

From What We Wear to What We Eat

Upgrading in Global Value Chains

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1 Introduction

As countries liberalise trade and engage more openly in international production, the issue of upgrading has become central to debates on how traditional, labour-intensive sectors restructure themselves to maintain competitiveness in a more trade-liberalised environment. Most recent studies¹ on this issue have so far been sectoral in focus, or area specific. They have looked at supply chains in specific industries or specific regions to see how firms adapt as developing countries are increasingly integrated in global supply networks. This article takes a cross-sectoral comparative view and asks what can we learn about the conditions under which successful upgrading occurs in labour-intensive sectors? What are the key mechanisms of upgrading that emerge from this comparison? And are there similarities in the extent to which global buyers facilitate or impede the upgrading of developing country firms?

The article focuses on the horticulture sector² in Kenya and the textile/apparel sector in Tamil Nadu, India for this comparison for several reasons. (1) Both are important sectors in their respective regions in terms of employment, contribution to economic growth and most recently to exports. (2) Both sectors have had recent success in operating within buyer-driven global commodity chains where powerful buyers and retailers set product standards, define quality requirements, and control brands, design and distribution. (3) Both are labour-intensive sectors, and have important segments in the production chain where female workers, the lowest paid in the industry, dominate. (4) Both sectors have faced three critical levers of change recently as they have become integrated in global supply networks: pressure to meet improved labour standards, environmental standards and exacting quality standards. (5) Finally, both sectors have had to accommodate important but different organisational and technical changes in order to meet the new competitive criteria of quality, reliability and innovation.

In sectors such as horticulture and textiles, which entered export markets by producing labour-intensive goods, upgrading into new products, functions or markets has been key to generating increased employment and sustained incomes. Recent work (Humphrey and Schmitz 2000b;

Kaplinsky 2000; Gereffi 1999; Tandler 2001) has shown that these types of upgrading are critical for developing country firms to maintain access to international markets, and hence extend the benefits of trade to broader segments of the population. By comparing sectors drawn from manufacturing and agriculture, this article will explore the conditions within which upgrading occurs, and how the benefits of upgrading can be diffused across sectors.

2 Key Features and the Global Insertion of the Two Sectors

Kenyan export horticulture and Tamil Nadu's textile industry (hereafter KH and TN) are relatively recent market entrants in global supply networks, yet have emerged as internationally competitive players in recent years. After years of domestic focus, TN's cotton textile industry began serious exports 15 years ago. From virtually no exports to the European Union (EU) and US in the early 1980s, India today accounts for about 30 per cent of the global trade in cotton yarn and about \$900 million in cotton knitwear exports (Southern India Mills Association 2000). Of this, over 50 per cent of yarn exports, 25 per cent cotton fabric exports and over 80 per cent of cotton knitwear exports originate from TN. TN is now home to over half the country's textile mills that produce 35 per cent of the nation's output of yarn and employ over 19 per cent of the nation's textile workers. Buyers include small and medium wholesalers in the US, EU and East Asia, as well as several high-end retail chains such as Gap, Banana Republic, Levi's, Tommy Hilfiger and Liz Claiborne.

In Kenya, export horticulture has grown from a small trade centred on Asian vegetables during the 1960s to an extensive trade that delivers approximately 75 products to dozens of overseas markets (Jaffee 1995). Between 1992 and 1999 exports of vegetables from Kenya rose by 76 per cent in volume terms and over 376 per cent in value terms (in Kenyan shillings), reflecting their growing prominence in the trade of prepacked, prepared vegetables and salads to EU markets (HCDA 1999).³ While Kenya's trade began with a small number of Asian-owned family enterprises, by the 1980s several well-financed exporters entered horticulture and began supplying large retailers

directly. These exporters now control between 65 to 75 per cent of all fresh vegetable exports, the majority of which are supplied to supermarkets in the UK and continental Europe.

Thus, both the TN textile and Kenyan export horticulture sector have achieved significant success in securing overseas markets and forging relationships with key customers. Yet like other buyer-driven commodity chains,⁴ in both these sectors EU and US buyers govern and exert considerable authority over the trade. These buyers make key decisions about the activities of actors in the chain, who gets included and excluded, and the structure of the chain. In KH and TN textiles, the power to govern the chain is not only derived from buyer competence in marketing, design/product development, and branding, but more specifically from their ability to coordinate the entire network (Gereffi 1994). While the development of close, interactive supply-chain relationships is central to retail competition, maintaining these relationships is costly and demanding. What are the characteristics of these two sectors that necessitate strong supply-chain governance?

It has been argued elsewhere (Humphrey and Schmitz 2000a) that buyers exert power, and hence govern, in the following scenarios:

- Where the gap between market requirements and producer capabilities is high. In both KH and TN textiles, global buyers are not only competing on price but also on factors such as reliability, product variety, product quality and speed of innovation. Both sectors have moved away from standardised into highly differentiated and complex products, where the specifications are not easily transferred (Doel 1996). These factors place collaborative relationships, rather than economic efficiency, at the heart of the supply chain.
- Where there is a wide gap between the knowledge required for production for the domestic market compared to that which is required for the export market. In KH and TN this picture is somewhat mixed. In both sectors the domestic market places considerably fewer demands on firms with respect to the complex requirements of quality, consistency and

reliability than does the export market. As in the horticulture case, there is either no domestic market for these goods or products are produced to significantly different quality standards (Humphrey and Oeter 1999; Kaplinsky and Manning 1998; Keesing and Lall 1992). However, as in the TN case, the export and domestic markets each have several different quality levels and offer different upgrading opportunities. A subset of India's large and medium garment firms, for example, has acquired valuable export-relevant knowledge by catering to the demanding, high-end segment of India's large domestic market (Tewari 1999). In general, in both cases, the knowledge and capabilities required to produce goods for overseas markets has demanded close interaction between suppliers and retailers.

- Where there are significant risks to buyers of poor supplier performance. In both the textiles and horticulture sector, the intensifying debate on labour, environmental and product safety standards have raised the risks to retailers of lax suppliers' standards. Food safety standards,⁵ however, impose much higher pressures on producers for compliance because of the higher health-risk penalties of deviation than in textiles. In circumstances such as these, where compliance with standards can only be realised through monitoring/ verification, buyers play a greater role in chain governance.

Thus the outputs of the chain in these two sectors – consistent, high quality, innovative products that are safely and ethically produced – militate against arms-length governance.⁶ And while tight governance has facilitated the transfer of knowledge and information, as well as some investment, neither sector is secure in the face of current competitive challenges.

3 Upgrading and the Possibilities of Spread

Even as firms in Kenyan horticulture and TN textiles have entered global markets, trade preferences are shifting, and new entrants are coming into global markets. In TN, the phasing out of current WTO agreements governing trade in textiles and clothing (the Multi-Fibre Agreement

and ATC regime), is likely to open up the world textile market to fierce competition by 2004. Similarly, firms in Kenya, who have benefited from trade preferences under Lomé, may experience increased pressure in EU markets by new entrants when preferences are terminated in 2008.⁷ In TN, local producers who are just starting to enter global markets are likely to face intense pressures from already established players such as well-networked Taiwanese and Hong Kong producers, and from the rise of regional trade blocs (NAFTA, EU, the Africa Bill and ASEAN), where participant countries benefit from preferential access to large Western markets. In KH, the threat will likely come from South Africa and other non-ACP countries that have not been protected under Lomé.

Upgrading of local capabilities is critical to sustain existing markets and offset the impact of new competitors as well as to expand into new market niches. The challenge is not only to improve institutional capacities of firms that enable them to access new markets and maintain them, but also to spread the gains from this access more widely beyond the small tier of globally tied exporters to non-exporting domestic firms (Piore and Ruiz Duran 1998).

The literature has argued that this can be achieved through cost reductions or product differentiation (Porter 1990), or through control over new activities at different levels in the chain (Gereffi 1999). For example, Gereffi (1999) shows how apparel manufacturers in East Asia have evolved from being purely suppliers of apparel to organising various elements of the chain and eventually moving into Original Equipment Manufacturer (OEM) and Original Brand Name Manufacturer (OBM) production. He further argues that buyers facilitate these upgrading opportunities through the 'informational flows and learning potential' that is transmitted through tightly organised chains (1999:52).⁸ However, insertion into buyer-driven commodity chains carries certain risks. Suppliers can be tied to one or two buyers, eventually facing barriers to the development of further capabilities and increased risks of substitution. Yet despite the fact that KH and TN are integrated into chains that are governed by the requirements of powerful buyers, they are not as vulnerable as it might appear. In both sectors firms have been able to pry

open some room to manoeuvre and acquire some degree of upgrading capability. How are KH and TN firms upgrading to meet the competitive challenges of global industry? What are the patterns of upgrading that cut across these sectors, and where do they diverge?

Three themes emerge from the TN textiles and KH comparison.

(i) In both KH and TN textiles, process-related upgrading among suppliers has occurred most visibly in response to buyer or third party imposition of standards. The most recent and prominent type of process upgrading⁹ in both sectors has resulted from the strong labour, environmental and phytosanitary standards to which they are subject. In TN textiles, recent bans by EU countries of carcinogenic dyes (such as PCPs and Azo dyes) and restrictions around the use of certain chemicals in finishing procedures have raised the scrutiny of finished goods and in-process testing by buyers as well as host-country governments.¹⁰ The result has been innovation in wet processing operations across the bleaching and dyeing industry. Recent environmental strictures by Indian courts to lower effluent pollution in soil water have similarly led to the adoption of collective strategies such as common effluent treatment plants by garment firms. Finally, the growing debate over labour standards by consumer groups in buyer markets has pushed more and more lead retailers to demand improved working conditions and labour standards of their local suppliers.

Similarly, the export horticulture sector has been exposed to negative publicity resulting from suspected poor labour conditions and environmentally damaging production processes. As a result, retailers now assume corporate responsibility for the conditions throughout their supply chains, and have adopted codes of conduct in diverse areas such as food safety, environmental protection, animal welfare, labour rights and health and safety. The adoption of these codes, and hence the development of criteria with which their suppliers need to comply, has become one of the key ways retailers safeguard their credibility in global markets (Blowfield 2000). Yet this means that firms wishing to supply EU supermarkets now need to

demonstrate compliance with a wide range of environmental, social and food safety standards.

Whether compliance with environmental and labour standards is an upgrading response *per se* is open to debate. Yet firms that meet these standards are not only able to lessen their vulnerability to substitution but are also able to sustain their position in global markets. In TN, the fact that the state-run handloom cooperatives provide generous welfare packages, offering above-market wages and good working conditions has, much to the government's own surprise, increased their appeal to Western buyers, boosting exports (Tewari 2001). Similarly, in export horticulture, when retailers wish to develop new sources of supply, they look for producers that have the potential to implement and monitor labour and environmental standards. In both cases, it would appear that developing the capability to meet buyer standards is an effective upgrading response.

(ii) In both sectors the diversification of product portfolios or a move into more sophisticated types of products has been a key source of competitive advantage. In the horticultural sector, market power has shifted from those activities that will lower cost to those that will add value in the chain (Boehlje *et al.* 1998), and innovation is a key source of security in the chain. Most lead suppliers have diversified their products (from new types of vegetables to ready-prepared vegetables and salads) and packaging (from loose to cellophane packs to different types of vegetables in one package) to increase their value to the supermarkets and minimise their risk of substitution. In textiles the rush of entry into full-package garment production has also been driven by a search for better value. At the same time, some of the most successful firms have turned toward specialised or high-value-added clothing, such as technical textiles (heat-resistant, acid resistant textiles), or product lines geared toward particular industries, such as hotels or hospitals, where the premium is on fabric that is sturdy and stain resistant.

(iii) A third theme running across both cases is the move by successful firms into new functional areas in the production chain where they control a more complex bundle of activities. In both our sectors functional upgrading has allowed firms to exert

control over more segments of the chain and thus reposition themselves in global markets. This process has taken two forms: expanding backwards in the chain, and expanding forwards, both domestically and overseas, to new spatial locations.

- (a) Expanding backward linkages in the chain. In TN, some apparel firms have created backward linkages into spinning to gain control over yarn quality and variety, and also to take advantage of yarn exports. Others have invested backwards into non-cotton blends. A prominent theme in this re-integration across functions is the growing importance to exporters of controlling product consistency, assuring timely input supply and capturing the benefits of research and development (R&D) and new technical investments in spinning and finishing.

In KH, firms have created backward linkages with large farms in order to ensure greater control over the production process. There are several reasons for this. First, access to land is key to the viability of horticultural firms, and several large African exporters have invested in other countries in order to gain access to land. Second, control over one's own production guarantees continuity of supply and reduces the risk of losing suppliers to competitors. Third, possessing some land for growing crops provides the exporter with knowledge about production issues and can be used as a test area for product development. Finally, UK buyers believe that vertical integration provides greater control and scope for reducing costs (Dolan and Humphrey 2000). These factors have prompted several large African firms to seek production facilities elsewhere (particularly other African countries and Europe) in order to provide year round supply from their own farms, and to capitalise on their capabilities in production and marketing.

- (b) Expanding forward linkages in the chain. In both the KH and TN cases, export firms have developed forward linkages along the chain to expand their capabilities and reposition themselves in global markets. In the TN case this has involved three trends: (a) moving from spinning (and occasionally weaving) to garment production; (b) an integration forward by some

large garment producers into distribution and logistics – not only to lower costs and improve speed, but as a competitive advantage – and a marketing strategy; (c) expansion into new markets and off-shore production sites.¹² The latter two trends are also visible in Kenyan horticulture.

A large number of spinning firms in TN have integrated forwards into apparel and garments by establishing new companies, or purchasing existing companies to position themselves in a new and higher value-added growth sector. These firms are notably large and have significant accumulated capital from exports in spinning. They have sought to distinguish themselves from other garment firms (who compete vigorously over popular quota items such as women's and men's clothing) by entering stable, non-quota segments of the apparel chain. These include items such as work uniforms for public and private sector employees (postal workers, airline ground staff, hotels), or industrial textiles where volatility of design is much less of an issue and where the typical branded retailer has less of a stake and interest. Others (typically smaller producers) have gone from producing only fabric to producing finished items such as complete packages of home furnishings – cushion covers, table covers, napkins, curtains and bedspreads – under contract from chains such as Ikea, Macy's and Wal-Mart.

- Gaining control over logistics. In both sectors, logistics have become a core competence in the chain. In the textiles case large producers of apparel and yarn have been able successfully to build distribution channels of their own, most prominently through joint ventures with foreign partners. One of the most interesting findings of the TN case is that some large textile firms are purchasing small-scale European wholesalers to establish dedicated distribution channels in order to exert control over logistics and marketing. These firms are using their entry into logistics and purchase of small EU wholesalers in Italy, Greece and the UK as a way to strengthen the marketing potential of *their own* products, as well as to establish a

presence in difficult-to-enter markets. Only a handful of the largest firms with old roots in spinning have the financial reach to do this. The impetus behind the move is clearly driven by a fortuitous convergence of need and capability: the search of overseas buyers for lower cost warehousing facilities and the ability of some TN suppliers to capture this opportunity by providing not only low-cost apparel and cheap real estate, but backing that up with sophisticated computer-based tracking and monitoring systems developed by programmers from the burgeoning local software industry. This entry of local firms into sophisticated warehousing and distribution, however, does not directly challenge retailer dominance in the overall picture, but provides new space for local producers to gain some functional upgrading.

In KH, the high perishability of horticultural products places a premium on rapid and reliable delivery to supermarket shelves. Several large exporters have gained control over the logistics process, streamlining storage, transport, and distribution in Europe through investments in IT, cold storage, and airfreight. In particular, the rising costs of airfreight, coupled with the decreasing number of airlines servicing Kenya, have provided the impetus for several large exporters to secure joint ventures with freight forwarders. By assuming greater control over transport and logistics, these large firms are able to guarantee continuity of supply and stabilise costs.

- Expanding overseas. As is already apparent, in both sectors, firms are expanding overseas in a counter-intuitive flow of capital. TN firms are buying small distribution firms in Europe as marketing channels and for access to public EU bidding processes. Other TN firms are expanding overseas to establish production sites near the EU and US rim (Bahrain, Paraguay), to be proximate to these markets when they open up after the Multi-Fibre Agreement (MFA) regime expires in four years. Indeed, global buyers are facilitating this particular upgrading process — of global relocation by developing-

country firms and reverse flow of investment capital. In TN, large US buyers such as Banana Republic and Gap have encouraged their TN-based garment suppliers to diversify into other countries in response to informal US State Department advisories to American multinationals to set up alternative sourcing sites to counter China's dominance (Tewari 2001).

In KH, UK buyers have encouraged export firms to enter into equity agreements with exporters in other countries such as Zimbabwe and The Gambia in order to expand their production base and have greater control over supply. In addition, several Kenyan exporters have established their own dedicated import companies in the UK in order to improve access to the market and streamline logistics, and are scouting for opportunities in continental Europe.

4 Patterns of Difference between Sectors

In addition to the similarities above, several differences stand out in the upgrading patterns of the two sectors.

- (i) The nature of the product puts different pressures on chain governance. Clearly there are differences in the nature of agricultural and manufacturing products that influence the structure of the chain and the competitive challenges firms face. Horticultural products are highly perishable, and their marketability can be as short as a few days, even with optimal post-production conditions. This places strong pressures on managing the point of production and the immediate post-production processing. Control over these tasks determines overall productivity in important ways. In textiles, by contrast, the product does not impose the same pressures, but overseas buyers demand quick turnaround times. This puts intense pressure on component producers, assemblers and forwarders to organise production in ways that meet the demand of rapid delivery. In some instances this has led to a greater internalisation of downstream functions as well as an attempt by larger assemblers to control logistics through outright ownership or close partnerships with third

parties. In addition, the horticultural sector is subject to stringent food safety regulations, which place greater pressures on buyers to monitor supplier accountability.

(ii) Areas in the chain where outside investment is greatest. As the literature has noted, upgrading needs investment (Humphrey and Schmitz 2000a). In the horticulture and textiles case this investment has taken different forms. In the TN textile/apparel case, Foreign Direct Investment (FDI) levels have ironically been much higher in the labour-intensive, but higher value-added segment of the production chain, namely apparel, relative to capital-intensive segments like spinning, where investment is mostly local. But the lumpiest FDI investments in wet-processing and testing equipment – where standards are set – have so far by-passed TN: China and Mexico are emerging as the global hubs of wet-processing investments by US and EU buyers. In comparison to textiles, there has been limited FDI by European buyers into KH. While this varies between flowers, fruits and vegetables, only a few of the largest vegetable exporters have benefited from any significant level of FDI.

(iii) The changing nature of state involvement. In TN, the state has become more, not less, involved with greater trade liberalisation. In contrast to the over-bureaucratised, undynamic characterisations of the Indian state, the TN cases show a remarkable turnaround in state capacity and learning. In place of the old license and regulatory role, technocrats are engaged in a process that is more demanding of state capacity.¹³ This includes efforts by the state to broker links between local firms and buyers, engage producers and their associations in a deliberative process to identify new ways of improving firm productivity, and quite successful attempts to reform the state's own agencies involved in industrial extension. On the face of it, the Kenyan government has had a hands-off policy in the commercial dimensions of the business. The emergence and growth of the export horticulture sector appears to have been based primarily on private sector initiative. In future research it would be useful to explore ways in which past investments by the Kenyan government in agricultural R&D have created the conditions for some of the recent successes of the private sector.

(iv) Market size and import competition are driving domestic vs. export-oriented upgrading. Another difference in how upgrading occurs, and to what extent it spills over into the non-export economy, has to do with the importance (or not) of the domestic market. Gereffi (1999) terms this process 'organisational succession', where suppliers initially gain access to chains with less demanding characteristics (domestic markets), prior to engaging in more sophisticated export markets. In TN, however, the most dynamic export firms are spinning off local brands at the high and medium end of the *domestic* market. The large size of the market is clearly significant in the Indian context, and exporters and non-exporters alike consider it critical to get a foothold in the domestic market as it becomes more receptive to higher quality ready-to-wear apparel. But the timing of this stampede by firms to position themselves with brands in the domestic market is clearly being driven by import competition in the wake of trade liberalisation. In contrast, in KH there is virtually no domestic market for the types of products supplied to EU markets. In the Kenya case, organisational succession has occurred to some extent by supplying the wholesale sector in the UK and Europe, which has provided opportunities for learning about supermarket requirements.

Although a detailed analysis is outside the scope of this article, these differences make an important methodological point. They serve to underscore the importance of placing commodity chain analysis within the wider context of the institutional environment and regional economy of which they are a part. Upgrading of firms ultimately is a historical process that is influenced by several extra value-chain issues in ongoing ways. Local practices, political arrangements, physical and human resources, infrastructure, extra-chain investment decisions and the larger business environment all affect the capacity and desire of firms involved in value chains to upgrade. A useful next step in comparing cases across sectors would be to explore systematically how globally linked firms in value chains interact with other firms and institutions in the local economy, what the spillovers are in each direction and how, and whether, these interactions affect the prospects of upgrading and development outcomes.

Despite these differences, in both the sectors compared in this article the upgrading process – the impetus to acquire new knowledge and capabilities – has been driven to a large extent by global buyers, even though local institutions, including government initiatives, have facilitated this process in many ways. But what are the features common to both sectors that have facilitated this product, process and functional upgrading? Two specific traits identified by Schmitz and Knorringa (1999) are pertinent to the KH and TN cases. First, they argue that upgrading is more likely to occur in quality rather than price-driven chains. As this article has described, both the KH and TN sectors have moved away from price-based competition to factors such as reliability, product variety, product quality, innovation and compliance with external standards. While these factors increase the need for supply-chain governance, they also provide opportunities for well-placed firms to enhance their competences through specialisation and through assuming responsibility for more functions in the chain. The second factor, which also provides upgrading opportunities, is the sourcing patterns found in the two sectors. Schmitz and Knorringa (1999) argue that where sourcing is indirect (via intermediaries) there is greater scope for developing countries' firms to move into value-added activities and assume control over more functions in the chain. In KH, as supermarkets push more value-added functions back towards the source of supply (bar coding, packing, logistics etc.), there is greater scope for exporters to assume many of the functions previously controlled by importers. Similarly, in TN some of the better performing firms have sought to absorb logistics and design functions in ways that have expanded the range of options they are able to offer their buyers.

Yet this form of governance also limits the prospects for certain types of upgrading and, hence, the development potential of the two industries.¹⁴ Because there is a high degree of buyer concentration, the opportunities for knowledge and technological acquisition are limited. The demands of EU and US buyers remain considerable, and this means that only a small number of companies are able to meet their criteria. The upgrading of some firms and producers, as Gibbon (2000) and Dolan and Humphrey (2000) have shown, can result in

the exclusion of others. For example, as indicated earlier, the top six Kenyan firms now control approximately 70 per cent of exports and the number of smallholders in the sectors has fallen from nearly 75 per cent in 1992 to 18 per cent in 1998. In KH 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 retail market. Similarly, in TN, technology-intensive operations such as wet-processing remain the weakest links in the chain. Moreover, unlike horticulture, textiles offer firms a much wider array of market segments – from low-end domestic segments to more demanding domestic and export markets. While this gives the weakest firms more flexibility and room to manoeuvre, it also carries with it the danger of excluding a large swathe of low-performing domestic firms from the circles where new skills and learning are being generated. As import competition at the high and low end intensifies, this segmentation can be pernicious. Thus, without explicit policy attention to the risks of exclusion, the potential for spreading the gains of globalisation to broader segments of the population is limited.

5 Conclusion

Both KH and TN are traditional labour-intensive sectors that have inserted themselves into global markets in new ways. As each faces increased threats due to globalisation and trade liberalisation, subsets of firms in both sectors have succeeded in restructuring themselves to maintain a competitive niche: producing more efficiently, developing new and innovative products, and extending the range of their activities through forward and backward linkages in the chain.

Yet how and under what conditions has this upgrading occurred? First, this article has argued that both sectors are inserted into buyer-driven global commodity chains where customers define product standards and quality requirements, and control brands, design and distribution. In both cases, this governance structure offers opportunities for learning and skill acquisition for those who are in the chain and some protection against substitution in the short term.

In particular, close, interactive supply-chain relationships have enabled firms in these sectors to respond to the two main levers for organisational change: first, the competitive criteria of quality, reliability and innovation; and second, the imposition of food safety, labour and environmental standards. However, while firms inserted into these chains have seized new spaces for product, process and functional upgrading, and repositioned themselves in global markets, the opportunities for firms outside the chain are much more limited. Both sectors are governed by a small number of buyers,

and firms that do not have the knowledge and competences to meet their demands will be locked out of global markets. While there may be scope for firms in textiles/garments to carve out a similarly lucrative niche in the domestic market, this road is closed off to firms in horticulture. Thus, while upgrading in both sectors has allowed certain firms to maintain access to international markets, the governance and nature of global markets may circumscribe the opportunities for more broad-based development, unless explicit policy attention is focused on the mechanisms of diffusing these capabilities more widely across the sectors.

Notes

1. See Gereffi (1999) on apparel; Schmitz (2000) on shoes; Humphrey (2000) on autos; Sturgeon (2000) on component assemblers; Keesing and Lall (1992) on manufacturing exports; Raikes and Gibbon (2000) on agricultural exports; Nadvi (1999) on surgical instruments; Dohnert (1999) on garments; and Gomes (2000) on fresh fruits and vegetables; Kaplan and Kaplinsky (1998) on deciduous canned fruit.
2. The export horticulture sector is comprised of fruits, vegetables and flowers. This article focuses solely on the exports of fresh vegetables.
3. Kenya was the largest exporter of the vegetables included in categories HS 0708 and 0709 to the European Union in 1997. The HS 0708 category refers to 'leguminous vegetables, shelled or unshelled, fresh or chilled' and HS 0709, 'other vegetables, fresh or chilled', which includes artichokes, asparagus, mushrooms, sweet peppers, capsicums, etc. (Eurostat 1998; Dolan and Humphrey 2000).
4. See Gereffi (1994, 1999) for the distinction between producer- and buyer-driven chains. He describes buyer-driven commodity chains as 'those industries in which large retailers, marketers and branded manufacturers play the pivotal role in setting up decentralised production networks in a variety of exporting countries, typically located in the Third World' (1999:1).
5. This includes both the 1990 UK Food Safety Act as well as international agreements such as the food and food-additive standards set by the CODEX Alimentarius Commission, WTO Agreements on Technical Barriers to Trade and on the Application of Sanitary and Phytosanitary Measures, the Montreal Biosafety Protocol and the rules and regulations set under the International Plant Protection Convention.
6. However, in garments the reach of ethical standards is far from deep. There is ample demand for price-driven low-end products supplied to low-end overseas chains or marketed via small wholesalers. Unlike horticulture, much of the pressure on garment firms of monitoring ethical production standards has come from third parties: consumer groups in Western markets and local NGOs.
7. Current trade preferences will be maintained during a preparatory period, which extends from 2000–2008 (Stevens and Kennan 2000).
8. The link between interactive buyer/supplier relationships and upgrading opportunities was clearly illustrated in Knoringa's (1996) study of Indian shoe producers, who encountered difficulties in upgrading due to the lack of trust and information exchange with their buyers.
9. Process Upgrading has been described as 'transforming inputs into outputs more efficiently by re-organising the production system' (Humphrey and Schmitz 2000b:12).
10. The most prominent case in TN textiles was the Indian government's response to Germany's ban on Azo dyes in the mid-1990s, and the successful adaptation to it by local industry in partnership with government agencies (see Pillai 2000).
11. Functional Upgrading has been described as the acquisition of new functions in the chain (Humphrey and Schmitz 2000b). For example, Gereffi (1999) shows how apparel manufacturers in East Asia have moved from being purely suppliers of apparel to expanding into organising the elements of the chain and eventually moving into brand-name manufacture.
12. In the TN case, this move to offshore production sites is not a form of triangle manufacturing (Gereffi and Pan 1999), but a positioning strategy that anticipates brutal post-MFA competition over

market access in the US and EU and as a counter against regional blocs that lock some countries out.

13. See Tendler (2001) for a fuller discussion of this point. For details on the public sector reform in TN textiles, see Tewari (2001).

14. For example, Schmitz and Knorringer (1999) argue that buyers will often block supplier upgrading into areas such as design and marketing as it impinges upon their core competence.

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