

Changes in food retailing in Asia

**Implications of supermarket
procurement practices for farmers
and traditional marketing systems**



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by

Kevin Chen

Andrew W. Shepherd

and

Carlos da Silva

Agricultural Management, Marketing and Finance Service
FAO Agricultural Support Systems Division

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Preface

This paper investigates the issue of modern agri-food systems organization and its effects on fruit and vegetable farmers and traditional marketing systems in Asia. A combination of methodological and analytical approaches was followed. Initial work was carried out as a literature review. Complementing the review, field work was undertaken by the senior author in four Asian countries, namely China, Japan, Malaysia, and Thailand. They represent different stages of economic development in Asia and much of the discussion on the supply chains in these countries is likely to be relevant to others. Fresh fruits and vegetables were chosen because of their importance for small farmers and because they are typically produced under less coordinated systems.

The field research involved interviews with both public and private sector personnel and institutions, and drew on relevant scientific and industrial expertise. Interviewees were drawn from all levels of the domestic and international agri-food chains, including producers, processors, traders, wholesalers, and retailers. The study was conducted in cooperation with the key government agencies that deal with the relevant problems in respective countries.

A third component of the investigation was the organization and synthesis of the presentations of a workshop on “The Growth of Supermarkets as Retailers of Fresh Produce”, held in Kuala Lumpur in October 2004. By bringing together supermarket representatives, wholesalers, government officials, farmer representatives and those who work with farmers, it was hoped to contribute to an increased understanding of the issues that needed to be addressed. In this event, 25 presentations covering experiences in eleven Asian countries were made. The workshop is referred to in the text as “the FAO/AFMA/FAMA workshop”.

This paper attempts to provide a better understanding of the causes of and challenges associated with the development of agri-food supply chains in Asia. It aims to provide policy recommendations for policymakers, public sector and civil society organizations to help them deal with the new challenges, in particular to help small farmers adjust to the procurement arrangements of supermarkets and traditional marketing systems to adjust to the growth of supermarkets.

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Acronyms

AFMA	ASSOCIATION OF FOOD AND AGRICULTURAL MARKETING AGENCIES IN ASIA AND THE PACIFIC
EUREPGAP	EURO-RETAILER PRODUCE WORKING GROUP GOOD AGRICULTURAL PRACTICES
FAMA	FEDERAL AGRICULTURAL MARKETING AUTHORITY OF MALAYSIA
MRL	MAXIMUM RESIDUE LEVEL

1 Introduction

During the 1980s and '90s, there were dramatic changes in agri-food systems in the developed economies around the world. The trends included greater concentration in agricultural input and food distribution, the increasing role of information and logistics technologies and the growing importance of food safety, quality, and other technical requirements. These systems have become highly organized and linked from producer through to consumer, with an increasingly dominant role being played by highly concentrated agro-industrial firms and retailers. Successful participation in both domestic and global markets has increasingly required efficient organization of domestic agri-food systems based on supply chain management principles.

With rapid economic growth, increasing urbanization, and accelerated integration into the world market, there has been a surge in the number of supermarkets and hypermarkets in many developing countries of Latin America and Asia. The rapid expansion of modern self-service stores has started to change the organizations and institutions of agri-food systems in these countries (Cook *et al.*, 2001, Reardon and Berdegué, 2001). The quest for a more efficient supply chain organization has been suggested by some to be the driving force for future growth of agri-food industries in developing countries.

Yet there is a growing concern that modern organizational arrangements in agri-food systems might promote the emergence of power imbalances and unfavourable terms of trade in the transactions between smaller-scale chain actors and the larger players, such as super/hypermarkets. Small-scale farmers and processors are believed to be particularly vulnerable in that regard. Indeed, a growing body of literature has been dedicated in the recent past to the implications of “the rapid rise of the supermarket” and its effects in food chain organization and performance, including the repercussions for small-scale farmers. Research and outreach initiatives dedicated to this theme have also been developed in recent years¹. Although there is still an ongoing debate on the real threat of the rise of supermarkets to small-scale farmers in the developing world, especially for the producers of fresh fruits and vegetables (Tschirley *et al.*, 2004), more and more 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-scale retailers.

This raises the larger question as to whether or not to encourage development of agri-food supply chains as a viable strategy to promote economic growth in developing countries. In Asia, where the trend towards a more market-oriented agriculture, even at smallholder level in remote areas, has been strong, the question of whether or not agri-food supply chains are emerging becomes particularly relevant. Do supply chains in Asia

¹ These include, *inter alia*, the initiatives “Regoverning Markets” (www.regoverningmarkets.org), “Partnerships for Food Industry Development” (www.pfid.msu.edu), the Linking Farmers with Markets programme of the Australian Centre for International Agricultural Research (ACIAR) – (www.linkingfarmerswithmarkets.net) and the Global Post-Harvest Initiative launched by FAO and partners.

measure up against those in the rest of the world? What are the key drivers of the formation of the supply chain in Asia? What are the challenges and opportunities in developing agri-food supply chains? What is the role of the public sector in the development of agri-food supply chains in these countries? While there has been increased interest in supply chain issues of food and agricultural products in developing countries, little empirical evidence is available. This paper attempts to provide a better understanding of the causes of and challenges associated with the development of agri-food supply chains in selected Asian countries and to arrive at policy recommendations for public sector and civil society organizations to deal with these new challenges. Its three specific objectives are:

- (i) To examine the changes that are taking place in the functioning and organization of food distribution systems in selected Asian countries, with a particular focus on procurement practices for fresh fruits and vegetables.
- (ii) To assess the emerging and likely impacts of the changing procurement practices on various chain participants, especially on small-scale producers, processors, wholesalers and retailers.
- (iii) To identify what roles the public sector and civil society organizations may play in the development of more efficient agri-food supply chains in Asian countries.

2 Conceptual and analytical framework

The terms “supply chain”, “value chain”, “commodity chain”, and “agri-food system” are used liberally throughout the literature, but the meaning is often shaded differently depending on the focus and context. Some authors use these terms as synonyms. Others use each of them to describe different processes. It is not uncommon that these terms are used for political and promotional reasons as well. It is fair to say that the terms are now overworked and routinely applied to a wide range of activities that are dissimilar. As a result, most existing studies do not use a consistent unit for a detailed empirical examination of food and agricultural supply chains. This also means that there is the possibility that policy-makers are moving forward in the supply chain arena with little or no rigorous exposure to empirical evidence and with insufficient understanding of issues to make informed decisions about policies to respond to changes in agri-food systems. The implication is that policymakers, extension workers, and researchers alike must be careful in applying the labels “supply chain”, “value chain”, or “commodity chain”. True supply chain activities require a different set of resources and managerial skills when compared with strategies that simply redeploy existing assets.

For the purpose of this work, the terms agri-food supply chain and agri-food value chain are used interchangeably to refer to the entire vertical chain of activities: from production on the farm through processing, distribution, and retailing to the consumer. In other words, the supply chain, or value chain, covers the entire spectrum, from farm gate to plate, regardless how it is organized or how it functions. The supply chain typically deals with a product-specific sub-sector of the agri-food system (Reardon and Berdegué, 2002). Supply chain management refers to the management of the entire set of production, distribution, and marketing processes that deliver competitive products to consumers. In this context, the term supply chain gains an attached meaning of “managing”, in order to distance itself from more usual sub-sector assessments (Kaplinsky and Morris, 2000).

Supply chain management (SCM) usually refers to a strategic collaboration of organizations for the purpose of meeting specific market objectives over the long term and for the mutual benefit of all links of the chain. When transactions in a supply chain take place within a traditional spot market, business-to-business relationships are decentralized. A producer supplies several wholesalers, wholesalers purchase from various producers, and, likewise, retailers have various sources of supply for a given product. Business entities often change their sources of supply and lose some customers and win new ones over time. Conversely, a supply chain may be organized in a format more closely related to that of vertical integration. In this hypothesis, in the most streamlined chain one producer would supply produce to one wholesaler, who would supply to one retailer, though the wholesaler may be bypassed. Unlike typical spot markets, in managed supply chains the number of actors – farmers, processors, retailers, etc. - involved in transactions tends to be reduced and their business-to-business relationships are relatively permanent and more centralized. Transactions are governed through organizational arrangements that involve contracts, strategic alliances or other forms of partnerships among chain actors. One chain participant, often a processor or a retailer, provides the leadership in organizing and coordinating the

supply chain. Hence, the concept of supply chain management, as adopted in this paper, refers to a pattern of governance where characteristically one chain member exercises control or at least leads other actors in the coordination processes that are needed to harmonize the flows of products, financial resources and information among all participants.

The phenomenon of SCM, while relatively new to the agri-food industry, has been well established in other industries for some time. The automotive industry was perhaps one of the first sectors to develop sophisticated supply chain management skills. The high-volume manufacturers developed supplier relations with such designations as OEM (Original Equipment Manufacturers) and PSS (Preferred Suppliers Status). The retail sector has been revolutionized by firms such as Wal-Mart. The use of sophisticated inventory management systems and on-line ordering and stocking procedures with suppliers has propelled the company to become one of the most profitable retail organizations in the world. Supply chain management can use varied organizational formats to coordinate transactions among chain actors, including contracting, strategic alliances, quasi-vertical integration, and complete vertical integration.

Modern supply chain management in the fruit and vegetable distribution sector necessarily calls for improved efficiency in the ways transactions between producers and their buyers are organized. Supermarkets, increasingly stronger players in fruit and vegetable retailing, are particularly concerned with the need to secure a steady flow of quality products that both meet the attributes required by their more demanding consumers and can be priced at a competitive level. To offer, at a profit, the wide and seasonably variable assortment of products that comprise the fruits and vegetables product category, supermarket managers must ensure that their transactions with suppliers are closely coordinated. The characteristics to be coordinated in these transactions cover aspects such as volume, frequency, price determination, payment conditions, logistics, delivery schedules, product standards, packaging requirements and policies to deal with supplies that do not meet pre-defined specifications. In principle, the allowable flexibility for the individual characteristic for each specific product or product group will influence the type of procurement practice a supermarket manager wishes to follow in order to minimize transaction costs. The procurement practice, or collection of practices, establishes, in turn, a general framework for the development of commercial relationships between supermarkets and their suppliers, including farmers.

From an operational standpoint, procurement practices constitute the pillar of a supply chain management strategy. Theoretically, they are an element of market conduct and as such they affect and are also affected by market structure. As supermarkets gain dominance in fresh produce distribution, and as their present consolidation trend continues (DFID, 2004), it is plausible to hypothesize that unfavourable terms of trade for farmers supplying supermarkets might arise within the context of agri-food systems modernization. Hence, to understand the ways in which modern supply chain organization affect farmers, it becomes relevant to identify and categorize the procurement practices followed by supermarkets. This is the approach followed by this paper.

3 The changing food retail sector in Asia

Introduction

In much of Western Europe and in North America, supermarkets and hypermarkets now account for well over two-thirds of all food retailing. This dominance is also seen in other areas of the developing world, such as in Latin America and South Africa, where supermarkets control 50 to 60 percent of the food retail sector (DFID, 2004). 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 exactly what is meant by “supermarket”. It is particularly difficult to obtain information on the market share of fresh produce being sold by supermarkets. While the 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 around the world has, in part, resulted from the considerable competition between supermarket chains, particularly in the United States and Europe. In the West this competition has led to increased supermarket share by the squeezing out of smaller, less efficient retailers. Chains in developed countries have responded to the impact of fierce domestic competition on margins by seeking opportunities overseas, a move that has been helped by the liberalization in many countries of rules relating to Foreign Direct Investment.

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 other countries there are no agencies to collect 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 been driven only by international companies; the past decade has also witnessed the emergence of national chains of some significance.

Care must 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 wholesale chains, such as Metro and Makro, which handle fresh produce and supply the catering sector, are beginning to develop.² Secondly, the growth in sales by supermarkets of fresh fruits and vegetables tends to lag behind the growth in sales of processed food products. The logistics of fresh produce supply are much more complicated than they are 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, imported produce accounts for a significant proportion of their fruit and vegetable sales. Furthermore, supermarket supply chains for domestically grown produce may be relatively easy to develop for produce that is less perishable, such as watermelons, but much more difficult for produce that has a limited shelf life and/or requires cold chains. Indeed, many smaller supermarkets stock only those products that

² For example, Metro has four stores in Viet Nam and 26 in China. Makro has two in Beijing, 10 in Indonesia, 17 in Thailand, 7 in the Philippines and 9 in Malaysia.

have a long shelf life. Lacking detailed information on the importance of supermarkets for different fruit and vegetable categories, it is not yet possible to fully assess the implications of supermarket growth for domestic producers. The following discussion should be considered with this in mind.

Growth of hypermarkets and convenience stores

Various modern retail outlets, including conventional supermarkets, hypermarkets, discount stores, convenience stores and department stores, have been developed. Different definitions are used for the size of various retail outlets and it is possible that a hypermarket in one country may be considered as a conventional supermarket in another. For example, in Malaysia, which has recently adopted the standards of the OECD (Organisation for Economic Co-operation and Development), a convenience store is considered smaller than 500 m², a conventional supermarket is between 500 and 2 000 m², a superstore is between 2 000 and 5 000 m², and a hypermarket is above 5 000 m². In China, a size above 10 000 m² is considered to be a hypermarket.

Though conventional supermarkets are still very important in most countries, there has been a trend toward increased penetration of large hypermarkets and small convenience stores. In China, 40 percent of urban shoppers already claim to spend more in hypermarkets than elsewhere. Japan leads the way in the development of convenience stores. Local convenience stores still have plenty of room for development and offer a significant threat to the traditional grocery store. For example, Tops in Thailand moved to counter the impact of giants such as Carrefour (with 21 supermarkets in Thailand) and Tesco Lotus (a joint venture of Tesco UK, and the CP Group of Thailand with around 50 supermarkets and hypermarkets) by finding new niches, such as smaller outlets in inner-city areas that combine the features of convenience stores and supermarkets. Tops now has 48 stores. Tesco Lotus opened some of its 31 Express stores in partnership with ESSO.

Higher growth for packaged produce

When discussing the implications of modern trade for food, it is, as noted, important to make a distinction between packaged groceries and fresh produce. Fresh produce sales in supermarkets are much lower than packaged produce sales. In the case of packaged grocery sales, the share of sales by modern self-service stores in Asia grew by around 3 percent a year for the period from 1999 to 2002 (ACNielsen, 2003). It grew by 0.8 percent and 2.2 percent during 2002 in Thailand and Malaysia, respectively, while supermarkets in China led the way, gaining 5 percent. Excluding Japan, a typical Asian urban consumer purchases about 40 percent of his or her packaged groceries from modern self-service stores (ACNielsen, 2003). It should be noted that available statistics relate mainly to urban markets and the percentages quoted are higher than those for the countries as a whole. The move to purchase packaged groceries at modern self-service stores is taking place in Asian urban areas, but the pace at which this is happening varies greatly because of different stages of economic development. For example, in Viet Nam, traditional stores account for more than 80 percent of sales even in the main cities, while in Hong Kong and Singapore, the share of trade for these outlets is less than 20 percent.

Consumers still prefer traditional outlets for fresh food

Recognizing the importance of selling fresh food in order to attract customers, modern self-service stores have made significant progress in improving their supply and display of fresh produce. The results have been mixed. A large percentage of consumers in Asia still prefers traditional markets for fruits and vegetables. ACNielsen (2003) reports that in most Asian countries between 80 and 90 percent of urban shoppers use wet markets regularly.³ Only in Japan and the Republic of Korea do less than 50 percent of urban shoppers use them on a regular basis. Malaysia is probably the country where the trend is most advanced. Available data suggest 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 percentage in the country as a whole (Digal and Concepcion, 2004). In the Republic of Korea there has been a rapid growth in hypermarkets since 1993 but, even so, such stores still account for only 11 percent of fresh produce sales. In China, less than 10 percent of fruits and vegetables were sold through supermarkets in 2002. However, the rate of supermarket growth continues to be rapid.

Thus most households continue to buy fruits and vegetables from traditional retailers even though they may use supermarkets for other products. The perception, and possibly the reality, is that wet market supplies are fresher and often cheaper. This is recognized by one chain in Thailand that focuses on fresh produce and aims to create stores that resemble “shopping at the wet market near home” (Wiboonponse and Sriboonchitta, 2004). 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 the major cities (Digal and Concepcion, 2004). Nevertheless, they continue to make inroads because of their competitive prices,⁴ 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.

Supermarkets have started to spread to towns

In general there has been a trend for supermarkets, which until recently occupied only a small niche in capital cities and served only the rich and upper middle class, to spread well beyond cities in order to penetrate into the mass food markets. They have spread from big cities to intermediate towns and then to small towns. ACNielsen’s recent studies show the staggering development of modern trade across China’s key cities in 2002. There has been increased penetration of chain store operations and supermarkets in non-metropolitan areas. In Thailand, for example, supermarkets were until recently centred in Bangkok but

³ The term “wet” market is widely used to refer to purpose-built or street retail markets for fresh produce.

⁴ Prices may not always be lower. For example prices of fruits and vegetables at Thailand’s supermarkets were found to be about 10 percent higher than at wet markets, although this may be due to higher quality. N. Poapongsakorn, presentation at FAO/AFMA/FAMA workshop.

the trend has been to move to other provinces. With more than 100 hypermarkets in Bangkok, there is little room left for further expansion. The chains are looking up-country for outlet expansion because provincial outlet sales have been growing four times faster than sales in Bangkok. At present, however, in the poor states or provinces, and in most rural areas of Thailand, Malaysia and China, supermarkets are still rare.

Given that supermarket growth is driven by urbanization and per caput income levels, countries with low rates of urbanization and/or low income levels are likely to witness only slow growth. In Bangladesh, for example, the few supermarkets in Dhaka and Chittagong cater primarily to expatriates and the urban elite; this is unlikely to change rapidly given the lack of purchasing power and the unavailability of suitable transport for the bulk of the population. Time remains for more traditional marketing chains to adapt and for policy-makers to formulate policies to assist farmers in working with the supermarket sector. In these countries, the provision of basic marketing support services and infrastructure to improve marketing must be addressed.

Increased consolidation in the retail sector

Consolidation has taken place mainly through foreign acquisition of local chains and by larger domestic chains absorbing smaller chains and independents. Smaller supermarkets have been forced to reposition themselves to focus on niche markets. Japan-based Seiyu Supermarkets, for example, sold its business to Tops in Thailand, while Tops sold its business in Malaysia to Giant. The two largest domestic supermarket chains in China (Hualian and LianHua) merged in 2002 to become the largest retailer in the country with around 2 700 supermarkets and convenience stores. However, while further consolidation is inevitable, the retail trade still remains fragmented in most Asian countries. Share of total sales for the top five chains is 2 percent, 25 percent and 15 percent for China, Thailand and Malaysia respectively.

Key drivers of the changes

Many factors contribute to the changing food distribution systems in Asia, both on the demand and supply sides. These include:

Income growth with increasing urbanization. Except in Japan, real per caput income growth occurred in many Asian countries during the 1990s, along with the rapid rise of the middle class. This is the main factor behind the growing demand for processed foods. The rapid increase in the number of people owning refrigerators induced a shift from daily shopping in traditional retail outlets to weekly shopping in modern self-service stores. The increasing number of motor vehicle owners prompted larger volume grocery shopping at more distant locations.

Changing consumer preferences. Consumers are changing. The entry of women into the workforce outside of the home has increased the opportunity cost of women's time and their incentive to seek one-stop, fast, convenient, and value-for-money grocery shopping. Because of the increased problems with food safety, consumers have placed greater importance on this issue. Quality and safety standards are perceived as being better in

modern stores. The importance of food safety and quality standards and of their incorporation into marketing strategies is growing in both international and domestic markets. There are also rising concerns about food wholesomeness. Supermarkets tend to have superior product shelf life through the availability of cold storage and refrigeration.

Changing consumer eating habits. With more women working and families travelling greater distances between home and work, there is a definite increase in the demand for processed foods and easy-to-prepare meals that are found in modern supermarkets.

Increased infrastructure development. The development of supermarket chains in Asia has been partially spurred by infrastructure development, such as highways, retail technology and logistics. Logistics technology and inventory management for retail procurement (efficient consumer response, a zero inventory concept, category management, use of Internet and computers for inventory control and supplier-retailer coordination) were revolutionized in the 1990s. This was led by global chains and is diffusing into developing regions of Asia through knowledge transfer and imitation and innovation by domestic supermarket chains. The development enabled chain stores to build their own distribution centres and to accommodate a high volume of direct shipments from producers under central inventory control. Importantly, stores should be able to forecast daily sales with a considerable degree of accuracy, thus reducing wastage levels.

Low margins and high competition. Multinational chains arrived in Asia with many years of experience and development in the very competitive environments of their respective countries. Their extensive experience included modern technologies and know-how regarding supply chain management, procurement arrangements, stock optimization, quality standards control, cold storage maintenance, product handling, shelf-life preservation, and consumer services. Consumers enthusiastically received the unprecedented services and quality provided by these new chains. The competition forced local firms to enhance their services and efficiency, generating a chain reaction of improved services and modernization throughout the grocery sector. Competition among retailers is fierce. Asian agri-food distribution companies are aiming to lift competitiveness, and the phrase “drive costs out of the system” has been used widely in the retail industry. Supermarket chains are constantly seeking substantial savings through efficiency gains, economies of scale, and coordinated cost reductions. Furthermore, with the number of modern trade stores growing faster than total sales, as is the case in China, the share of trade for an individual retailer is actually in decline. At the same time, consumer loyalty to individual stores is low. Shoppers in China continue to switch between outlets, including the wet markets. As a result, all supermarkets appear to be extremely price conscious.

Demographic, cultural and social changes. The percentage of young people in the population of Asia is increasing. A westernization of lifestyles is also increasing, particularly among younger people. Changes in family structure in Asia are being witnessed, with a growing number of nuclear families and one-person households, as opposed to extended families. Finally, there has been an upward trend in the use of credit cards, which are rarely accepted by corner shops or traditional wet markets in developing countries. All of these factors have contributed to the attractiveness of supermarkets to consumers.

Increased travel. More travel has exposed people to modern retailing techniques in the United States 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 out-of-season products.

4 Procurement and distribution practices of supermarkets

The retail revolution observed in Asia has had a significant impact on the region's food distribution system. Supermarket expansion has brought a new approach to the food retail business and created a number of barriers as well as opportunities for various participants in the agri-food system.

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

- centralized procurement systems;
- 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 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 involve purchasing from wholesale markets, to a centralized system involving a central buying office for fresh fruits and vegetables, with several distribution centres in 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 for fruits and vegetables, in part because they presently operate an insufficient number of stores to make a distribution centre viable. Companies consider that a network of at least 20 hypermarkets is necessary to justify a distribution centre. It is also important to realize that the distance over which fresh produce can be transported is much less than it is for packaged foods, and therefore it will take a little longer for distribution centres to play a significant role in the marketing of fresh produce in Asia. Where centralized buying has been adopted, the facilities may just be simple warehouses, far from state of the art. For example, both Foodworld, with 50 stores in the south of India and Saigon Co-op with 13 stores in Viet Nam, mainly around Ho Chi Minh City, have such centres, but neither presently uses cold chains.

Many smaller chains in Asia continue to use individual store purchasing systems. Most other chains continue to purchase through traditional wholesalers, such that even in the relatively sophisticated market of Thailand the leading wholesale market, Talad 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. 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 wholesalers are usually more responsive to the quality, safety, and consistency requirements of supermarkets than the traditional wholesalers who aggregate produce from many producers and may not be able to supply

the quantities required. The experience outside Asia has been that such new wholesalers gradually move from buying mainly 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 in order to select producers or wholesalers capable of meeting the quality and safety standards, 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, in theory, to 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 attracts people to their stores. Destination categories are thought to be important because, as noted previously, consumer loyalty to an individual chain is considered to be weak, at least in China. It is clearly easier to 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 also individual store purchasing is time consuming and involves 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” (Boselie and Buurma, 2003). 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 percentage of produce that was rejected on arrival at the centre.

Most other chains in Asia, for the time being at least, prefer to procure through a limited number of wholesalers, instead of 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 (Dugal and Concepcion, 2004). One or two chains in Asia are not prepared to buy from suppliers who are unable to supply all stores in the chain, which clearly indicates the size of supplying companies that will be able to survive in such an environment.

Supermarkets in Asia use a wide variety of fresh fruit and vegetable procurement practices. Indeed, there are presently almost as many channels for produce to reach supermarket shelves as there are chains. It can be predicted that, in time, there will be some consolidation of these practices. At present, the following broad types of channels can be seen:

- a) purchases from farmers at individual supermarkets;
- b) purchases from farmers at distribution centres;
- c) purchases from wholesalers, who work either directly with farmers or through wholesale markets;
- d) purchases through independent procurement companies (dedicated suppliers) who often work with those farmers approved by the supermarket chains (preferred suppliers);
- e) purchases through government-sponsored distribution centres;
- f) purchases through informal farmers' groups, farmers' associations or cooperatives;
- g) purchases through individual large-scale farmers, who often subcontract to small-scale farmers;
- h) leasing space in supermarkets to traders, farmers and cooperatives on a commission basis;
- i) multiple channels;
- j) integrated chains.

Examples of these channels are set out below:

(a) Direct purchases from farmers at individual supermarkets

Foodland in Thailand has eight stores, including seven in Bangkok. It does not have a distribution centre or a cold chain for fresh produce. Each store does its own sorting and packaging, relying on multiple sources, including 20 small-scale farmers, two private companies, and two wholesale markets.

Quality control standards include size, damage level, and freshness. Foodland has its own laboratory to test for pesticide residues. Visual inspection is used to determine whether or not to accept the delivery. The company pays within 15 days. Problems in purchasing directly from farmers include: delivery trucks not refrigerated; poor or no packaging of produce; and inadequate volumes.

(b) Direct purchases from farmers at distribution centres

The Foodworld chain in India has developed supply relationships with 100 small-scale farmers.⁵ Working with small-scale farmers is necessary because land tenure rules prevent farm consolidation; farmers have an average holding of two hectares.

The chain does not have contractual relationships. For the time being Foodworld has agreed to purchase everything its farmers produce; however, if quality considerations begin to override quantity requirements this may not last. Prices are set on a daily basis with

⁵ Based on presentation by K. Radhakrishnan at the FAO/AFMA/FAMA workshop.

reference to the prevailing wholesale market price and the method of calculation is fully transparent. Farmers deliver from a distance of up to 50 km to a consolidation centre, which, in turn, is located at a distance of up to 300 km from the stores. There is no cold chain so losses are high, although significantly less than in the traditional supply chain.

Foodworld negotiates with seed and fertilizer companies on behalf of the farmers for loans and also ensures that the correct varieties are supplied. 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 (end of 2004) under way 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.

In 1998, Tops in Thailand established a fresh produce distribution centre for the reasons discussed above. Tops is probably the only supermarket chain that has a supply chain development manager. Sixty percent of its vegetables come from up-country farmers with two main suppliers, one of which is the King's Royal Project, 20 percent is from contracted farmers, while the remaining 20 percent is delivered by farmers' groups such as cooperatives.

The size of farms in Thailand is decreasing because of the inheritance law. It is difficult to obtain reliable, high-quality fresh vegetables from small-scale farmers. Tesco, a competitor of Tops, has set up a distribution centre with a preferred vendor system. It provides extension and education service to its intermediaries and associated farmers, and is, arguably, the chain in Asia most involved in helping small-scale farmers to gain access to its supply chain.

(c) Purchases from wholesalers

There are about 210 vegetable wholesalers in Kuala Lumpur. Some years ago, ten of these were doing business with supermarkets but by 2004 there remained only two or three specialized wholesalers selling to supermarkets. Two major challenges of selling to supermarkets are low margin pressure and long credit terms (30 days). However, some of the supermarkets in Malaysia still source a large percentage of their vegetables from the wholesale market because of the unavailability of vegetables from direct suppliers.

Talad Thai market in Bangkok is the largest fruit and vegetable wholesale market in Asia. The market is open 24 hours a day and has 25 000 parking spaces. Talad Thai claims no loss of business to supermarkets, and several supermarkets have established distribution centres in the market. There are six specialized wholesalers in the market who deliver to supermarket chains. They source their products from farmers and farmers' groups, usually on the basis of a verbal contract. Wholesalers who deal with chain stores tend to be unhappy with the arrangements, citing "unfair" practices by the supermarkets, such as delivery and quality penalties, delayed payments, the need to pay for transportation, and unilateral change of the contact terms. To address the concern of supermarkets for produce safety, in particular relating to pesticide residues, Talad Thai plans to establish a laboratory for pesticide testing in the market.

Shou Guang in Shandong Province is the largest vegetable wholesale market in China. The daily trading volume is about 3 million kg. The market has invested 25 million RMB⁶ to establish an auction hall, which has yet to be used because of a lack of uniform produce standards. Shou Guang wholesalers claim that the supermarkets have not affected their vegetable wholesaling much as the volume is still insignificant compared with the volume going to the conventional markets. Nevertheless, a number of distributors are set up to supply supermarket chains including Shou Guang Vegetable Distribution Co. Ltd which was established in 2002. It has temperature-controlled storage with a capacity of 1 500 tonnes and cold storage with a capacity of 1 000 tonnes as well as a 5 000 m² modern distribution centre.

Long Shan Wholesale Market in Shanghai has established a distribution centre to supply vegetables to supermarket chains. This centre presently accounts for about 8 to 10 percent of the total business. Fifty percent of vegetables sold in Lian Hua supermarkets are supplied by Long Shan. Individual stores place orders, the headquarters confirms the order and informs both Long Shan and the store. Long Shan then purchases the vegetables and delivers them to the distribution centre of Lian Hua or to the individual store.

Unlike vegetable wholesale markets in Thailand and China, Japanese wholesale markets have increasingly faced tremendous “bypassing” pressure from large supermarket chains. Approximately 80 percent of vegetables still go through wholesale markets but this is expected to decline. Wholesalers believe that the rate is likely to stabilize at around 70 percent because they are rationalizing and making improvements. Some notable changes have been as follows:

- Wholesalers are more conscious with regard to their social responsibility. They collect consumer and buyer information and pass it on to producers. They also provide management training to farmers and emphasize partnership building with farmers.
- Wholesalers are merging and restructuring in order to cope with the increasing size of agricultural cooperatives and supermarket chains.
- Considerable thought has been given to strategic directions in order to fit the changing retail market structure.

Auction used to be the dominant mechanism for price discovery in vegetables, but now it accounts for only five percent of vegetables sold in the Ota wholesale market of Tokyo. Ninety-five percent of vegetables are now traded through contracts. The major change occurred in the late 1980s and early 1990s. One of the reasons for this is that supermarket chains require delivery at stores before 10 a.m., which is not considered possible under the auction system.

(d) Purchases through independent procurement companies

In 2000, a Japanese importer, Nichu Trade Co., Ltd, established a subsidiary, Yinglong Food Co., Ltd (Yinglong), in Jinan, Shandong Province in China. Yinglong built up a base with the surrounding farmers for producing onions. The total area planted with onions reached 67 hectares in 2002. Yinglong provides onion seed and fertilizer, as well as planting technology to farmers. The inputs and technology provided are typically priced higher than

⁶ 8.3 RMB = 1 US\$ (January 2005).

the market. In return, the company promises to buy back onions from the farmers at prices that are sufficiently higher than those offered by the open market. The contract price was 0.8 RMB per kilogram in 2002 compared with Shandong's wholesale price of 0.55 RMB per kilogram. The rationale of this approach is to prevent the farmers from selling their onions to other traders. Fresh onions with skins stripped are transported to Japan by cooler container and delivered to restaurants by Nichu. Alternatively, fresh onions with skins are transported to Japan by dry container and then transferred to either supermarkets or wholesale markets.

The Bimandiri company in Indonesia was established in 1994,⁷ and by 1998 it was supplying four supermarket chains. However, in 2000 the company decided to become a dedicated wholesale supplier only to Carrefour, which had ten stores by early 2005. Initially Bimandiri 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 encouraging farmers to work in groups and developing partnership arrangements with those groups. Such arrangements now form around 30 percent of the company's purchases. It works with farmers' groups on the basis of agreed quantities. Prices are either fixed in advance or related to returns within a floor/ceiling price range.

Bimandiri supplies a range of products to Carrefour. It has created an exclusive product, the individual-sized Baby Black Watermelon, which will be marketed to other Carrefour stores in Asia in the coming years. Bimandiri is working in close collaboration with Carrefour on broccoli and chilli production, aiming to produce standardized products. Problems faced by the company include the level of commitment of farmers, seasonality of production and price volatility. Also, at times Carrefour is unable to fully absorb the supply, resulting in sales to traditional markets at a loss. Indicative of the problems faced in dealing with small-scale farmers is the fact that of the 100 members of a farmers' group near Yogyakarta approached by Bimandiri to grow watermelons, only half were considered suitable to grow the crop.

JPP is a privately owned distribution company for vegetables in Thailand. It sells 20 tonnes a day of both up-country and imported (mainly from China) vegetables to several supermarket chains. It also exports to Taiwan and Japan. JPP has its own production area and contracted farmers and also buys from intermediaries. Most contracted farmers are hill tribe people. JPP does washing, cutting, and packing and uses refrigerated trucks to transport and deliver vegetables to Bangkok and Chiang Mai.

Jihong Vegetable Delivery Centre Co., Ltd in China started to supply vegetables to hotels and restaurants in Shanghai in the early 1990s. Many vendors were not willing to deliver to these buyers because of the fifteen days of payment credit required by the buyers, the possibility of produce being rejected, and delivery difficulties. After the Asian economic crisis in 1997, Jihong, along with three other vegetable suppliers, was chosen to supply the Metro chain in the Shanghai area. After one year it was the only survivor, and the volume of vegetables supplied reached four tonnes per day. To address this expanding business the company franchised its operations. Each franchisee supplies one Metro store. Owners of franchises are typically husband-wife teams and are required to invest RMB150 000 initially. The amount is matched by RMB300 000 from the company. Profit is shared on a fifty-fifty basis. The strategy is to initially focus on volume instead of profit and the franchisee is

⁷ Based on a presentation by Sandredo at the FAO/AFMA/FAMA workshop and an unpublished report by Tom Reardon.

asked to spend the first three months expanding the volume at a loss. The company and its franchisees now supply vegetables to several chains. It became a supplier to Metro nationally in 2001 and now has more than sixty franchisees to supply sixty 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 120 million RMB in 2002.

(e) Purchases through government-sponsored distribution centres

Malaysia's state-run Federal Agricultural Marketing Authority (FAMA)⁸ began supplying supermarkets and hypermarkets in 2000. It has contract marketing arrangements with 1 362 producers of fruits and vegetables, livestock, freshwater fish, coconut and other products. The main fruits considered suitable for such arrangements are watermelons, melons, mangoes and pineapples, while the main vegetables are chillies, pumpkin, ginger and ladies' fingers (okra). Farmers produce according to strict cropping schedules designed to ensure consistent supply. While supermarkets make no commitments 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 (GAPs). Both contracted farmers and those without contracts can apply to be accredited as "Malaysia's Best", with accreditation being based on Euro-Retailer Produce Working Group Good Agricultural Practices (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-scale farmers reportedly experience 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 frequent.

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 payment period of 30 to 60 days demanded by the chains (despite a government recommendation that payments be made within seven days), which is passed on to farmers by FAMA.

Chains such as Tesco, presently with five stores in operation, reportedly prefer dealing with FAMA because it can offer supplies year round and is said to be more ethical in business dealings. One of the problems faced is the inconsistency of the quality of vegetables supplied. A second problem is related to FAMA's difficulty in meeting the delivery time between 6 and 9 a.m. Tesco recently hired a technical consultant to audit the vegetable suppliers, to identify the deficiencies in the quality of supplied vegetables, and to

⁸ Based in part on a presentation by Mukhtiar Singh at the FAO/AFMA/FAMA workshop.

recommend a number of initiatives for FAMA to take in order to meet the requirements. For example, Tesco would like to see traceability introduced.

Zhejiang is one of the most developed provinces in China and is a neighbouring province of Shanghai, the largest urban market in China. The Government of Zhejiang sets a strategic goal of integrating resources to focus on providing assistance to market agricultural and food products produced in Zhejiang. The key objective is to help farmers in Zhejiang to get their products into supermarkets. One of the plans is to establish sixty marketing centres, twenty agri-food distribution centres, and five exhibition centres in the province over the next five years. The investment for the distribution centres will come from both government and private sectors. The government is planning to invest about sixty million RMB to establish the distribution centres, which will be run as private companies with initial funding support from the provincial government.

(f) Purchases through informal farmers' groups, farmers' associations or cooperatives

Taian City in China is a traditional region for the production of ginger and other vegetables. Taian Asia Food Company, established in 1992, is a joint venture with Hong Kong Nanhai Co. Ltd. It produces mostly frozen and fresh vegetables and became the first company in China to export organic vegetables to Japan. An integrated organic ecology system was introduced in 1993. Taian Asia does not sign contracts directly with farmers but through a village vegetable cooperative formed by the village committee and the leading vegetable farmers in a village. The company provides fertilizer to farmers in advance and the farmers pay for the fertilizer when they sell their vegetables to Taian. The company also sends technical people to provide plant technology advice.

Taian selects producers based on the following criteria: soil structure; quality of irrigation water; surrounding environment; education and capability of farmers; and capability of the village's leadership. Once the producers are selected, Taian holds a village conference to discuss organic vegetable production and outline the contract. Taian establishes farmer schools to train farmers on organic crop cultivation. Japan has two experts stationed in Taian to monitor and provide training together with Chinese staff. The company used to sign a contract with the village committee but moved to sign a contract with farmers' cooperatives instead. The move was made because of historical problems associated with village committees, the many disputes with village committees, and to ensure that all farmers are willing to participate. However, leaders of the coop are typically the village leaders who can ensure village support. Taian now has 25 farmer coops that are certified as organic crop producers.

Saigon Coop is a Vietnamese-owned chain that presently has 13 stores, of which 11 are in Ho Chi Minh City.⁹ Fruits and vegetables presently account for only 3.5 percent of total sales, but there are plans to increase this significantly. The chain buys around seven tonnes a day from seven main suppliers consisting of large-scale farmers, a farmers' 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 unwholesome fresh

⁹ Based on a presentation by Luong Thi Tuyet Trinh at the FAO/AFMA/FAMA workshop.

vegetables in Viet Nam and therefore produce safety is of considerable concern. 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: difficulty in offering a wide range of produce, given relatively low daily sales; the limited range of products in which suppliers tend to specialize and problems caused by sourcing from others; 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.

Size is often the key issue in gaining entry to supermarkets. In 2002, the pear industry in Zhejiang joined together to form the Zhejiang Pear Association. On the basis of Green Food Standards introduced by the Ministry of Agriculture, the association set and enforced new uniform standards for pears. It now has forty companies and 130 pear producers as members. It successfully gained entry to supermarkets in Hangzhou and Shanghai in 2003.

(g) Purchases through individual large-scale farmers, who often subcontract to small-scale farmers

The island of Mindanao is a source of much of the fruit and vegetable supply in the Philippines. Until recently, all farmers sold their produce either 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”¹⁰ 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 10 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 receipts 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 buyer’s premises, monitors the weights, identifies any quality problems and reports back to Bukidnon. The agent also arranges bank transfers of payments to growers. The five farms ship a total of ten tonnes weekly. The cluster provides a model of an integrated approach that involves close liaison with input suppliers, transporters and buyers, and the coordinating role of the leading farmer appears to be the essential component of its success.

¹⁰ Based on the work of Flordeliza Lantican.

Kang is a company in Malaysia with a vegetable farm and a packinghouse. It started in 2001 to sell to two domestic supermarket chains as well as one supermarket distribution centre in Singapore. The company has grown quickly and now sells only between 20 and 30 percent of its produce to wholesalers. Half of its vegetables come from its own farm and the other half from contracting farmers. The minimum size of land of contracted farmers is slightly less than one hectare. The company supplies all seeds, fertilizer and pesticides to the individual farmers to ensure quality and safety. Monitoring of production by small-scale farmers is problematic, therefore, the company would like to enlarge its own production area.

(h) Multiple channels

Giant is a supermarket chain based in Hong Kong and has more than 700 stores worldwide. It acquired Tops Malaysia in 2002 and now has 54 stores in Malaysia with 9 hypermarkets (between 7 000 and 10 000 m² in size). The company has a distribution centre for dried foods but does not have one for fresh produce. However, if more hypermarkets are opened, it will consider opening a distribution centre for fresh produce.

Giant uses a partially centralized system in purchasing vegetables. The headquarters in Malaysia is responsible for price, cost, variety, range and specifications as well as the selection of suppliers. Individual stores are responsible for volume, ordering, and monitoring quality. The company is asking the suppliers more and more to pre-pack vegetables. Giant's food safety standard is very much linked with that of the Government of Malaysia. Two years ago, it had about 200 vegetable suppliers but now it has only 30. These include specialized wholesalers, general wholesalers, farmers with oral contracts, and suppliers without contracts. The credit term is 60 days. Prices are determined once a week.

The Chinese supermarket company of Lian Hua employs five common linkages to source its fresh produce: (1) market or market-based purchases; (2) designated production areas with specific requirements on safety and quality standards; (3) designated production areas with specific brands; (4) vertical integration; and (5) counter out-leasing. A common feature is that Lian Hua has little control over farmers or processors, and thus food safety is a concern. Lian Hua is likely to enact its own standards on the fresh produce it purchases and is more likely to source its fresh produce from large companies in the future.

Lian Hua uses many advanced information technologies but individual stores still use the fax as the only accepted way of confirming orders. There is a low level of operational efficiency. Many small-scale suppliers have no information technology or account system compatible with that of Lian Hua. As a result, there is a lack of feedback between the buyer and suppliers. Lian Hua is therefore attempting to simplify its supply chain and link the company directly with suppliers through information technology.

(i) Leasing space in supermarkets to traders, farmers and cooperatives on a commission basis

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 varieties and cultivation methods for the government extension service. Since 1998 it has been run like a company. It now sells seven tonnes of vegetables

daily in more than twenty supermarkets, leasing space in the stores and paying a percentage of sales to the supermarkets (usually between 12 and 25 percent) and promotion charges as well as entry fees.

The company sources vegetables from much of China, including Beijing, Hubei, Hainan, and Guangxi. The quality of the vegetables 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 are used: contracts with associations and contracts with distribution companies. Tiao Tang Shan does not deal with farmers directly in order to cut down on transaction costs. However, it is responsible for marketing, training, designating fertilizers and pesticides, and random inspection. The company is planning to: establish a traceability system; modernize its distribution centre so it can link with supermarkets more easily; look for markets alternative to the supermarkets; establish a chain that integrates research, product development, production, and marketing; and move to third-party inspection for safety and quality.

(j) Integrated chain

The only case of a completely vertically integrated vegetable chain identified during the research was Saha Farm Health Foods Co., Ltd. This company operates three supermarkets in Thailand, with one in Bangkok. It has its own vegetable production area. The use of pesticides is not allowed in its vegetable production, and Thai herbs are used to control insects. It sells its vegetable under its own brand, Health Foods. The vegetable prices, however, are compatible with those in other supermarkets. It appears that the company sells vegetables at a loss but gains a good reputation by focusing on healthiness.

5 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 and logistics used and the quality standards applied. Farmers experience many problems in supplying supermarkets in Asia. 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 meet expectations in terms of volume, quality and delivery. In Malaysia, the Giant chain had 200 vegetable suppliers in 2001 but by 2003 this was down to just 30, while in Thailand, similar changes were seen following the introduction of the Tops distribution centre. Such trends have already created a wide perception that it is difficult to deal with modern supermarkets. Chains apply the branded good business model to fresh produce but it can be questioned whether this is appropriate and if it will lead to long-term success.¹¹ As noted above, one chain in Malaysia uses “cheap gets cheaper” as its motto. 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 farmers’ 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-scale 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 (Berdegue et al, 2003). Nor will they be able to offer the bar codes on pre-packaged produce that are widely required in Japan and are beginning to be requested by supermarkets in developing countries around the world.¹²

The research provided strong evidence of the difficulties small-scale 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 the suspension of most on-farm operations for a couple of weeks, cannot now stand in the way of a commitment to supply supermarkets 365 days of the year. Most farmers have difficulties in doing so. They must accept the fact that a percentage of their produce will be found by the buyers to be of unacceptable quality and that they will have to make arrangements to dispose of it through other channels at lower prices, or even to 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. Discussions held with farmers in Thailand as part of this research revealed that prices offered were not considered high enough to cover the costs and problems that the farmers would have to face in order to meet the requirements of the supermarkets.

¹¹ Presentation by N. Poapongsakorn at the FAO/AFMA/FAMA workshop.

¹² For example, one chain in El Salvador in Central America is already beginning to insist on bar codes; M. Meijer, personal communication.

The types of difficulties faced by farmers in supplying supermarkets, identified in this work, are in many ways similar to the ones pointed out in earlier studies conducted by FAO within the context of farm-agribusiness linkages. These studies concentrated on how to develop and reinforce equitable and efficient interactions between farmers and the agribusiness sector. Related workshops in Asia, Africa and Latin America, which discussed case studies of linkage experiences for different agri-food products, involving different organizational arrangements, were summarized in publications by Rottger (2004) and Santacoloma and Riveros (2005). From the farmers' perspective, the lack of or inadequate access to production or post-harvest technology; the lack of or limited market information and intelligence on prices and alternative buyers and their limited negotiating or bargaining skills were considered as constraints to initiating linkages. Furthermore, the case studies indicated that linkage development is obstructed by the difficulties small farmers face to meet stringent food safety requirements and inflexible delivery schedules required by processors and supermarkets, as well as the by the lack of institutional support.

The findings of the present study corroborate these earlier perceptions and stress the need for financing as an additional barrier to linkage formation. Indeed, 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 (Shepherd, 2004a). Such loans are used both for production and for family consumption purposes. There is a general unwillingness on the part of supermarket chains 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 there are a few examples of cash payments. This research has found one example of where the supermarket chain organizes input advances from input suppliers (Foodworld, India), another where the chain is considering the provision of farmer loans (Saigon Coop, Viet Nam) and another where a Japanese company in China supplies inputs on credit (Tinglong).

From the perspective of the agribusiness firms, the farmers' non-conformity to quality standards, their inability to supply the volume requirements, and the delayed deliveries were considered in the above mentioned FAO case studies as the main constraints to initiate linkages with small farmers. Constraints to strengthening linkages were associated with the farmers' tendency to pole vault or renege on their responsibilities to supply the products, and the companies' inability to provide extension advice (e.g. crop protection) to farmers at the time they needed these services. Again, these are perceptions reinforced by the research results presented in this paper.

Evidence from the earlier FAO case studies indicated that agribusiness firms have a preference to negotiate with individual supply chain partners, including farmers. While this research also found that there is a preference among supermarkets to deal with individuals rather than groups of farmers, single farmers seem reluctant to deal directly with supermarkets because of the difficulties cited above and, probably, because they lack confidence in working in a different environment. This need not be an insurmountable problem, because small-scale farmers could work with farmer leaders, as described in the case of the Philippines lettuce cluster, or work in groups, cooperatives or associations with one focal point that deals with the buyers. However, neither the FAO/AFMA/FAMA workshop nor the research for this paper identified many cases of group development to date. The danger remains that by the time small-scale farmers become organized to supply supermarkets, the tightly coordinated supply chains will have developed in such a way that

new entrants will be excluded. 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 effect on the producers of paddy or other field crops.

The produce distribution system in Asia continues to be characterized by strong participation from urban-based intermediaries, mainly because of the absence of well-developed marketing infrastructure in many vegetable production areas of these countries. This is particularly true in those areas that have not been involved in export-oriented commerce. The supermarket chains realize that a relatively small percentage of the domestic fresh produce destined for the internal market is adequately prepared for retail sale at the shipping point. Only the large-scale growers routinely sort and classify produce by size and maturity at their packing sheds. The sorting and classification of fresh produce for the internal market has been conducted historically at central wholesale markets in major population centres. The inconsistent or nonexistent application of quality product standards at many rural packing facilities obliges retailers to depend heavily on wholesalers and other intermediaries for fresh produce that more closely meets their specifications for size, quality, appearance, and maturity.

Supermarket chains have dual objectives: to increase food safety and quality and to reduce costs and increase volumes procured. They have a difficult time meeting those objectives when using the traditional wholesale sector to procure their products. Some notable drawbacks of traditional wholesalers are as follows: (1) spotty and inadequate use of refrigerated storage, such as temperature-controlled chambers, which few wholesalers want to invest in; (2) packaging materials used that undermine preservation of product quality; (3) heavy reliance on manual labour, which prolongs merchandise exposure to ambient temperature; (4) poor handling that contributes to heavy losses. Preserving produce quality from origin to destination thus cannot be ensured. It becomes preferable to conduct sorting and classification closer to the store than to the farm. To overcome such obstacles, large initial investments must be made, which small-scale farmers and traders face difficulties in doing.

Intermediaries also face significant problems in dealing with supermarkets, which may stem in part from a lack of understanding of the working methods of supermarkets. Purchase prices are often negotiated for a fixed period, such as a week, but can be renegotiated down by supermarkets if market prices decline in that period. However, no provision is made 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.

Supply contracts allow supermarkets to control safety and quality, to ensure desired supply volumes, and to reduce price uncertainty. There has been increased coordination between supermarket chains and suppliers through more demanding contracts. The terms of these contracts, widely used for other products, cause considerable problems for farmers

and intermediaries, and are considered by many to be not so relevant for fruits and vegetables. A typical trading agreement between a supermarket chain and a supplier consists of the following elements:

- Payment – usually 30 or 60 days credit for payment.¹³
- Quality control procedures based on government standards, EUREGAP, Hazard Analysis Critical Control Point (HACCP), traceability, phyto-certification and MRL testing.
- Stringent delivery terms, such as minimum volume and delivery time.
- Various types of listing fees such as supply listing fee as a supplier and line listing fee for introducing a new category.
- Fees for promotional display and advertising.
- Requirements for other discounts such as new store opening discount and volume rebate.
- A probation period for the evaluation of initial sale performance is sometimes specified.

As of now there is often a very wide gap between retail expectations and the services actually being delivered by suppliers in Asia. Only a small percentage of suppliers has responded to emerging retailers' needs. Nevertheless, there has been a significant shift in the weight of agri-food industry power away from the agri-food processors towards the food retailers. Chain stores tend to reject deliveries of imperfect merchandise far more frequently than traditional wholesalers and brokers do. Several retailers, such as Tesco Lotus and Tops in Thailand, adopt a preferred supplier scheme. Under the scheme, the supplier will be delisted if it cannot meet the requirements on volume and quality. Industry changes have also altered the priorities that retailers set in evaluating supplier performance, creating a wide perception among the suppliers that it is very difficult to deal with the modern self-service stores.

There is a lack of commonly agreed grades and standards enforceable for fresh produce, coupled with inadequate quality control in the produce supply chain. Most standards in Thailand, Malaysia and China, often incomplete, are voluntary in nature or not enforceable. This impedes the adoption of modern trading methods for the traders involved. This situation stands in contrast to the Japanese system, in which compliance with industry-generated quality grades and standards for vegetables are enforced by government authorities.

Preserving product quality from origin to destination cannot be ensured because of inadequate access to refrigerated transportation, poor roads, and the predominant use of thinly insulated packaging materials. It would be preferable to conduct product sorting and classification functions further along in the distribution channels. To overcome these obstacles, large initial investment is needed, which small-scale farmers and traders face difficulties in accessing.

¹³ But, as we have seen on one or two occasions, payment can be in cash or within seven days.

6 Conclusions and recommendations

The supermarket chains face growing margin pressure in competing against each other in a highly competitive industry with low margins and therefore constantly seek to lower product and transaction costs and risk. As supermarkets compete with each other and with the informal sector, they will not allow consumer prices to increase in order to pay for the farm-level investments that are needed for small-scale farmers to have a chance to succeed. Of particular concern is the potential risk that many smaller-scale producers have been, or eventually will be, marginalized from the development of the main supply chains. If those who would lose from the change would be confined to the non-participants, the policy implications would be clear: take every step to be an active participant in the supply chain. However, the challenge is much more daunting than this, since the losers may include many of those who have hitherto participated actively in the development of the supply chain.

Response of 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 formation of supply chains will occur as a natural development of the marketplace. Small-scale 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 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 already being heard in Asia.

If the hands-off approach 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 this 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 of Malaysia does not permit hypermarkets to be established within 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 15 km from the 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 (Wiboonponse and Sriboonchitta, 2004).

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:

- Much could be done to modernize traditional markets through the provision of better physical infrastructure such as storage, clean water, electricity, office space and parking space. The major constraint faced by markets is often poor organization and management and unless this question is addressed, improvement of infrastructure will yield few returns.
- Incentives to modernize could be created through enforcement of public regulations regarding food safety, weights and measures, taxes, competition and personal safety, thus making traditional markets more attractive places to shop. However, the 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 market share of supermarkets.
- 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 in meeting the needs of supermarkets and the traditional marketing systems trying to compete with them. Particular attention should be given to the capacity of extension services to advise on marketing issues and also on the proper use of agrochemicals. Existing market information services must be upgraded and new services should be introduced to assist growers and their groups in business management.
- The need for finance should be addressed. Growers must make investments in order to meet the standards required by supermarkets and to comply with their commercial practices. 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 must also be given to the legal and regulatory framework governing the horticulture sector. Governments can advise on contractual arrangements and set up arbitration schemes. Throughout the world quality and safety standards regulated by governments have lagged behind the standards established by supermarket chains; however, that does not mean that official standards do not need to be established. Supermarkets in Asia usually buy on the basis of their own

standards but where produce may be exported to stores of the same chain in other countries these standards are often backed up by third-party certification. In the future, 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 the Republic of 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-scale farmers will find it difficult, if not impossible, to compete with large-scale farmers to supply supermarkets. Where they are successful in competing this will probably be achieved through group activities linked either directly with supermarkets or through intermediary wholesalers. Small-scale farmers will have to cooperate in order to compete. It may be questioned whether or not existing forms of state-promoted farmers' organizations are suitable for such cooperation. A new generation of farmers' organizations may need to be developed.
- New markets and market segments as well as new products and services can be best developed through partnerships among suppliers, input providers, marketers and customers in the chain. However, to take advantage of emerging opportunities investments are required. The challenge is that such investments exceed the capacity of most single companies. Various national and regional programmes have created policies and programmes to encourage companies and farmers to consider supply chain strategies. China is probably the only country that has a national strategy. Such efforts merit support by government and municipal authorities as well as by NGOs or international organizations, and could well serve as examples for other initiatives worldwide.
- Finally, governments can play an important role in bringing together supermarkets and agro-processors with farmers who have the capacity to supply what the buyers need. Ministries of agriculture are likely 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 the 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. The Government of the Republic of Korea 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.

Response of traditional marketing systems

How should traditional horticultural marketing systems respond in this new marketing environment? Several possibilities exist:

- **Improve 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. The creation of what are known as “logistics platforms” in the markets to serve the needs of supermarket buyers is worthy of consideration. 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 China, Thailand, Singapore and Malaysia.
- **Be 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 fresher locally grown produce than supermarkets that operate just one distribution centre per country.
- **Identify 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 “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.
- **Service small-scale retailers and caterers more efficiently.** Small-scale 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.
- **Improve procurement arrangements.** As already noted, supermarkets are moving to direct procurement arrangements, either working directly with farmers or farmers’ 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, which could include developing rural packhouse facilities. In the Republic of 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.

- **Promote 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 has been proposed as one of several “pilot” countries to implement this initiative.

In sum, more open markets, increasing per capita income, growing urbanization, and facilitation of foreign investment have created conditions for significant changes in Asian food distribution systems. The expansion of supermarket chains is altering the traditional structure of marketing channels and creating new challenges and opportunities for participating agents. Supermarkets are here to stay, and will gradually become responsible for an increasing proportion of fresh produce sales. There are pros and cons associated with the development of supermarkets. Positive impacts include modernized food retailing, innovation and consumer satisfaction. Negative impacts are that local and small-scale retailers have suffered, the number of suppliers has been shrinking, and there is a potential adverse distribution effect.

These negative aspects notwithstanding, the available evidence indicates that the trend towards modernization of agri-food systems in general, and of fresh produce distribution in particular, is irreversible. As such, the tendency towards closer coordinated supply chains as the prevailing mode to organize transactions in this sector will be intensified. Policy makers and private managers, alike, must realize that all chain players must adjust to these new developments.

To keep pace with the demands of modern buyers, farms can adjust by specializing in a particular commodity, consolidating fragmented land holdings to achieve scale economies where this is permitted by law, and forging stronger links with retailers. Closer relationships between firms at different stages of production and marketing will emerge as larger commercialized farm operations grow produce under contracts or guided by other formal vertical coordination instruments. Assemblers, wholesalers and retailers can also adjust, by paying more attention to managerial requirements and capacity building in areas such as partner capabilities assessment, contract negotiation, management of operations for contract compliance and monitoring production performance, including environmental impact. The challenge is the creation of co-managed business processes, where participants have alignment of vision and high levels of cooperation, trust and commitment

It is important to realize that supply chain opportunities are not all equal and that public policies should not simply create false incentives that push producers blindly into new markets. Though the traditional system of agri-food distribution is starting to be overtaken by a new network of modern food retail and food service outlets and giant shopping malls, the traditional outlet is very much alive and kicking, particularly so in fresh produce. As fresh produce is strategically important to small-scale farmers in Asia, care is needed in assessing the pace and scope of retail changes and their implications.

Just as there are significant market access issues for agri-food exports from developing countries, there are now significant entry barriers for farmers and other suppliers to access supermarkets and other modern food chains. This new market could be more significant for small-scale farmers than export markets, yet there are no systematic studies available on ways to overcome entry barriers. Many have suggested a more efficient supply chain to be a driving force for the future growth of agri-food industries in developing countries.

There is growing anecdotal evidence of both success and failure. No large-scale study exists that documents how the supply chain development activities impact on incomes of farmers. Small-scale farmers face many options about what to do in response to the current food market trends and these options need to be evaluated carefully. In Asia, policy-makers have had little or no rigorous exposure to empirical evidence and are ill-equipped to help farmers make informed decisions about their eventual fate in the marketplace.

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7. Associations of market traders in traditional supply chains – their roles and their potential for further development (2005)
8. Changes in food retailing in Asia: implications of supermarket procurement practices for farmers and traditional marketing systems (2005)

Changes in food retailing in Asia

This paper investigates the issue of modern agri-food systems organization and its effects on fruit and vegetable farmers and traditional marketing systems in Asia. There has been a significant growth in the number of supermarkets and convenience stores in Asia. While there is evidence that consumers still prefer to buy fresh produce in traditional markets, supermarkets are gradually increasing their market share for fruits and vegetables.

The paper discusses the reasons, or “drivers”, for this growth and considers the implications for both small-scale farmers and the traditional fruit and vegetable marketing chains. Of particular concern for small farmers is the difficulty they face in conforming to the procurement practices of supermarkets. The different procurement channels currently used by supermarkets in Asia are reviewed and examples of the ways in which small farmers currently supply the chains are given.

It is noted that individual small farmers cannot compete with their larger counterparts and that if they are to supply the supermarket sector they will have to work in groups. Traditional marketing systems will need to adapt if they are to compete with the modern systems, and the paper suggests some ways in which this could be done. Ways in which governments should respond to the new developments are also discussed.