



**The implications of supermarket development for horticultural farmers  
and traditional marketing systems in Asia**

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# Acronyms

<b>AFMA</b>	<b>ASSOCIATION OF FOOD MARKETING AGENCIES IN ASIA AND THE PACIFIC</b>
<b>EUREPGAP</b>	<b>EURO-RETAILER PRODUCE WORKING GROUP GOOD AGRICULTURAL PRACTICES</b>
<b>FAMA</b>	<b>FEDERAL AGRICULTURAL MARKETING AUTHORITY OF MALAYSIA</b>
<b>FAO</b>	<b>FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS</b>

# **The implications of supermarket development for horticultural farmers and traditional marketing systems in Asia<sup>1</sup>**

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## **Introduction**

Increasing attention is being paid to the growth of supermarkets in countries outside of North America and Europe. Numerous studies have been carried out, initially in Latin America and, more recently, in Central and Eastern Europe, Southern Africa and Asia. However, these studies, while identifying the growth of supermarkets and the changes in supply chains that have been caused by this growth, have made relatively little progress in identifying steps that need to be taken to help farmers adapt to the new realities of supplying fresh fruits and vegetables to large retailers. By bringing together supermarket representatives, wholesalers, government officials, farmer representatives and those who work with farmers, at a workshop held in Kuala Lumpur in October 2004,<sup>2</sup> it was hoped to contribute to an increased understanding of the issues that needed to be addressed. This paper is based on the one presented to that workshop by the author, subsequently amended to take account of contributions by the participants and research that has become available since October.

## **Trends and reasons for them**

In much of Western Europe and in North America supermarkets and hypermarkets now account for well over two-thirds of all food retailing. In some other countries the share is believed to be now over 50 per cent, or rapidly reaching that figure. There has certainly been a rapid growth in the role of supermarkets in almost all parts of the world although measuring the exact market shares is complicated by a lack of reliable data and difficulties in defining what exactly is meant by “supermarket”. It is particularly difficult to obtain information on supermarkets’ share of the fresh produce sector. While quantities sold by supermarkets can be accurately calculated, it is almost impossible in most countries to know the quantities of fruits and vegetables being sold through traditional marketing channels.

Supermarket growth has, in part, resulted from the considerable competition between supermarket chains, particularly in the USA and Europe. This competition has had two consequences. In the West it has led to increased supermarket share by the squeezing out of smaller, less efficient retailers. At the same time, chains in developed countries have responded to the impact of domestic competition on margins by seeking opportunities overseas, a move that has been helped by the liberalization of rules relating to Foreign Direct

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<sup>1</sup> The early sections of this paper draw in part on the work of Tom Reardon of Michigan State University and his collaborators. Documents referred to are cited at the end of this paper. Other sources include an unpublished presentation by Julio Berdegue, Tom Reardon and C. Peter Timmer at a workshop held in FAO in 2003 and unpublished work carried out by Kevin Chen while on assignment with FAO at the end of 2003. The assistance of Carlos da Silva, Eva Galvez-Nogales, Ralph Houtman, Madelon Meijer and Edward Seidler in the preparation of this paper is gratefully acknowledged.

<sup>2</sup> hereafter referred to as “the FAO/AFMA/FAMA workshop”.

Investment. In Asia, as elsewhere, the growth of supermarkets can be related to increased demand for the services they can provide, resulting from:

- rapid urbanization;
- per capita income growth and the growth of a “middle class”;
- increasing employment of women, with a consequent increase in the opportunity cost of their time. Families are said to be “cash rich, time poor” and this has led to a demand for meals that are easier to prepare and for retail outlets that offer a wider range of prepared products. This trend has been enhanced by the development of new products that meet the needs of this new market;
- “westernization” of lifestyles, particularly among younger people;
- demographic trends, with an increasing proportion of young people;
- growing use of credit cards, which in developing countries are rarely accepted by corner shops or traditional wet markets;
- changes in family structure with, in Asia, a growing proportion of nuclear families and, even, one-person households, as opposed to extended families;
- reduction of effective food prices for consumers because of supermarkets’ greater ability to control costs through economies of scale, improved logistics, etc. This may not, however, always apply to fresh produce;<sup>3</sup>
- growing access to refrigerators, allowing larger quantities of food to be stored, and to cars, allowing shopping to be done away from the immediate vicinity of the home and for larger quantities to be purchased at any one time;
- increased travel, exposing people in other regions to modern retailing techniques in the USA and parts of Europe, to a wider range of products and, particularly for fresh fruits and vegetables, to the possibility of being able to consume many products “out of season”.

Reliable information on developments in Asia is not always easy to obtain. In some countries this difficulty stems from the previously noted problem of defining what is meant by a supermarket. In others there is no agency collecting accurate data. Nevertheless, it is clear that there has been a significant growth both in the number of supermarkets and convenience stores and in the role of multinational chains such as Carrefour and Tesco. Developments have not just been driven by international companies; the past decade has also witnessed the emergence of national chains of some significance.

Care does need to be taken in drawing conclusions about the impact of these trends on the fresh produce sector. Firstly, retail sales do not equate to total consumption. Institutions bypass the retail sector, as do caterers, although in some Asian countries supermarket-style cash-and-carry wholesalers such as Metro and Makro, who handle fresh produce and supply the catering sector, are beginning to develop. Secondly, the growth of fresh fruit and vegetable sales by supermarkets tends to lag behind the growth of sales of processed food products. The logistics of fresh produce supply are much more complicated than for dry goods and thus take supermarket chains much longer to organize. Thirdly, while there has certainly been growth in fresh produce marketing by Asian supermarkets, a significant proportion of fruit and vegetable sales is of imported produce. Furthermore, for domestically grown produce supermarket supply chains may be relatively easy to develop for less-perishable produce, such as watermelons but much more difficult for produce having limited shelf life and requiring

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<sup>3</sup> Prices of fruits and vegetables at Thailand’s supermarkets were found to be about ten percent higher than at wet markets, although this may be due to higher quality. N. Poapongsakorn, presentation at FAO/AFMA/FAMA workshop.

cold chains. Indeed, many smaller supermarkets stock only those products that have a long shelf life. Lacking detailed information on the importance of supermarkets for different fruit and vegetable categories, it is not yet easy to fully assess the implications of their growth for domestic producers. The following discussion should be considered with this in mind.

In Asian countries most households continue to use traditional retailers for fruits and vegetables even though they may use supermarkets for other products. There remains the perception, and possibly the reality, that wet market supplies are fresher and often cheaper. This is recognised by one chain in Thailand that focuses on fresh produce and aims to create stores that resemble “shopping at the wet market near home”.<sup>4</sup> Unless a consumer happens to live close to a supermarket, wet markets are also more convenient for consumers accustomed to walking to make daily purchases of fruits and vegetables. Supermarkets often lack a sufficient range of horticultural produce to encourage consumers to switch from wet markets, particularly outside of the major cities.<sup>5</sup> Nevertheless, they continue to make inroads because of their competitive prices, more reliable, if not better, quality and the fact that they offer “one-stop” shopping. Supermarkets have also to some extent benefited from government regulations attempting to control hygiene and congestion in traditional markets, for example, in China and Viet Nam.

While the changes seen in fresh produce retailing in other regions will eventually come to all of Asia, the extent and speed of these changes should not be overestimated for most countries. Given that supermarket growth is driven by urbanization and per capita income levels, countries with low rates of urbanization and/or low income levels are likely to witness only slow supermarket growth. In Bangladesh, for example, the few supermarkets in Dhaka and Chittagong cater primarily to expatriates and urban elites and this is unlikely to change rapidly given the lack of purchasing power and lack of suitable transport available to the bulk of the population. There remains time for more traditional marketing chains to adapt and for policymakers to formulate policies to assist farmers to work with the supermarket sector.

Malaysia is probably the country of Asia where the trend is most advanced. Available data suggests that supermarkets and hypermarkets accounted for 60 percent of fruit sales and 35 percent of vegetable sales in 2002, although this may be an exaggeration. Not far behind is Thailand where 40 percent of fruits and 30 percent of vegetables were sold through supermarkets and hypermarkets in the Bangkok area, but a lower percentage in the context of the country as a whole. In the Philippines 15 percent of vegetables are said to be sold through supermarkets in Metro Manila but a smaller proportion in the country as a whole.<sup>6</sup> In the Republic of Korea there has been a rapid growth in hypermarkets since 1993 but, even so, such stores still only account for eleven percent of fresh produce sales. In China, less than ten percent of fruits and vegetables were sold through supermarkets in 2002. However, the rate of supermarket growth continues to be rapid.

### **Procurement and distribution practices of supermarkets**

International and national supermarket chains in Asia are planning to or are already following the practices of the West and Japan in several ways, including the use of:

- centralized procurement systems;

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<sup>4</sup> Wiboonponse and Sriboonchitta, 2004

<sup>5</sup> Digal and Concepcion, 2004

<sup>6</sup> *ibid*

- specialized/dedicated wholesalers, sometimes acting as sole suppliers;
- “preferred supplier” systems;
- concessionaires who lease fruit and vegetable sales space in the stores;
- private standards for fresh produce, which are usually more demanding than national standards and which may include a requirement for “traceability”.

In many countries around the world there has been a marked tendency to shift from procurement by individual supermarkets, which may have involved purchasing from wholesale markets, to a centralized system involving a central buying office for fresh fruit and vegetables, with distribution to stores through several distribution centres over a country. This is done in order to reduce coordination costs; generate economies of scale by buying larger volumes and working with fewer wholesalers and suppliers per unit merchandized; and to have tighter control over product quality and freshness. To date, relatively few chains in Asia have adopted centralized buying, in part because they presently operate insufficient stores to make a Distribution Centre viable. Where they have done so, facilities may just be simple warehouses, and far from state-of-the-art. Both Foodworld in India and Saigon Co-op in Viet Nam have such centres, but neither presently uses cold chains.

Many chains in Asia continue to purchase through traditional wholesalers such that even in the relatively sophisticated market of Thailand the leading wholesale market, “Taalad Thai” near Bangkok, reports no loss of business. Others, however, are gradually shifting from those traditional wholesalers to “specialized/dedicated wholesalers” that are specialized in a few products and dedicated to supplying one supermarket chain. The relationship between Carrefour, Indonesia and the Bimandiri company is an example of this and will be discussed below. In some cases in other parts of the world it has been noted that the retail chain eventually acquires or enters into a joint venture with the wholesale firm. The specialist wholesaler is usually more responsive to quality, safety, and consistency requirements of supermarkets than are traditional wholesalers who aggregate produce from many producers and may also be unable to supply the quantities required. The experience outside of Asia has been that such new wholesalers gradually move from mainly buying at wholesale markets or from a list of customary suppliers, to contracting production that meets the specific grades and standards of the retail chain. In many countries the leading chains are promoting “preferred supplier” systems. This is done in order to select producers or wholesalers capable of meeting the quality and safety standards of the supermarkets which, on the basis of experiences in other regions are likely to become stricter as consumers become more affluent. Such linkages permit more rapid movement of produce from farm to store, enabling supermarkets to, in theory, sell much fresher produce. To achieve this, supermarkets often require that their suppliers adopt practices and make investments that simplify movement of produce along the supply chain. Insistence on these “Good Commercial Practices” can eventually be expected to become widespread in Asia.

Why have such developments been seen as necessary? Put simply, the traditional ways of doing business have been found to be unsuitable, both in terms of the management structure of supermarkets and in terms of the service supermarkets wish to provide to consumers. In supermarket jargon, fruits and vegetables are considered by many stores to be a “destination category”, i.e. a category of products that chains consider attracts people to their stores rather than to competitors’. Destination categories are thought to be important because consumer loyalty to an individual chain is considered to be weak, at least in China.<sup>7</sup> It is clearly easier to

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<sup>7</sup> K. Chen, unpublished research carried out for FAO.

create an individual identity for product groups such as fruits and vegetables, fish or meat than it is for household goods. However, in order to do this the stores need to be assured of a reliable supply of consistent quality. In many countries supermarket managers have little individual freedom to buy produce directly from suppliers. Not only do chains seek to offer a consistent product range over all their stores, but purchases at each store are time-consuming and involve complex paperwork. It is far better for a store to receive dependable deliveries from a few wholesalers or from a centralized distribution centre than to have to worry about buying from farmers or wholesale markets on a daily basis. Boselie and Buurma note that 250 suppliers delivered perishable products directly at the backdoor of TOPS supermarkets at least three times a week in Thailand. “Incidents of out-of-stock were common and shrinkage in the store was high. The lead time between the farms and the supermarket shelves was up to 60 hours and due to the lack of pre-cooling and cooled transportation the post-harvest losses were high. It was impossible to trace products back to the farm; there was no insight into farming practices and post-harvest practices. There were no clear uniform product specifications that could be communicated throughout the supply chain”<sup>8</sup> As a consequence of such problems TOPS centralized its procurement in one distribution centre and then also moved to a system of “preferred suppliers” in response to the high proportion of produce that was rejected on arrival at the centre.

Most other chains in Asia have, for the time being at least, decided to procure through a limited number of wholesalers, in preference to establishing distribution centres. For example, each of the hypermarkets in Metro Manila has just one accredited supplier for both domestic and imported fruits and vegetables.<sup>9</sup> One or two chains in Asia are not prepared to buy from suppliers who are unable to supply all stores in the chain, with clear indications for the size of companies who will be able to survive in such an environment.

Supermarkets in Asia presently use a wide variety of fresh fruit and vegetable procurement practices. It can be confidently predicted that, in time, there will be some consolidation of these practices. At present, at least the following channels can be seen:

- direct, uncontracted purchases from farmers at individual supermarkets;
- purchases from wholesalers, who either work directly with farmers or through wholesale markets;
- purchases through independent procurement companies (dedicated suppliers) who often work with farmers approved by the supermarket chains (preferred suppliers);
- purchases through government-sponsored distribution centers;
- purchases through informal farmer groups, farmer associations or cooperatives;
- purchases through large individual farmers, who often sub-contract part of the supply to smaller farmers;
- leasing of space within the store on a commission basis to traders, farmers and cooperatives.

The following table presents the advantages and disadvantages of three supply channels, as perceived by Carrefour in Malaysia. It can be noted that direct purchases from farmers can be seen as offering distinct advantages in terms of control of quality and cultivation methods and traceability and in ensuring that the chain is aware of the levels of remuneration received by farmers. However, quantity reliability and logistics continue to present problems.

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<sup>8</sup> Boselie and Buurma 2003.

<sup>9</sup> Digal and Concepcion, 2004

<i>Characteristics of supply channel required by supermarket</i>	<i>Supply channel</i>		
	Through wholesale market or wholesaler/collector	Through wholesaler working directly with producers	Directly from producers
Price and quantity negotiation	√		√
Price	√	√	√
Logistics	√	√	
Control of origin		√	√
Control of cultural methods			√
Control of farmer remuneration			√
Reliable supply	√	√	
Quality		√	√

Source: Adapted by the author from a presentation made by A. Julien at the FAO/AFMA/FAMA workshop.

### **Farm-supermarket linkages**

The development of effective supply arrangements for supermarkets in Asia remains in its infancy. Some examples of different approaches to supermarket fresh produce supply are as follows:

#### **Foodworld, India<sup>10</sup>**

Supermarkets in India presently account for a very small share of fresh produce retail sales. However, sales are growing rapidly and an attractive fruit and vegetable sector is perceived as an important way of attracting customers. The Foodworld chain operates 50 stores, primarily in the south of the country and has developed supply relationships with one hundred small farmers. Working with small farmers is necessary because land tenure rules prevent farm consolidation; farmers have an average holding of five acres.

There is no contractual relationship. For the time being the company has agreed to purchase everything its farmers produce, although if quality considerations begin to override quantity requirements this may not last. Prices are set on a daily basis with reference to the prevailing wholesale market price and the method of calculation is fully transparent. Farmers deliver from up to 50km away to a consolidation centre which, in turn, is up to 300km from the stores. There is no cool chain so losses are high, although significantly less than in the traditional supply chain.

Foodworld has negotiated with seed and fertilizer companies on behalf of the farmers and to ensure that the correct varieties are supplied. Farmers receive loans from these companies. At present, Foodworld plays no role in loan repayment although it would cease buying from farmers who fail to pay back their loans (this has yet to happen). Discussions are presently underway with banks to set up a quadripartite arrangement, whereby the banks finance the inputs supplied to farmers and Foodworld repays the banks out of the farmers' earnings.

<sup>10</sup> Based on presentation by K. Radhakrishnan at the FAO/AFMA/FAMA workshop.

### **FAMA in Malaysia<sup>11</sup>**

Malaysia's state-run Federal Agricultural Marketing Authority (FAMA) began supplying supermarkets and hypermarkets in 2000. It operates contract marketing arrangements with 1362 fruit and vegetable, livestock, fresh-water fish, coconut and other producers. The main fruits considered suitable for such arrangements are watermelons, melons, mangoes and pineapples, while the main vegetables are chillies, pumpkin, ginger and ladies finger (okra). Farmers produce according to strict cropping schedules designed to ensure consistent supply. While supermarkets make no commitment regarding the quantities they will take, their sales monitoring systems generally enable them to forecast their daily requirements with considerable precision.

Farmers are encouraged to follow Good Agricultural Practices. Both contracted and uncontracted farmers can apply to be accredited as "Malaysia's Best", with accreditation being based on EUREPGAP standards. In-store promotions in some supermarkets use this accreditation as a selling point. Contracted farmers are required to follow written product specifications agreed between FAMA and the chains. Despite the considerable extension support provided by FAMA, small farmers reportedly experience considerable difficulties in meeting quality standards and the stringent delivery schedules and procedures required. There is stiff price competition between supermarkets, which use sales slogans such as "cheap gets cheaper" and "everyday low prices" and this is reflected in the prices paid to farmers. Prices are agreed in advance for crops such as banana and pineapple, where market prices fluctuate very little, while market-based prices are paid for other crops where price fluctuations are common.

FAMA operates 44 collection centres, which funnel produce into seven distribution centres for delivery to the stores. This is not an exclusive arrangement and supermarkets also obtain supplies directly from farmers and wholesalers. The FAMA operation involves an element of subsidy in that infrastructure costs and some staff costs are not charged to the farmers. Problems are encountered because of the 30-60 day payment period demanded by the chains (despite a Government recommendation that payments be made within seven days), which is passed on to farmers by FAMA.

### **Bimandiri, Indonesia<sup>12</sup>**

The Bimandiri company was established in 1994. By 1998 it was supplying four supermarket chains, but in 2000 it decided to become a dedicated wholesale supplier only to Carrefour, Indonesia. Initially it purchased from local traders and individual farmers, but the decision to work solely with Carrefour led to moves to develop a sustainable procurement system, which involved encouragement to farmers to work in groups and the development of partnership arrangements with those groups. Such arrangements now form around 30 percent of the company's purchases. It works with farmer groups on the basis of agreed quantities. Prices are either fixed in advance or related to returns within a floor/ceiling price range. The company's margins are said to be fully transparent.

Bimandiri supplies a range of products to Carrefour. It has created an exclusive product, the individual-sized Baby Black Watermelon, which is planned to be marketed to other Carrefour stores in SE Asia in the coming years, and is collaborating closely with Carrefour on broccoli and chilli production, aiming to produce standardized products. Problems faced by the

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<sup>11</sup> Based on presentation by Mukhtiar Singh at the FAO/AFMA/FAMA workshop.

<sup>12</sup> Based on a presentation by Sandredo at the FAO/AFMA/FAMA workshop and an unpublished report by Tom Reardon.

company include the level of commitment of farmers, seasonality of production and price volatility and the occasional inability of Carrefour to fully absorb the supply, resulting in loss-making sales to traditional markets. Indicative of the problems faced in dealing with small farmers is the fact that of the one hundred members of a farmer group near Yogyakarta that Bimandiri approached to grow watermelons, only half were considered suitable to grow the crop.

### **The Bukidnon Lettuce Cluster, Mindanao, Philippines<sup>13</sup>**

The island of Mindanao is a source of much of the Philippines' fruit and vegetable supply. Until recently, all farmers either sold their produce on local markets or through traditional marketing channels that involved village collectors and wholesalers in Mindanao and wholesalers and retailers in the major buying cities, such as Cebu and Manila. With support from a USAID project, a new approach was developed, involving "clusters" of farmers who supply markets directly. The Bukidnon lettuce cluster involves five farms in northern Mindanao. A market for lettuce was identified with fast food companies. A cash-and-carry chain was identified as a further market for up to ten percent of production, while the wholesale market in Cagayan de Oro, Mindanao could be used to sell additional production, particularly off-sizes.

Marketing activities are coordinated by the largest of the five farms, which accounts for 44 percent of production. Coordination involves: (1) contacting each grower to get confirmation of weekly supply and matching any individual shortfalls with production by others in the cluster; (2) checking the pre-cooling and packing area and the supply of plastic crates; (3) transmitting weekly receipt reports and payments to the other growers and discussing identified quality problems; and (4) liaising with the crate supplier, transporters and input suppliers. Individual farmers' crates are colour coded for traceability. Information about each shipment is faxed in advance to the cluster's agent in Manila who receives the shipment at the buyers' premises, monitors the outturn weights, identifies any quality problems and reports back to Bukidnon. The agent also arranges bank transfer of payments to growers. The five farms ship a total of ten tons weekly. The cluster provides a model of an integrated approach that involves close liaison with input suppliers, transporters and the buyers, and the coordinating role of the leading farmer appears the essential component of its success.

### **Saigon Coop, Viet Nam<sup>14</sup>**

Saigon Coop is a Vietnamese-owned chain which presently has thirteen stores, of which eleven are in Ho Chi Minh city. Fruits and vegetables presently account for just 3.5 percent of total sales, but there are plans to increase this significantly. It buys around seven tons a day from seven main suppliers, who are large farmers, a farmer cooperative and traders. Written contracts are used, but these have verbal components covering price and supply, which change frequently. Vegetables are received at a central warehouse on a daily basis, checked, graded and delivered to the stores. Payment is by cash. In the 1990s there were a number of deaths from consuming fresh vegetables in Viet Nam and produce safety is a cause of considerable concern within the country. Saigon Coop makes periodic and spot-check visits to the farms and also sends samples of produce for testing by the local Plant Protection Department. The Department is also involved in farm-level checks.

Problems experienced include the difficulty of offering a wide range of produce, given relatively low daily sales; the fact that suppliers tend to specialise in a limited range of

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<sup>13</sup> based on the work of Flordeliza Lantican.

<sup>14</sup> based on a presentation by Luong Thi Tuyet Trinh at the FAO/AFMA/FAMA workshop.

products and sourcing others causes problems; poor post-harvest handling and high losses; fluctuating quality and quantities and insufficient infrastructure. The supermarket chain is planning to support farmers with finance and to purchase all produce offered, thus enabling the farmers to concentrate on farming.

### **Jihong Vegetable Delivery Centre Co Ltd, P.R. China<sup>15</sup>**

In the early 1990s, this company started to supply vegetables to hotels and restaurants in Shanghai. Many vendors were not willing to deliver to these buyers due to the fifteen days of payment credit required by the buyers, the possibility of produce being rejected and delivery difficulties. The business was reasonably good until the Asian economic crisis in 1997. To improve the company's cash flow, a new approach was needed.

In 1998, the company, along with three other vegetable suppliers, was chosen to supply the Metro chain. The company was the only survivor after one year, with the volume having reached four tons a day. To address this expanding business the company franchised its operations. Each franchisee supplies to one Metro store. The owner of a franchise is typically a husband-wife team and is required to invest RMB150,000<sup>16</sup> initially. The amount is matched by RMB300,000 from the company. The profit is shared 50-50. The strategy is to initially focus on volume instead of profit and the franchisee is asked to spend the first three months to expand the volume at a loss. The company now supplies vegetables to several chains. From 2001, it also became a national supplier to Metro and now has more than 60 franchisees to supply 60 supermarket stores. Seventy percent of its vegetables are now supplied by vegetable packers, ten percent by cooperatives and twenty percent by individual farmers. Total sales reached RMB 120 million in 2002. It is currently considering an alternative business structure in response to the needs of larger supermarket chains.

### **Quasi-Government Vegetable Distribution Company, P.R. China<sup>17</sup>**

The Tiao Tang Shan company belongs to the Beijing Agricultural Bureau. It has its own production area of 13 ha. and outgrowers with around 50 ha. It is also an official demonstration site for new variety and cultivation methods for the government extension service. Since 1998 it has been run like a company. It now sells seven tons of vegetables daily in more than twenty supermarkets, leasing space in the stores and paying a percentage of sales to the supermarkets (usually 12-25%) and promotion charges, as well as entry fees.

The company sources vegetables from much of China, including Beijing, Hubei, Hainan, and Guangxi. The quality is not consistent. Delivery is also problematic. These problems were particularly severe at the beginning but the situation is now improving. Two forms of coordination with farmers are used: 1) contracts with associations and 2) contracts with distribution companies. The company does not deal with farmers directly in order to cut down on transaction costs. It is responsible for marketing, training, designated fertilizers and pesticides, and random inspection.

A number of new initiatives are under consideration. The company is planning to establish a traceability system; modernize its distribution centre so it can link with supermarkets more easily; look for alternative markets to the supermarkets; establish a chain that integrates research, product development, production, and marketing; and move to third-party inspection for safety and quality.

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<sup>15</sup> K. Chen, unpublished research carried out for FAO.

<sup>16</sup> 8.3 RMB = 1 US\$ (January 2005)

<sup>17</sup> *ibid.*

## **Problems faced by farmers and traders in supplying supermarkets**

The implications of the rise of supermarkets for farmers do not come from the type of store but from the methods of procurement used and the quality standards applied. Farmers experience many problems in supplying supermarkets in Asia and in some cases this has already been reflected in fairly rapid declines in the numbers involved, as companies tend to delist suppliers who do not come up to expectations in terms of volume, quality and delivery. In Malaysia, for example, the Giant chain had 200 vegetable suppliers in 2001 but by 2003 this was down to just thirty. In Thailand, similar changes have been seen following the introduction of the TOPS distribution centre referred to earlier. Such trends have already created a wide perception that it is difficult to deal with modern supermarkets.<sup>18</sup> Chains apply the branded-good business model to fresh produce but it can be questioned whether this is appropriate and will lead to long-term success.<sup>19</sup> As noted above, one chain in Malaysia uses “Cheap gets Cheaper” as its motto and everywhere there is considerable price competition between the chains, which makes them reluctant to raise prices in order to enable farmers to pay for on-farm investments. The squeeze on farmer margins is likely to increase further as supermarkets become as concerned with safety and quality as they are now with cost and begin to insist that suppliers comply with standards similar to those of EUREPGAP. It seems unlikely that small farmers will be able to guarantee a safe water supply, provide toilets and hand washing facilities for workers, construct pack houses with cement floors or carry out the bookkeeping that “traceability” requires.<sup>20</sup> Nor will they be able to offer the bar codes on pre-packaged produce that, in Asia, are widely required in Japan and are beginning to be requested by supermarkets in developing countries around the world.<sup>21</sup>

The FAO/AFMA/FAMA workshop in Kuala Lumpur provided strong evidence of difficulties small farmers face even before they are required to meet sophisticated safety standards and Good Commercial Practices. Stores insist on delivery at an early hour of the morning and many farmers face problems in complying with this. Farmers wishing to supply supermarkets must accept that traditional religious or social obligations, which in the past may have led to them stopping most on-farm operations for a couple weeks, cannot now stand in the way of a commitment to supply supermarkets 365 days of the year. Most have difficulties in doing this. They must accept that a proportion of their produce will be found by the buyers to be of unacceptable quality, and will have to make arrangements to dispose of it through other channels at lower prices, or even throw it away. Farmers tend, for very sound reasons, to be risk averse but supplying supermarkets successfully requires a willingness to make risky investments, to plant new crops or varieties and, in the long run, to concentrate on just a few crops. Chen reports on discussions with farmers in Thailand who considered that prices offered were not high enough to cover the cost and trouble they would have to go to in order to meet the supermarkets’ requirements.<sup>22</sup>

In traditional marketing systems farmers often receive loans from traders during the production period, on the understanding that they will sell to those traders at harvest time.<sup>23</sup>

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<sup>18</sup> *ibid.*

<sup>19</sup> presentation by N. Poapongsakorn at the FAO/AFMA/FAMA workshop

<sup>20</sup> Berdegue, J.A., Balsevich, F., Flores, L., Mainville, D. and Reardon, T. 2003

<sup>21</sup> for example, one chain in El Salvador in Central America is already beginning to insist on bar codes; M. Meijer, *pers. comm.*

<sup>22</sup> K. Chen, *op. cit.*

<sup>23</sup> see, for example, Shepherd 2004a

Such loans are used both for production and for family consumption purposes. While the workshop identified one example of where the supermarket chain organises input advances from input suppliers (Foodworld, India) and another where the chain is considering provision of farmer loans (Saigon Coop, Viet Nam), there is generally an unwillingness on the part of the companies to become involved in financing farmers. Furthermore, farmers' cash flow problems are exacerbated by the fact that chains can delay payment for up to 90 days, although one or two do pay cash.

There is a reported preference among supermarkets to deal with individuals rather than groups of farmers. At the same time, individual farmers seem reluctant to deal directly with supermarkets, both because of the difficulties cited above and, probably, because of a lack of confidence in working in a different environment. This need not be an insurmountable problem because small farmers could work with farmer leaders, as described above in the case of the Philippines lettuce cluster, or work in groups, cooperatives or associations with one focal point who deals with the buyers. However, neither the FAO/AFMA/FAMA workshop nor the research for FAO by Chen identified many cases of group development to date. The danger remains that by the time small farmers get organised to supply supermarkets, the tightly coordinated supply chains will have developed in such a way that new entrants will be excluded.<sup>24</sup> This seems most likely in those countries where land regulations present no significant barrier to farm consolidation. Other sectors, in particular dairy, poultry and livestock, may be similarly affected, although there is little reason to expect that such developments will have any affect on the producers of paddy or other field crops.

Intermediaries working with farmers also face significant problems in dealing with supermarkets, which may stem in part from a lack of understanding of the supermarkets' working methods. Purchase prices are often negotiated for a fixed period, such as a week, but are renegotiated down by supermarkets if market prices decline in that period. There is, however, no provision for renegotiation upwards if prices rise. Suppliers sometimes have to pay transportation charges from the distribution centre to the individual stores and promotion fees where a product or range of fresh produce is featured in an in-store promotion. Discounts are required when new stores are opened. Penalties are invariably levied for failing to supply agreed quantities. Promotional fees are of particular concern to wholesalers as they perceive that they are expected to bear the cost of promotions, while the store takes no risk.

### **Response of traditional marketing systems**

In this new marketing environment how do traditional horticultural marketing systems respond? Several possibilities exist:

- **improving facilities.** Wholesale and retail markets should upgrade facilities to promote hygiene, reduce post-harvest losses, speed up the flow of produce and reduce transaction costs. Clearly, such developments will be easier for markets in some countries than in others but the countries where improvements may be easier to bring about are, by and large, those where traditional systems are under the most immediate threat from supermarkets. There is already some evidence of such a response, in P.R. China, Thailand, Singapore and Malaysia, for example;

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<sup>24</sup> K. Chen *op. cit.*

- **being pro-active.** Traditional markets that sit back and wait for business to come to them will rapidly cease to be relevant. They have to explore ways to attract business by surveying their customers and identifying their needs. Market logistics may need to be re-examined, together with trading hours, in order to maximize the convenience for customers and minimize delay between harvest and sale. Wholesale markets need to look to their strengths. In some cases, for example, they should be able to supply locally produced produce more freshly than supermarkets that operate just one distribution centre per country;
- **identifying new services.** Large, modern wholesale markets, such as that in Bangkok, may be able to offer space to smaller supermarket chains that do not have the throughput to justify building their own distribution centres. Some wholesale markets in Europe are attempting to do this by providing what are known as “logistics platforms.” The potential for obtaining business from supermarket chains in this way may be limited although, as noted earlier, many chains in Asia at present continue to source through traditional wholesalers;
- **better servicing of non-supermarket retailers and caterers by wholesale markets.** Small retailers will continue to play an important role in Asia and increasing affluence will mean that people will eat out more. Both retailers and caterers would be attracted by the provision of commercial wholesale cash-and-carry facilities. Such a store in a wholesale market compound would enable traditional fruit and vegetable retailers to diversify into selling new products. Many medium-sized retailers and even small chains could benefit from the one-stop-shop concept, i.e. being able to buy fruits and vegetables, fish, meat and dairy products and dry goods at one wholesale market location. Wholesale markets will have to move quickly if they want to offer such services, however, given the arrival in Asia of cash-and-carry chains such as Metro and Makro;
- **improving procurement arrangements.** As already noted, supermarkets are moving to direct procurement arrangements, either themselves working directly with farmers or farmer groups or working through dedicated wholesalers. Wholesalers working in traditional wholesale markets cannot dismiss these trends as a supermarket fad of little relevance to them. They will need to strengthen linkages with farmers and improve logistical arrangements along the lines of the “Good Commercial Practices” that supermarkets are beginning to insist on. This could include developing rural packhouse facilities. In Korea, for example, cooperative wholesale markets procure from cooperatives on the basis of contracts. An increased emphasis on quality will be required, particularly in relation to pesticide residues, and traditional traders will need to recognize the growing importance of grades and standards as competitive tools;
- **promoting increased fruit and vegetable consumption.** Faced by a declining share of the market, traditional marketing systems can try to increase their share again, but this may be difficult. An alternative approach is to work to increase the total size of the market. Several countries have adopted “five-a-day” promotions, to encourage people to have five servings of fruits and vegetables a day. FAO is now working closely with the World Health Organization (WHO) on the WHO/FAO Fruit and Vegetable Initiative. Thailand is planned to be one of several “pilot” countries to implement this initiative.

## **Options for governments**

Given the developments described above, how should governments and their agencies respond? One possible approach would be to do nothing. In this case further supply chain formation will occur as a natural development of the marketplace. Small wholesalers, retailers, processors and farmers will have to survive on their own. Those able to adapt will survive, others will not. This would probably lead to a more efficient, consumer-responsive supply chain but many people would lose out and this may not be socially or politically acceptable, particularly if the pace of change is rapid. The hands-off approach has been adopted by several governments in Europe. In the United Kingdom, most consumers have benefited from lower prices and the availability of a wider variety of products. However, consumers who find it difficult to move around or who lack access to reliable transport have lost out because large numbers of small, local shops have closed down and those that remain tend to be more expensive than supermarkets. There have been numerous complaints about the construction of out-of-town hypermarkets and their impact on the environment. Farmers are increasingly quoted as saying that they find it impossible to supply supermarket chains profitably. As noted, such complaints from farmers are also already being heard in Asia.

If doing nothing is not politically acceptable then the option remains to legislate to control the new supply chain developments. The problem with proposing controls through legislation is that it ignores the fact that supermarkets could only have grown in the way that they have by meeting the needs of consumers. A large number of consumers stand to benefit from further supermarket expansion in Asia. Almost certainly more people will benefit than will lose out. So legislation to control supermarket growth could also be politically unpopular. However, some legislation has been introduced. In Malaysia, foreign investment in distributive trades is subject to approval of the Committee on Wholesale and Retail Trade, with the aim of encouraging the “fair and orderly development of the industry.” The Government does not permit hypermarkets to be established with 3.5 km of housing estates or existing town centres and only one hypermarket is permitted per 350,000 people. In Thailand, new zoning regulations require large retail stores to be located at least 15km from commercial centre of provincial towns. However, much development took place between announcement of the draft regulations and the time they became effective in August 2003.<sup>25</sup>

The third option is for governments to work with all participants in the supply chain to facilitate linkages between supermarkets and farmers and to assist traditional marketing systems and those farmers unable to meet supermarket requirements to continue to operate in a competitive way. This implies the need to carry out an assessment of the likely rate of supermarket growth in the country as well as a willingness to work in partnership with supermarkets, rather than seeing them as enemies to be controlled, in order to elaborate the respective roles of government and private sector. For example:

- much could be done to modernize traditional markets through provision of better physical infrastructure such as storage, clean water and electricity, office space and parking space. The major constraint faced by markets is often poor organization and management and unless the question of management is addressed infrastructural improvement will yield few returns;

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<sup>25</sup> Wiboonponse and Sriboonchitta, 2004

- incentives to modernize could be created through enforcement of public regulations, e.g., food safety, weights and measures, taxes, competition, and personal safety, thus making traditional markets more attractive places to shop. A problem with this approach is that introduction or enforcement of regulations that are difficult or costly to apply could in some cases have the opposite effect to the intended one, in that it may force the closure of some markets and market intermediaries, so leading to an increase in the supermarket market share;
- existing public services, such as extension services, must respond to farmers' needs. They must be able to assist farmers who wish to deliver top quality, low cost and safe produce to meet the needs of supermarkets and the traditional marketing systems trying to compete with them. Particular attention needs to be given to the capacity of extension services to advise on the proper use of agrochemicals. New services need to be introduced to assist growers and their groups with business management and existing market information services need to be upgraded;
- the need for finance should be addressed. The standards required by and the commercial practices of supermarkets necessitate investments by growers. In traditional marketing systems growers often receive finance from traders. Unless contractual arrangements are developed between growers and supermarkets such finance will not be available under new supply-chain modalities. Possible tripartite or quadripartite arrangements between banks, supermarkets and their preferred suppliers and input companies need to be investigated, as is presently being done by Foodworld in India;
- attention also needs to be paid to the legal and regulatory framework governing the horticulture sector. Governments can advise on contractual arrangements and can set up arbitration schemes. Throughout the world government quality and safety standards have lagged behind the private standards established by supermarket chains but that does not mean that official standards do not need to be established. Supermarkets in Asia usually buy on the basis of their own private standards but where produce may be exported these standards are often backed up by third-party certification. In the future, standards that are a mix of private and government standards are likely to be used, as is being done by TOPS in Thailand. While all farmers can be encouraged to follow Good Agricultural Practices (GAPs), it is unlikely that traditional marketing channels will provide them with sufficient economic incentive to do so other than in countries such as D.R. Korea where heavy Government support is being provided for the introduction of GAPs, and traceability;
- laboratories and sampling procedures to meet new safety concerns also need to be established;
- small farmers will find it difficult, if not impossible, to compete with large farmers to supply supermarkets. Where they are successful in competing this will probably be achieved through group activities to link either directly with supermarkets or through intermediary wholesalers. They will have to cooperate in order to compete. It may be questioned whether existing forms of state-promoted farmer organization are suitable for such competition. A new generation of farmer organizations may need to be developed;

- finally, governments can play an important role in bringing together supermarkets and agroprocessors who are searching for supply with farmers who have the capacity to supply what the buyers need. Ministries of agriculture can be expected to be better informed than company buyers about the production potential of different areas.

In some countries governments have already started to react to the needs of farmers. In Thailand, the Bureau of Agricultural Economics has opened a supply chain unit and a Government-sponsored distribution centre for local retailers has been established. In China an Office of Agro-Industrialization has been opened and Zhejiang Provincial Department of Agriculture has established a quasi-government distribution centre. There have also been various food-safety initiatives aimed at improving farmers' access to modern retail and service outlets.<sup>26</sup> In D. R. Korea, the Government has supported the National Agricultural Cooperative Federation (NACF) to develop modern wholesale food distribution centres, which operate together with cooperative-owned supermarket chain distribution centres at the same location. The Federal Agricultural Marketing Authority in Malaysia has, as noted, an active programme of promoting farmer-supermarket linkages and is also working to improve produce distribution channels.

### **Concluding remarks**

Significant changes are taking place in fresh produce retailing in much of Asia and while these may be relatively slow to take effect in the whole region they will not be reversed. To date, most policymakers have had little or no exposure to these trends and are thus ill-equipped to help farmers make informed decisions and to provide the kinds of support that farmers require. Governments need to recognise the trends and identify ways of supporting farmers to meet the needs of modern supply chains and also to assist existing marketing systems to compete with the supermarket sector.

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