production and processing systems. Supermarkets usually visit African suppliers twice during the year to ensure that produce is grown, processed and transported in compliance with their requirements. The seriousness with which retailers view compliance with due diligence is reflected in Tesco's formation of a 'hit squad', which is prepared to inspect any supplier without prior notice to ensure compliance (Fearne and Hughes 1998). However, short visits by supermarket inspectors to exporters and growers in Africa can only provide limited oversight. It is not possible to visit more than a few growers or farms, particularly when export farms use a variety of different production units. In fact, retailers are beginning to use third party auditors paid for by producers to ensure compliance with their standards.

While the supermarkets establish the standards and carry out some direct monitoring, the responsibility for the day-to-day enforcement of procedures is generally the responsibility of importers and exporters. Importers have a legal requirement to ensure that the food they import complies with the same standards food produced in the UK (Fresh Produce Consortium 1998). Importers visit their African suppliers on average three to four times of year. They usually accompany supermarket buyers as well as visit on separate occasions. In some cases, importers have permanent staff in Africa to provide technical assistance and assure the accountability of producers. For exporters, the necessity of meeting retail requirements involves all aspects of their business. They must be up-to-date on UK legislation related to pesticides, residue levels and food safety and ensure that there are sufficient hygiene facilities and protective clothing on site. Further, they have to allocate managerial resources to training personnel on quality, safety, hazards and other aspects of quality assurance, as well as develop monitoring tools and evaluation criteria to satisfy their overseas customers.

---

<sup>14</sup> This is similar to the Assured Produce Scheme in the UK, which mandates that all UK suppliers adopt the uniform protocols regarding food safety, employee health and safety, and environmental protection.

#### 4 THE STRUCTURE OF THE SECTOR IN SUB-SAHARAN AFRICA

The previous section has shown the outputs required from the chain by UK supermarkets, and it has analysed the chain's structure and decision-making. How does this translate into the specific characteristics of the fresh vegetables industry in Kenya and Zimbabwe?

Sub-Saharan African countries have a comparative advantage in the production of export horticultural commodities due to favourable climatic conditions, geographic proximity to European markets, preferential trade agreements, an absence of government controls and an abundance of cheap labour (Barrett et al. 1997). These supply-side factors make Africa an attractive supplier for off-season vegetables to European markets. In many African countries, export horticulture (principally cut flowers and vegetables) has become a bright spot in an otherwise dim agrarian landscape. Exports to the UK have grown considerably since 1989, as can be seen in Table 8. Kenya was still by far the largest exporter of the vegetables included in categories HS 0708 and 0709 to the European Union as a whole in 1997, and Zimbabwe was the second-largest exporter. It is further evident in Table 8 that in both countries the price per ton of exports rose in the period 1989-97. By the year 2000, total Kenyan horticultural exports are expected to surpass 100,000 tonnes, reflecting their growing prominence in the trade of pre-packed and prepared vegetables, salads and cut flowers to EU markets (Mulandi 1998).

Kenya was by far the largest supplier of HS 0708 and HS 0709 vegetables to the 12 countries of the European Union in 1989 and maintained this dominance up to 1997. The industry grew from a small trade in the 1960s consisting of a few principal products and a small number of farmers and firms, to an extensive trade that delivers approximately 75 products to dozens of overseas markets. In the early 1970s, the sector centred on UK high-quality speciality markets and the Asian vegetable trade in wholesale markets. Kenya's entry into Asian vegetables was facilitated by a number of Asian-owned family enterprises that possessed extensive experience in fruit and vegetable production before entering the export trade (Jaffee and Morton 1995), and it quickly replaced India as the leading Asian vegetable supplier to the UK. The trade was

**Table 8: Fresh and Chilled Vegetable, Imports into the UK from Kenya and Zimbabwe  
(Metric Tonnes and Price per ton)<sup>(a)</sup>**

Year	Kenya		Zimbabwe	
	Tonnes	Price per ton <sup>(b)</sup>	Tonnes	Price per ton <sup>(b)</sup>
1989	8407	100	711	100
1991	8513	115.3	1910	93.5
1993	11510	112.9	2333	114.1
1995	16762	98.9	3386	99.6
1997	21212	126.4	4467	133.1

*Note:* (a) Product categories HS 0708 (peas and beans) and HS 0709 (other vegetables, including artichokes, asparagus, mushrooms, sweet peppers, capsicum, etc.).

(b) 1989 price = 100.

*Source:* Eurostat.

enhanced in 1973, when a senior partner in one of Kenya's largest export firms emigrated to the UK and founded his own import company. This developed distribution networks of secondary wholesalers and retailers throughout the country. The company's family-affiliated supplier in Kenya quickly responded to this market opportunity by rapidly expanding supplies and establishing the standard for quality in the Asian market. In both Kenya and the UK, the trade in vegetables for the ethnic Asian community continues to be primarily controlled by a small number of Kenyan Asian family firms.

From these beginnings, the African vegetable trade has expanded, attracting a number of well-financed exporters from Africa, who view direct sales to retailers as an opportunity to exploit their advantages in investment, scale and market linkages, acquired through extensive experience in traditional commodities. The trade has moved from specialist markets such as exotic and Asian vegetables (okra, chillies, etc.) to off-season supply of temperate vegetables and, increasingly, year-round supply of temperate vegetables such as fine beans and mangetout.

In the course of this expansion, the trade has been transformed. As recently as 1992, close to 75 percent of fruit and vegetables in Kenya were grown by smallholders, who sold produce under spot market arrangements through intermediaries or 'middlemen' (Harris 1992). Produce was exported by small and medium sized firms, and channelled through wholesale markets to UK retailers. However, in Kenya and in other countries of sub-Saharan Africa the market share of smallholder-based production has declined. Similarly, in some new entrant countries, such as Zimbabwe, the industry is dominated by a small number of large exporters sourcing predominantly from large-scale production units.

The gains to producers and exporters from the growing fresh vegetables trade have clearly been distributed inequitably. While some have clearly benefited from the move toward direct supermarket sales due to increased access to markets and product information, many more producers and exporters have fallen out of the market. Little is known about the competences and strategies of those who have been successful in securing a position in the chain and even less is known about those who have lost market access in the face of competitive challenges.

This section examines the position of African exporters and producers in the fresh vegetable trade, exploring the capabilities required to meet the competitive challenges of the industry. The requirements of UK supermarkets were described above in terms of six factors: quality and consistency, reliability of supply, cost, variety/value added/innovation, safety and ethical trade. It will be argued here that these requirements have, firstly, favoured the concentration of the export trade in the few, large firms, and, secondly, shifted production increasingly to large farms, many of which are owned by the exporters. As a result, small and medium-sized exporters, and small growers have been marginalised from the supermarket chain.

#### **4.1 Concentration in the Export Sector**

There is considerable scope for growth in the export horticulture sector. The market is expanding and there are significant opportunities for African firms that can meet the competitive challenges of the supermarkets. However, inclusion in the chain is contingent upon meeting the requirements described in Section 3.1. Firms

### **The Successful Exporter: Homegrown**

Homegrown, Kenya's largest horticultural exporter, began operations in the early 1980s when the chief executive financed a colleague to grow horticultural produce for third party exporters. In 1982, Homegrown began exporting their own products to UK wholesale markets. The company now employs over 6,000 Kenyans on its eight farms, and its exports have grown from 17 tonnes in 1982 to 12,500 tonnes in 1997. It is now responsible for 15% of Kenya's total horticultural exports.

Homegrown's export activities are governed by a corporate philosophy, the Homegrown Triangle, which integrates three components: airfreight and logistics, marketing, and production. Each component is paramount to the company's success. Homegrown strongly believes that there is little point in having high quality production without the corresponding market and airspace to ensure that product reaches supermarket shelves in optimum condition.

- **Airfreight.** Homegrown's difficulties in ensuring uplift at Nairobi Airport led the company to realise the importance of airfreight to viable operations. During its early years, Homegrown maintained constant product supervision until the aircraft departed to avoid spoilage. Yet this was a sub-optimal situation and the company quickly realised that it had to assume greater control over airfreight to ensure quality. By the late 1980s, the company had achieved the critical mass to enter a joint venture with MK Airlines, which provides a freighter every evening to the UK, enabling Homegrown to secure continuity of supply and stabilise costs. The company also has a fleet of refrigerated vehicles to transport product from field to centrally located cooling and packing stations, and on to the airport.
- **Production.** Over 90% of Homegrown's crops are grown on their own farms using sophisticated irrigation systems and greenhouses to safeguard crops from rainfall and disease. The company recently invested £1 million to construct a diversion dam to store 70 million gallons of flood flow water for farm irrigation and has three additional dams underway. Homegrown also recently completed a factory for prepared salads, which guarantees that salads are picked, prepared, fully labelled and transported to supermarket shelves within 48 hours.
- **Marketing.** When Homegrown started, it exported to a multinational importer, which diversified its supply base by relying on several overseas growers. While this situation guaranteed the importer continuity of supply, it led to unfavourable returns for Homegrown. In response, Homegrown established its own dedicated importer in the UK. The company has developed a strong customer base of UK supermarkets, which are favourably impressed by Homegrown's continual investments in modern technology, innovation capabilities and compliance with environmental and social standards.

### **The Excluded Importer: Pumpkin Ltd**

Pumpkin began operations in 1996, exporting French beans, snowpeas, papaya and mangoes to an UK importer. They started exporting one tonne per day but quickly expanded to 2.5 tonnes per day. Initially Pumpkin sourced from smallholders but realised that they could not control product quality. The cost of smallholders was 50% more than produce grown on large farms because of the waste of product that failed to meet EU quality requirements. Pumpkin felt that there was not a large enough market for second grade produce and in 1997 leased two farms in geographically diverse areas to control their own production. Pumpkin is a privately owned partnership. One of the partners, a British national residing in Kenya, had several contacts in the UK and initiated a relationship with an importer, who sold to the wholesale market. Pumpkin was the principal supplier of the importer but this was not an exclusive relationship. In fact, the importer sourced from other Kenyan suppliers. Pumpkin describes the importer as a trader rather than a key element in the organisation of the chain. The relationship was never based on trust or information sharing, and no marketing, technical or financial assistance was provided.

As Pumpkin expanded, it purchased a refrigerated packhouse and the machinery required for prepacking vegetables. It also conducted innovation activities on developing prepacks for the catering industry in the UK. Yet, the El Niño rains of 1997 seriously curtailed Pumpkin's ability to meet the volumes required for the UK market. The cost of maintaining their packhouse necessitated one tonne of exports per day and they could no longer justify the expenditure. They closed the packhouse and decided to supply a leading Kenyan exporter rather than exporting themselves. At present, Pumpkin is hesitant to either invest in cold storage facilities or land improvements, (which is leased on a short-term basis) without a guaranteed return on their investment. They do not believe this is feasible without moving back into exporting. While they are considering re-entering the export trade, they will not supply the European market, which demands substantial investment for market entry. At present, they plan to diversify into cabbages for Middle East markets, and to re-export tomatoes from South Africa, shipping bulk produce by sea instead of high-value products by air.

without the financial and managerial resources to meet these requirements will be excluded from the business. The following two case studies illustrate some of the processes at work in the chain.



The rise of the large, vertically-integrated producer contrasts with the case of the smaller exporter that is unable to meet the exacting requirements of the European trade. Competing in this trade requires organisational capabilities, investment in post-harvest facilities, sophisticated logistics, large volumes and close relations with European importers.

### ***Organisational capabilities***

The demands for consistency of quality, reliability of supply and due diligence place considerable organisational burdens on African exporters, who must closely manage cultivation and post-harvest activities to ensure a quality product. Firstly, the production and processing system itself must be managed so as to produce reliable supply of high-quality produce. This requires control of in-house systems and management of suppliers. Secondly, the exporters must prove to their customers that they have been necessary control mechanisms in place. Thirdly, regulatory requirements such as due diligence require suppliers to oversee the use of chemicals, undertake audits, and develop monitoring procedures. Large exporters can invest in the management systems to meet these requirements, while small exporters lack both the resources to ensure compliance and a management system through which to trace accountability.

### ***Post-Harvest Facilities***

Staying in the fresh vegetable business requires considerable investment in post-harvest facilities. This investment arises from both the quality requirements of the UK supermarkets and the tendency for value-adding activities to be pushed back along the chain. On one hand, fresh vegetables necessitate close management of post-harvest activities. The product deteriorates rapidly, and the post-harvest climate from farm to supermarket shelf strongly governs product quality. Consistency in the cold chain is essential if produce to reach consumers in optimum condition, and this is a key factor driving a tightly managed supply chain. Export produce must enter an intricate cooling chain within a few hours of harvest and must remain in a temperature-controlled environment to avoid product damage. For every one-hour delay in the removal of field heat, horticultural products lose 8 hours of shelf life. Products must be placed in a cool environment shortly after harvest (at minimum an insulated vehicle), transported in a refrigerated vehicle to packhouses, where product is cooled, graded and packed under temperature and humidity controlled conditions. Cold storage is now an integral part of the supply chain, and in both Kenya and Zimbabwe large exporters have invested in state of the art methods including chilled chlorinated water for washing.

Further investment is required as value-adding activities are moved in closer to sources of supply. As exporters move away from simple products and towards more complex product processing and presentations, greater investment is required. Products packed in trays require more complicated machinery than products wrapped in cellophane packets. If they are also labelled and barcoded in the country of origin, this too requires further investment in equipment. Ready-packed product combinations, such as baby corn with mangetout, are a further level of sophistication. Packaging has become an important component of value-added to horticultural products, which must be displayed in ways that appeal to customers.

Pushing back these functions into Africa has a number of advantages for the supermarkets. Firstly, these processes are labour-intensive and African labour is cheaper. Secondly, it reduces repackaging in the UK and enables defective products to be detected and discarded in Africa. Thirdly, processed products have a higher value-to-weight ratio, which reduces transport costs. Today, a substantial amount of produce sold in the multiples is packed and barcoded to differentiate products, varieties, countries and suppliers. To the extent that these activities are performed in the source country, they require considerable investment for perishables handling facilities and equipment.

Further investment is required if exporters wish to move into high-value-added activities such as ready-prepared vegetables and salads. These require 'high care' facilities that meet European hygiene regulations. One importer estimated that it would require an investment of US\$ 500,000 to set up a processing unit for such products.

### ***Logistics***

The retail sector demands flexibility and reliability in supply. This combination is extremely demanding. Reliability of supply is most easily achieved by keeping stocks in the system, but the supermarkets wish to minimise the time from farm to supermarket shelf. Because horticultural products continue to ripen after harvest, their marketability can be as short as a few days even with optimal post-production conditions. Therefore, exporters have to focus on logistics and transport. In Kenya and Zimbabwe, the large exporters have shifted towards JIT management techniques in order to reduce the time between harvesting, packing and delivery in response to changes in supply and demand. Exporters must be prepared to pick and ship within 24 hours or sustain the loss from unharvested product. As a result, logistics is now a core competence in the chain and exporters supplying UK multiples must be able to respond quickly and efficiently to production orders.

This emphasis on logistics capability also requires increasing competence in information technology. Knowledge and information are becoming key elements of competitive advantage in the horticultural commodity chain, which is increasingly founded on the rapid interchange of data and information (Butler 1999). Supermarkets use information technology to track ordering and sales, as well as to organise production, storage, delivery and transport. Sophisticated technology systems dramatically reduce inventory and facilitate traceability. In Africa, electronic integration offers exporters a competitive edge and cost savings over those who rely on faxes or telephone communication. The development of computer-based product tracking systems means that exporters can provide product traceability and closely monitor product quality to ensure customer satisfaction.

The demands for rapid and reliable delivery also make securing air cargo space a priority. Approximately 93% of Kenya's fresh horticultural exports are shipped by air and obtaining air cargo space has significantly impeded the growth of small and medium size exporters (Barrett, Browne et al. 1997). Acquiring airspace is contingent upon having the scale of operations to consolidate and negotiate air cargo space with commercial airlines.

Large exporters experience fewer problems with freight space than do small and medium size enterprises because they have the production volumes to fill pre-booked space or the connections to sell the portion that they don't need. Most large exporters contract guaranteed space, which is paid for in advance on the airfreight services of large commercial airlines. Kenya's largest exporter, Homegrown (see box above) has a joint venture with MK Airlines, which flies each night to the UK, ensuring continuity of supply. In contrast, smaller exporters may be forced to rely on securing space on passenger airlines, but airlines are reluctant to accept pre-booked space from exporters as priority is awarded to customer baggage (Barrett, Browne et al. 1997). As a result, freight agents (who work on behalf of exporters) are uncertain of space availability until close to departure time. If space is not available, produce may deteriorate as it is left on the tarmac before being returned to cold storage. Small exporters have very little power against the airlines and fear that both the availability and price of cargo space may drive them out of the market. As one exporter claimed, 'If we start making claims against carriers for spoiled produce, the rates will start climbing. We can't afford that.' This makes smaller exporters far less able to guarantee either the quality or reliability of their products in overseas markets.

### ***Scale***

The analysis so far has pointed to the number of factors, which clearly work in favour of the large exporters in the fresh vegetables industry. This includes their management and investment capabilities, and their access to transport. Two further factors favour concentration in the sector. Firstly, large exporters are in the best position to invest in post-harvest processing. In particular, labelling and bar-coding at source only work if products arrive on time and supermarkets can predict accurately their buying requirements. In practice, there are considerable uncertainties, and most exporters continue to send at least some of their produce to the UK unlabelled. For all but the largest exporters, the volume of produce that could be labelled in Africa does not justify the investment in specialised machinery. Secondly, the supermarkets reduced the number of suppliers in the 1990s, while at the same time greatly increasing the quantity of produce sold. Therefore, the volumes required from individual suppliers have increased greatly. The supermarkets have reinforced this trend because they believe that only the largest suppliers can reduce costs.

### ***Innovation: relationships with importers***

The final element of the supermarket requirements described in Section 3.1 was innovation. In an industry where product development and diversification are an important source of competitive advantage, retailers greatly value suppliers who can respond rapidly to demands for produce or packaging innovation. In other cases, the initiative is taken by the importers and exporters, who present new product ideas to the supermarkets. Suppliers (frequently importers and exporters working together) who assume responsibility for innovation in the development of new products and packaging increase their value the supermarkets and minimise their risk of substitution. Even if the exporters depend, to some extent, on the UK importers for

information about supermarkets requirements and market developments, they have an important role in putting new ideas into practice.

Increasingly, importers are taking the lead in product development, and working with their best suppliers to provide improved products, packaging and presentations. As one exporter claimed, 'Occasionally a supermarket will come up with an idea. But this is really part of our business. You have to do this. You have to provide the whole package to keep your position in the market.' The exporter cannot do this alone. Cape Gooseberries, King Passion and Runner Beans are all examples of products that Zimbabwean exporters developed in concert with their respective importers. Exporters rely on close interaction with their importers, and through them the supermarkets, who are alert to shifts in consumer preferences.

The relationship between exporters and importers is crucial for innovation. The development of long-term relationships with European buyers has brought several advantages to African exporters including access to technical and marketing information that enables them to shape their product mix and packaging to customer preferences. All of the leading exporters have been involved with the same importer for between five and ten years. These importers assume responsibility for decisions governing product line, sales volume, price, and distribution, as well as market research and promotion (Jaffee 1995).

All of these factors taken together weigh strongly against the survival of small and medium size exporters in the fresh vegetable chain. In the past few years, small and medium sized exporters have been marginalised by the rationalisation of the supply chain in the UK. Retailers rationalised their supply base in favour of 'dedicated' suppliers who could provide assurances of due diligence and quality control. As a result, opportunities for small and medium-sized exporters to penetrate the supermarket chain are very limited, and there is a high attrition rate of small firms from the horticultural trade. While there are over 200 licensed fresh produce exporters in Kenya, only 50 are consistently operative. The other 150 exporters exploit favourable short-term market conditions, entering and exiting the industry sporadically during the October-April peak season. Despite interventions implemented by the government to "Kenyanise" the horticultural industry through preference in government-sponsored trade fairs, training programs and the airfreight facilities of Kenya Airways, the proportion of trade controlled by Africans remained only five percent by the mid-1980s (Jaffee 1995).

To date, small and medium-size export firms remain largely dependant on arms-length marketing relationships, limiting their ability to respond to customer demands and vulnerable to the opportunistic behaviour of UK importers. Small exporters are confined to a narrow market segment: the exporting of bulk produce to wholesale markets, which is now only marginally profitable for African suppliers. The concentration of the import trade in the hands of few supermarkets, combined with their preference for working with a small number of importers and exporters means that volumes for each exporter are large. The consequences of these requirements, taken all together, on the structure of the industry are clearly evident in both Kenya and Zimbabwe, where the top five exporters control over 75% of all fresh vegetable exports.

**Table 9: Source of Supply by Type of Production Unit (%)**

	Own Farm Production or Leased Land	Large Commercial farms	Smallholders
Kenya	40	42	18
Zimbabwe	49	45	6

*Source.* Author interviews with leading exporters in Kenya and Zimbabwe.

One of the few remaining exceptions to this tendency to concentration may be organic produce. At present, there is a significant unmet demand for organic produce, which offers attractive margins and considerable scope for expansion. While the amount of organic produce has increased tremendously in the last year, the supply base in the UK is still very fragmented, which leaves supermarkets little option but to source from several smaller companies. This means that smaller African exporters still have an opportunity to penetrate this market, which is thus far not characterised by the demands of scale and investment characteristic of exotic produce lines.

## **4.2 The Growers**

It has been argued that there are strong tendencies towards concentration among exporters. Are there similar tendencies towards concentration at the production stage? The growing process is clearly an important part of the process of achieving the desired outputs of the chain. The initial quality of the product is a constraint on the quality of the product on the supermarket shelf. In the words of a supermarket buyer, 'A pack house isn't a hospital.' Good management along the chain can prevent deterioration, but not recuperate poor quality products.

There is clear evidence from Kenya and Zimbabwe that two processes have transformed the production base. On the one hand, sourcing from smallholders has declined. In the 1990s, the considerable amount of production in Kenya came from smallholders. In 1998, four of the largest exporters in Kenya sourced only 18% of their produce from smallholders, as can be seen in Table 9. The overall share of smallholder production in fresh fruit and vegetables exports had dropped to less than 30 percent by the mid-1990s (Barrett, Browne et al. 1997), and it is unclear what portion of this output was destined for supermarket shelves. In Zimbabwe, five of the largest exporters sourced less than 6% of their produce from smallholders. On the other hand, there are tendencies towards vertical integration within the chain. Those large exporters that until the mid-1990s bought in most or all of their produce have begun to acquire growing capacity. This section explains the reasons for both these tendencies.

### ***The decline of smallholder supply***

Exporters that wish to source part of their output from smallholders face a number of well-known problems that exist irrespective of the markets being supplied. These include the need to provide credit at interest rates affordable to small farmers, loan defaults and side-selling (i.e. selling produce to buyers other than the

provider of credit and inputs). Moreover, smallholders suffer from logistical constraints such as transport and haulage due to poor roads and unreliable transport in rural areas

These problems are made more complex by the requirements of the supermarket chain. In particular, smallholders supply must meet the needs of:

- consistency across production units and through the season, which means controlling variation in agronomic practices (harvesting, crop rotation and pesticide application) across a large number of producers.
- maintaining post harvest quality and preventing deterioration, which means developing dispersed cold storage facilities close to farms.
- ensuring compliance with health and safety requirements, which means maintaining confidence in pesticide use and hygiene conditions across a broad range of producers.
- ensuring compliance with ethical trade commitments, particularly with respect to child labour and worker safety.
- communicating changes in procedures to a large number of producers when product or growing innovations are made.

Clearly these financial and organisational challenges (investment in facilities at, or close to, the small grower; ensuring consistency of practice across a range of producers) have to be achieved at an acceptable cost. However, the major challenge is probably to convince the UK supermarkets that smallholders sourcing will not endanger quality or safety.

It is easy to make a case against supplying from smallholders. For example, it can be argued that the transaction costs and supervision costs involved in sourcing from a large number of small producers are much greater than when sourcing from a small number of large producers. Requirements are more easily communicated to one 100-hectare farm than to farmers on 50 two-hectare farms. However, these arguments frequently underestimate the problems associated with large size. Large farms require supervision of wage labour, whereas smallholders may have more of an incentive to look after crops, which require careful attention. Small plots and inter-cropping may also reduce problems associated with the spread of disease and wind damage.

In fact, two of Africa's largest exporters have shown that smaller producers can meet the quality requirements of the UK market. In these cases, the exporter takes responsibility for organising the growers, arranging finance, providing technical support and ensuring traceability. The problem of post-harvest deterioration can be solved, and in one case the issue of pesticide use was addressed through the exporter providing a spraying service.<sup>15</sup> Smallholder sourcing may be an effective response to problems of access to land (particularly in Zimbabwe, where the land issue is politically sensitive) and the need to extend the

---

15 These cases were described by the firms concerned at workshop in London organised in February 1999 by IDS and the Natural Resources Institute under the sponsorship of DFID. This explored the scope for smallholder supply to UK supermarkets and presented two examples of exporters in Kenya and Zimbabwe who were sourcing part of their produce from smallholders while meeting supermarket quality and safety requirements.

benefits of the export horticulture trade to broader segments of the rural population. However, UK buyers remain wary of sourcing from small farmers. They appear to feel that there is less risk in sourcing from a small number of large producers and that concentrated sourcing gives greater control. To the extent that failure to meet food safety or ethical trading standards might result in bad publicity, UK retailers will tend to reduce the exposure to risk.<sup>16</sup>

### *Vertical integration*

If smallholders are being marginalised, from what types of production units do exporters source their crops? It can be seen in Table 9 that among a group of ten large exporters in Kenya and Zimbabwe produce was sourced equally from exporter-owned plantations and independent, large commercial farms. This average figure conceals great variations in sourcing policies. Three of these ten companies relied entirely on production from independent farmers, almost all of which came from large farms. In contrast, two producers in Zimbabwe grew 100% of their produce on land that they owned or leased. Export firms in Zimbabwe own particularly large tracts of land, ranging from 3,000-8,000 acres, although substantial portions are allocated to tobacco or left fallow.<sup>17</sup>

In five of the ten cases, exporters sourced produce from a mixture of their own farms and from large farmers. Exporters supplement their own production with produce sourced from large commercial farms. Different products and/or varieties are typically grown on exporter-owned plantations and on large commercial farms. This facilitates specialisation and enables exporters to capitalise on climatic differences. Exporters issue contracts with their large growers that specify quantity, quality and price. The availability of commercial farms may have been increased by the dominance of large exporters. As competition has intensified, many small and medium-sized exporters have shifted to growing crops for the large exporters rather than shouldering the risk of exporting. This was clearly shown in the case of Pumpkin Ltd. (see case study). It is a trend seen in other African countries. In The Gambia, for example, close to one-third of export farms sell the majority of their produce through Radville Farms, which is owned by a transnational corporation with an import subsidiary in the UK. This trend is increasing as large commercial farms find it difficult to secure overseas market contacts and air cargo space.

While it is difficult to document trends, it seems to be the case that exporters see a need to source at least some of their produce from their own farms. As one Zimbabwean exporter claimed, 'it is absolutely imperative to control your own production' to attract business from the multiples. There are three main reasons for this. Firstly, control over one's own production guarantees continuity of supply. While it is true that exporters frequently have long-term relationships with their growers that are based on trust, vertical integration reduces the risk of losing suppliers to competitors. Secondly, possessing at least some land for growing crops provides the exporter with knowledge about production issues and innovation and problem-

---

16 For example, the UK government's is committed to 'naming and shaming' retailers whose fresh food products display excessive pesticide residues. One consequence of this may be to reduce the availability of 'exotic' fruits whose volumes do not justify complex monitoring arrangements.

17 In Zimbabwe 4,000 large-scale farms produce 85% of the marketed output of agricultural crops (Coulter et al. 1999).

solving capabilities. In an industry increasingly characterised by innovation and the need for rapid problem-solving, these are important. Thirdly, some exporters (and their associated importers) believe that vertical integration provides greater control and greater scope for reducing costs. According to one leading UK importer, a key factor in losing a supermarket contract was the fact that its main African supplier had no production facilities of its own.<sup>18</sup> As a result, the African supplier purchased one of its competitors in order to gain access to land.

It seems likely that the concentration of production on large units will continue. The early entrants to the industry started with small-scale production. In contrast, new entrants into industry in sub-Saharan Africa entered the horticulture trade with well-established capabilities and market linkages, as well as substantial investment in post-harvest facilities. Zimbabwe, for example, did not begin exporting horticultural products until the 1980s, but it has grown rapidly into one of the leading fresh produce exporters in SSA. One of the strengths of the industry is its high standards of management and technology, derived from its history in tobacco farming. Zimbabwe came into the market with the scale and investment to attract the multiples. The initial impetus behind Zimbabwe's export boom were the attempts of large-scale commercial farmers to diversify away from crops with declining market trends or those with strict price and marketing controls. Similarly, the recent boom in imports of fine beans from Egypt has been based on pre-existing capabilities in growing the less sophisticated bobby beans. When supermarkets and importers wish to develop new sources of supply, they will look for producers that already have the potential to meet the exacting requirements of the fresh vegetable chain.

## 5 SECURING A POSITION IN THE CHAIN

African producers and exporters have been successfully integrated into the fresh vegetables chain. They have acquired a broad range of functions. However, the business is competitive. How secure is their position?

Insertion into the fresh vegetable chain does carry certain risks. Virtually every developing country in the world with a suitable climate is now trying its hand in the export horticultural trade (Hirst 1994). In buyer-driven chains, importers and retailers actively look for new sources of supply. In horticulture, the dominant position held by Kenya just a few years ago has been challenged by the entry of countries such as Zimbabwe and Zambia, and in 1998-99 the increased availability of products from Egypt on supermarket shelves was clearly noticeable. A simple indication of the extent of the competition for space on supermarket shelves was shown in Table 5. One leading Kenyan exporter feared 'being shut out of some of [their] best markets by the new market entrants.'

Nevertheless, reliable and familiar suppliers are valued by both importers and supermarkets. As sales of fresh vegetables continue to rise, some importers fear a shortage of high-quality produce. Can these two perspectives on the same market be reconciled? It is important to distinguish between the short-and medium

---

18 It should be noted, however, that this type of argument was used for many years to justify vertical integration in the auto industry. However, leading motor manufacturers in the West found that the costs of in-house component production were frequently higher than outsourcing. As a result, outsourcing has increased, and leading companies such as Fiat, Ford, GM and PSA (Peugeot-Citroen) have formed their in-house component manufacturing operations into separate companies.



terms. In the short term, established producers gain some protection from the competences and relationships they have built up over time. In medium term, however, security comes from innovation and from positioning oneself strategically in the chain.

### **5.1 Obligational Contracting and Established Relationships**

The fresh vegetable business has many of the characteristics of obligational contracting, as described in Table 1 above:

- There is a high degree of transactional dependence between exporters and importers.
- Ordering procedures are closed and new entrants to the industry (importers and exporters) find it very difficult to break into supply relationships.
- Supermarkets and importers play an important role in specifying and monitoring the quality systems of their suppliers.
- Technical assistance and support for new products and processes is sometimes provided by importers to their major exporter/growers.
- Contact and communication is intense between supermarket and importer, and between importer and exporter.
- The risk sharing is less clear. Some supermarkets appear to make efforts to offer reasonably stable prices across the growing season, while others adjust prices in the short-term to reflect supply and demand conditions.

In spite of these ties, both the African exporters and UK importers interviewed during the research frequently expressed feelings of insecurity and concern about the relationship with UK supermarkets. Even large exporters were wary of being delisted by the UK supermarkets and looked to diversify their customer base. One large Zimbabwean exporter, delisted from Sainsbury's, said 'you can be replaced at the drop of a hat...you are only as secure as your last day's delivery.' Similarly, the marketing manager of an importer with 10-year relationships with its two largest supermarket customers observed that one could never be totally secure. Their customers were loyal, but they were also aggressive business organisations. In the final analysis, the importer is always under pressure. This has consequences for trust and communication within the chain. According to some of the importers interviewed, the supermarkets' reliance on multiple sources of supply meant that they (importers and their associated exporters) would hide information and innovations from their customers to prevent this being passed on to their competitors.

Part of this underlying insecurity arises from the relative ease with which supermarkets can switch suppliers. One source of security for suppliers in OCR relationships is the cost to the customer of switching suppliers. In manufacturing, where OCR originated, it can take time to develop communication, quality assurance systems and a degree of confidence in a new supplier. However, in fresh vegetables, the situation is different. In order to ensure reliable, year-round supply in horticulture, retailers develop OCR

relationships with multiple importers and their respective suppliers, as was seen clearly in both Table 5 and Table 7. As a result, supermarkets already have alternative suppliers in place, particularly in Africa, where the competition for supermarket business is fierce.<sup>19</sup>

## 5.2 Keeping Ahead of the Competition

How then do African exporters and UK importers keep their position in the chain? Following Porter (1990: 38-40), it can be argued that competitive advantage can be based on either cost or product differentiation. Leading African exporters are seeking cost advantages through increasing scale and, in some cases, through vertical integration. However, there are limits to this strategy. On the one hand, cost is only one of the factors critical for the UK supermarkets. On the other hand, in a labour-intensive industry, a competitive strategy based on cost always runs the risk of being undermined by new, low-wage sources of supply. Product differentiation would seem to be a more secure route towards long-term survival and maintenance of margins. Product differentiation may involve more skill in production and processing, greater capital inputs or greater innovation capabilities. In each case, these create market segments with greater barriers to entry, and hence less pressure on margins.

The discussion in Section 4 highlighted a number of important barriers to entry that provide some cushion for African exporters. There were:

- The skills and experience needed to grow products such as fine beans and babycorn successfully. The same principles also apply at the processing stage.
- The investments required to produce semi-prepared or ready-to-eat products.
- The capacity to innovate, providing 'black box' solutions to challenges presented by the customer.
- The development of durable relationships with customers.

These factors raise the barrier to entry in the fresh vegetable trade by enabling both importers and exporters to offer a range of services to supermarkets that cannot easily be substituted. Nevertheless, moving into products that are more sophisticated and developing innovation capability requires investment, and much of this investment is asset specific. This puts the suppliers at risk. Should they lose a supermarket contract, it may be difficult to find another major UK customer, given that supply chains are closed. Switching to customers outside the UK supermarket sector is also not a viable option. Large exporters that have made substantial investments in production and post-production facilities to meet supermarket requirements also need the higher margins offered by these customers to sustain these facilities. Exporters frequently complain that their margins are squeezed by the UK supermarkets, but only these customers pay the prices needed to cover their overheads. As one exporter claimed, 'if you become too dependent on them, they will use their leverage to squeeze you down. You become a captive supplier...the ones who only go to the UK

---

<sup>19</sup> It might be argued that powerful customers will always wish to maintain alternative suppliers, however much they talk of partnership and commitment. However, evidence of a shift in strategy following the problems caused by El Niño, presented in Section 3.3, suggests that the issue of exposure to climatic uncertainty does have a particular impact on sourcing policies in the fresh produce sector.

supermarkets are extremely vulnerable.<sup>1</sup> Providing more sophisticated products and services to supermarkets may reduce the risk of substitution, but it also increases the dependence of suppliers on powerful customers. Are there other strategies than might be adopted?

### 5.3 Positioning Within the Chain

The chain was described in Figure 1 above, as a network of relationships. The global commodity chain perspective, described in Section 2, frequently characterises buyer-driven chains as consisting of networks of independent firms. While it remains the case that the supermarkets avoid backward integration, there are clear tendencies towards vertical integration. In Section 4 it was suggested that exporters are integrating backwards into the growing of vegetables in order to secure adequate supplies. There are also instances of vertical integration or equity tie-ups between African-based exporters and UK importers.

These changes appear to be responses to the pressures and uncertainties that existing chain:

- Major exporters are buying land in order to ensure continued access to produce and to increase their control over the growing process.
- In the past, some of the largest African exporters have set up their own import companies in the UK and/or Europe in order to improve access to the market and guarantee that they would be the main source of supply for their importer.
- Importers may seek to guarantee access to produce by buying, or taking equity stakes in, their exporters. This has occurred in both Kenya and Zimbabwe. By controlling important growing and exporting capability, the importers reduce the risk being cut out of the chain.
- Importers have sought to increase their indispensability to their customers by providing an increasing range of market research and innovation services.

Further developments in the structure of the chain can be expected in response to the pressures of being in such competitive sector. Two main possibilities are evident. The first is that importers and exporters working together might seek to control the uncertainty arising from multi-country sourcing by internationalising their growing operations. This might be done by buying up suppliers in other countries, and some importers have already begun to do this, or it might be done by providing technical services to exporters in other locations. This might be a means by which Kenyan exporters could profit from the diversification of sourcing in Africa rather than be threatened by it. In this way, the Kenyan participants in the chain would come to acquire more of an organisation and management role in the chain, in the same way that companies in Taiwan and Hong Kong have shifted from producing footwear and clothing towards organising the production and trade of these products.<sup>20</sup> If, for example, a supermarket wants its importer to source from a new country, then the established exporter can neutralise the competitive threat by helping the importer to develop or supervise production in the new location.

---

<sup>20</sup> On this development, see Gereffi (1996).

The second possibility is that importers and exporters may diversify outside of UK market, establishing a wide European presence in order to reduce their dependence on the few retail companies that dominate in the UK. The potential for such diversification has been increased by trends in the main European markets towards large-scale retailing of imported fresh vegetables.

The structure of the chain and relationships within it are fluid. While relationships in the chain are frequently long-term and have many of the characteristics of obligational contracting, they are certainly not permanent. As a result, they change as companies seek to build or protect their competitive position. Those African exporters that take a strategic view of how to position themselves within the chain and how to offer services that are difficult find will be the ones that will remain successful.

## 6 CONCLUSIONS

This paper has analysed the fresh vegetables trade between the United Kingdom and Kenya and Zimbabwe from the global commodity chains perspective. It has paid particular attention to the governance of the chain, identifying the key decision-makers and how their requirements for the performance of the chain have been translated into structure and practice. In particular, it has explored linkages between the chain's requirements and the restructuring of the industry in sub-Saharan Africa.

The paper shows the importance of governance structures within global commodity chains. Global commodity chains do not consist merely of flows of materials across national boundaries. They consist of networks whose key decision-makers influence the outputs of the chain and its composition. In this buyer-driven chain, the key decision-makers are UK supermarkets. This does not mean that other actors in the chain are mere victims of retailer dominance. Many African producers and exporters appear to have benefited greatly from the dynamism of fresh vegetables trade and the tendency for value added to be pushed back in Africa. At the same time, the importers and exporters in the chain play a role in shaping the chain through their own competitive strategies. In particular, it has been shown that vertical integration is one clear tendency within the chain.

The commodity chain approach provides important insights into the changing nature of fresh vegetables trade. These are particularly important for those concerned with the development of non-traditional agricultural exports in sub-Saharan Africa. The paper identifies the factors that are most important to the key decision-makers in the chain, the retailers. It also considers how the delivery of these requirements has restructured the chain in Africa. This enables a number of conclusions to be drawn that are relevant for policymakers concerned with the development of this trade:

1. Success in the fresh vegetables chain depends on meeting (and exceeding) the exacting requirements of UK supermarkets. These are the non-negotiable conditions of market entry for the fresh vegetable trade. There is little scope for exporters who lack the investment capabilities to ensure a consistent, quality product that complies with regulatory requirements to participate in the current market.
2. The rationalisation of the supply base in favour of 'dedicated' suppliers that can deliver consistently high-quality safe products has restricted access to the UK fresh vegetables market to the largest African

- exporters. These exporters, in turn, maintained close links to UK importers. Policies aimed at promoting agricultural production must consider how to develop these linkages if the aim is to sell to supermarkets.
3. Rationalisation has excluded smaller and medium sized exporters who lack the scale to meet key supermarket demands (quality control, logistics, storage, distribution, transport etc.). Given that the fresh vegetable chain is so exclusionary and has such complex requirements, help for small exporters might reasonably be focused on gaining access to different chains with different characteristics. Small exporters might do better to focus on alternative markets. These might in regions where the retail chain is less concentrated, or in expanding non-retail markets such as that for partly processed products for the catering industry. Alternatively, there may be scope for smaller exporters to become integrated into the supply chains of larger exporters, which would enable them to develop the skills and quality to attract European supermarkets.
  4. The difficulties in entering the UK market have been increased by government policies on social and environmental standards. These make UK retailers even more inclined to narrow their supply base. For example, the prospect of public censure through the policy of 'naming and shaming' retailers whose products contain excess pesticide residues will encourage these retailers to exclude suppliers about whom they do not feel completely confident.
  5. The requirements of UK market also tend to marginalise small producers. Policies aimed at reversing this trend must focus on satisfying retailers that their concerns about quality, consistency, traceability and food safety can be met. Donors and trade associations can support the development of smallholder schemes, by providing help with inputs, training on crop management, pesticide application and quality control. However, it is also necessary to ensure that monitoring and control systems are developed. Large exporters have a critical role in this regard.
  6. Introducing technically sophisticated undertakings such as bar-coding, labelling and preparation of ready-to-eat food may be the way forward, but it requires large investments in machinery and facilities. This puts a premium on economic and political stability. Uncertainty about exchange rates, interest rates or the structure of land tenure is likely to inhibit investment and undermined competitiveness.
  7. Market diversification and innovation appear to be the best weapons against the threat from the market entrants and the power of large customers. There may be a role for government to play in market intelligence and the development of innovative capability. Business associations and governments in Africa should consider the developing some capabilities in the area of product development, particularly seeds. This is likely to be a critical area for sustaining long-term competitive advantage.

## REFERENCES

- Appelbaum, R., Smith, D. and Christerson, B., 1994, 'Commodity Chains and Industrial Restructuring in the Pacific Rim: Garment Trade and Manufacturing' in G. Gereffi and M. Korzeniewicz (eds), **Commodity Chains and Global Capitalism**, Westport, CT: Praeger: 187-204
- Barrett, H., Browne, A., Ilbery, B., Jackson, G. and Binns, T., 1997, 'Prospects for Horticultural Exports under Trade Liberalisation in Adjusting African Economies', **Report Submitted to the Department for International Development**, Coventry: Coventry University
- Butler, J., 1999, 'E-Business is Everyone's Business', **Fresh Produce Journal**, April 16.
- Coulter, J., Millns, J. and Tallontire, A., 1999, 'Increasing the Involvement of Smallholders in High-Value Horticulture, Lessons from Zimbabwe: Report with Policy Recommendations on Strategies for Involving Smallholders in Export Horticulture in Zimbabwe', Chatham: Natural Resources Institute
- Fearne, A. and Hughes, D., 1998, 'Success Factors in the Fresh Produce Supply Chain: Some Examples from the UK', **Executive Summary**, London: Wye College
- Fresh Produce Consortium, 1998, 'Fresh Nutritious and Safe: A Guide to the Protection of Safe Food', **Consultation Document**, London: Fresh Produce Consortium
- Gereffi, G., 1994, 'The Organisation of Buyer-driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks' in G. Gereffi and M. Korzeniewicz (eds), **Commodity Chains and Global Capitalism**, Westport: Praeger: 95-122
- Gereffi, G., 1995, 'Global Production Systems and Third World Development' in B. Stallings (ed.), **Global Change, Regional Responses**, Cambridge: Cambridge University Press: 100-142
- Gereffi, G., 1996, 'Commodity Chains and Regional Divisions of Labor in East Asia', **Journal of Asian Business**, Vol 13 No 1: 75-112
- Gereffi, G. and Pan, M.-L., 1994, 'The globalisation of Taiwan's garment industry' in E. Bonacich, L. Cheng, N. Chinchilla, N. Hamilton *et al.* (eds), **Global Production: the Apparel Industry in the Pacific Rim**, Philadelphia: Temple University Press: 127-146
- Gray, A. and Kleih, U., 1997, 'The Potential for Selected Indian Horticultural Products on the European Market', **Marketing Series** No 11, Chatham, UK: Natural Resources Institute
- Harris, S., 1992, 'Kenya Horticultural Subsector Survey', Nairobi: Kenya Export Development Support Project
- Hirst, D., 1994, 'Current Market Trends in Fruits and Vegetables', paper presented at Presentation for HORTEC Seminar, Nairobi: March 16
- Institute of Development Studies, 1998, 'Spreading the Gains of Globalisation', **Draft Mission Statement**, Brighton: Institute of Development Studies
- Jaffee, S. and Morton, J., (Eds), 1995 **Marketing Africa's High-Value Foods**, Washington D.C.: The World Bank
- Korzeniewicz, M., 1994, 'Commodity Chains and Marketing Strategies: Nike and the Global Athletic Footwear Industry' in G. Gereffi and M. Korzeniewicz (eds), **Commodity Chains and Global Capitalism**, Westport: Praeger: 247-265

- Leighton, T., 1998, 'Sales Growth Potential Hides Worrying Trends', **Fresh Produce Journal**,
- Little, P. and Dolan, C., 1993, 'Labor Relations and Trading in the Peri-Urban areas of Banjul, The Gambia',  
**IDA Working Paper** No 96, Binghamton, NY: Institute for Development Anthropology
- Marsden, T. and Wrigley, N., 1996, 'Retailing, the Food System and the Regulatory State' in N. Wrigley and  
M. Lowe (eds), **Retailing, Consumption and Capital: Towards the New Retail Geography**, Harlow:  
Longman: 33-47
- Mulandi, M., 1998, 'The Status of the Horticultural Industry, Challenges and Strategies, Now and Beyond the  
Year 2000', Nairobi: Horticultural Crops Development Authority
- Palpacuer, F., 1997, 'Competitive Strategies, Competencies Management and Interfirm Networks: A  
Discussion of Current Changes and Implications for Employment', paper presented at International  
Workshop on Global Production Systems and Labour Markets, Geneva, International Labour Office:  
May 22-23
- Porter, M., 1990, **The Competitive Advantage of Nations**, London: Macmillan
- Sako, M., 1992, **Prices, Quality and Trust**, Cambridge: Cambridge University Press
- Seaton, L., 1999, 'Consumers Cornered by Exotics', **Fresh Produce Journal**, April 19.
- Sydow, J., 1992, 'On the management of strategic networks' in H. Ernste and V. Meier (eds), **Regional  
Development and Contemporary Industrial Response**, London: Belhaven Press
- Watts, M., 1994, 'Life under Contract: Contract Farming, Agrarian Restructuring and Flexible Accumulation'  
in P. Little and M. Watts (eds), **Contract Farming and Agrarian Transformation in sub-Saharan  
Africa**, Madison: University of Wisconsin Press: 21-77
- Weaver, D., 1999a, 'Albert Fisher: Reshuffle Forms Major New Force', **Fresh Produce Journal**, May 28.
- Weaver, D., 1999b, 'Merger Spree Speeds Up Retail Rationalisation', **Fresh Produce Journal**, April 23.
- Womack, J. and Jones, D., 1996, **Lean Thinking**, New York: Simon & Schuster