

Supermarkets in Mexico: Impacts on Horticulture Systems

Rita Schwentesius and Manuel Ángel Gómez*

This article examines the very rapid rise, consolidation, and multinationalisation of the supermarket sector in Mexico over the past decade. This development had profound impacts on fruit and vegetables supply chains. Supermarkets created their own distribution centres and contractual arrangements with growers, giving rise to supermarket supply operations by agroexport and agroindustry firms and a shift away from traditional wholesalers. The challenging requirements of selling to these new actors pose problems for small farms and firms. This article examines the case of a co-operative of small farmers that tried – and failed – to become a lime supplier to supermarket chains. It concludes with recommendations on ways to help small farmers meet the challenge of the rise of supermarkets.

Important changes have occurred in Mexican food retailing in the past decade, in particular the rapid development of self-service stores in general, and supermarkets in particular.¹ The rise of supermarkets has profoundly transformed the agrifood system, presenting new challenges to the whole set of people involved – farmers, wholesalers, processors, and consumers.

The objective of this article is, first, to examine the rise and consolidation of supermarkets in Mexico, and secondly to examine their impact on the fresh fruit and vegetables (FFV) supply systems and the participants in them. We focus on supermarkets' procurement practices, via direct purchases in production zones, and via the public wholesale markets (the CEDAs, or public wholesale markets located in each large city). We illustrate with the case of the lime market and examine in particular the effects of the changes in the market system on small growers. It is worth noting that the

* Rita Schwentesius (rsr@avantel.net) and Manuel Gómez are at the Universidad Autónoma Chapingo, Mexico. The authors thank Margarita Reyes Corona and Nelida Solana Villanueva for field research assistance, and Ignacio Covarrubias Gutiérrez for information concerning the Mexican lemon in the state of Oaxaca.

1. Self-service stores include supermarkets and convenience stores (the latter smaller than 500 m²), department stores, and specialised self-service shops such as pharmacies. We use the term 'supermarket' to include several formats, which we distinguish only where necessary in the text: namely, megamarkets (complete range of non-food and food items (latter about 45% of sales), with floor space exceeding 10,000 m²); hypermarkets (complete range of non-food and food items (latter about 50-60% of sales), floor space between 4,500 and 10,000 m²); supermarkets (mainly perishables and dry goods; food amounts to about 75% of sales, and floor space, 500 to 4,500 m²); 'warehouses' with complete non-food and food product lines, austere presentation and facilities, few services, food amounts to about half of sales, floor space greater than 2,500m²; and 'membership clubs' with complete line of products, wholesale and retail, and floor space greater than 4,500m².

case of limes is the only one we could find where an association of small growers is selling direct to supermarkets.

Methodology

There has been relatively little Mexican research on the role of supermarkets in the country's agrifood system, with the exception of Delgadillo and Gasca (1993) and Bassols et al. (1994). The analysis here of the development of supermarkets, and in particular their role in FFV retail, is based on: (i) data from the National Association of Self-Service and Department Stores in Mexico (ANTAD); (ii) public-access information from the supermarkets, such as websites; (iii) interviews during October 2000 and September 2001 by the authors and their research assistants with the purchasing agents of the 10 main supermarket chains,² with a representative of the Self-Service Stores Association (IDEA) composed of five supermarket chains,³ with the purchasing agents of the supermarkets in the city of Texcoco (Comercial Mexicana, Gigante, and Wal-Mart), with 15 key wholesalers in the CEDA of Mexico City, and with an employee of the Secretariat of Industrial and Commercial Development (SECOFI); (iv) observation of FFV sales in different markets in Texcoco in March 2001; and (v) fieldwork on a association of small growers of limes in Oaxaca. The product procurement system of supermarkets differs considerably across products and supermarket chains. Our interviews focused on oranges, bananas, tomatoes, herbs, and imported fruit, to examine a cross-section of key products.

The rapid rise of supermarkets in Mexico

Overview of the retail sector

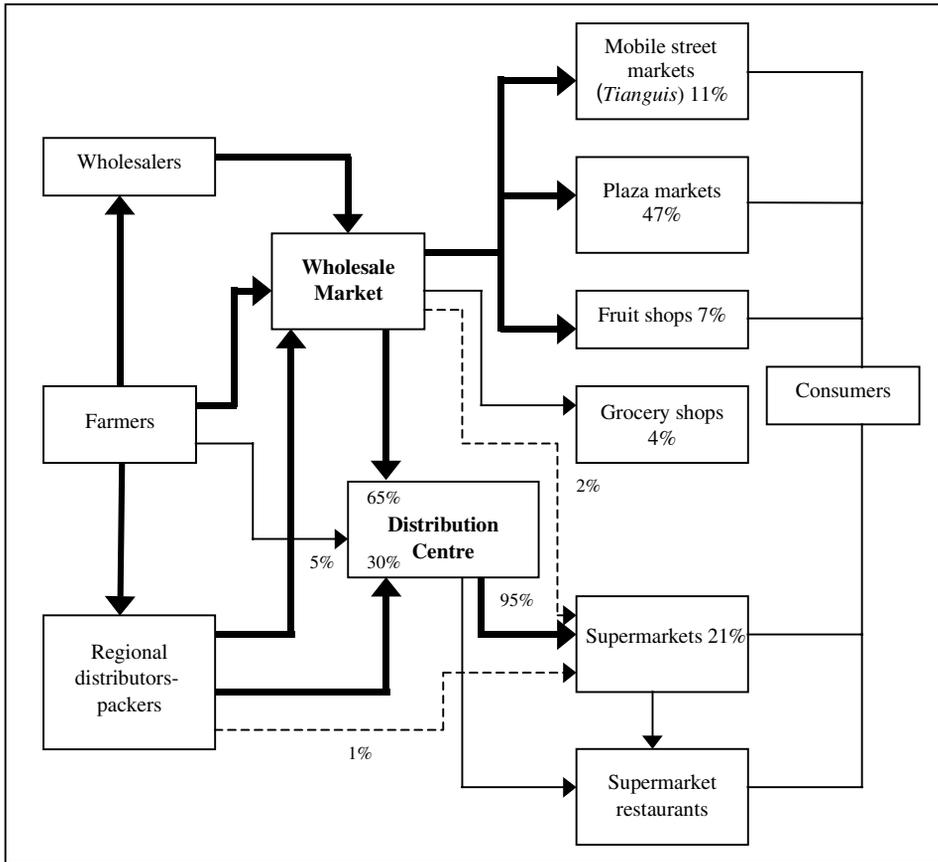
There are five main retail channels, the first two going back thousands of years. Figure 1 shows the following: (i) open-air, public markets, generally in city centres and managed by city governments – the retailers sell from small stalls; (ii) mobile street markets (*tianguis*) that change location from day to day (similar to the *ferias libres* in Chile or the *feiras livres* in Brazil) – communities and city neighbourhoods typically have a day of the week ('plaza market day') when the *tianguis* shows up and sells a variety of products similar to that of a supermarket, but usually of lower quality and at negotiable prices; (iii) small traditional shops that sell a limited line of products, the types and quality depending on the incomes and tastes of the neighbourhood – these shops have strong powers of survival and can adapt to changing tastes, and sell some of their product on credit; (iv) specialised shops (such as fruit shops) – these are of little importance in Mexico as consumers prefer to buy perishables from *tianguis*; and (v) self-service stores, including supermarkets and modern convenience stores. In 2002 there were 2221 of the latter in Mexico, mostly in the states on the border with the United States, Tamaulipas and Nuevo León, and fewer in states in the southeast, such as Guerrero, Oaxaca and Chiapas, showing the influence of the US on purchasing habits.

2. Arteli, Carrefour, Casa Ley, Comercial Mexicana, Chedraui, Futurama, Gigante, HEB, Soriana and Wal-Mart.

3. Comercial V. H., Futurama, Merco, Arteli and San Francisco de Asís.

There are chains of supermarkets with national coverage (Wal-Mart, Gigante, and Comercial Mexicana), as well as large regional chains (such as Soriana, Casa Ley, and Chedraui). But there are also many local chains and small independent supermarkets which focus on selling food and beverages. The Mexican government manages its own nation-wide chain of stores ISSSTE, selling to government employees.

Figure 1: FFV marketing channels, 2001



Stages in the rise of supermarkets

There have been three stages in supermarket development since 1946. The first stage started that year with the establishment of the first supermarket in the country, and lasted until the late 1970s. This development focused on large cities in the north and centre of the country. In 1980 only five areas had 50% of the supermarket sector: Mexico City, 21%; the states of Mexico and Veracruz, 10% each; Jalisco, 7%, and Nuevo León, 3%. Nation-wide there were 4 self-service stores (including supermarkets) per 100,000 persons in 1960; by 1980 this had doubled to 8 and in Mexico City there were 663 per 100,000 habitants (López-Rosado, 1988). Their capital was mainly

domestic, but during this period some supermarket chains were set up with US capital (Casa Ley), mainly in the north of the country.

Stage two started in the 1980s. Supermarkets began moving from their initial base in a few large cities to create chains including other cities, starting with large cities near Mexico City (Puebla and Querétaro) and moving on to economically important cities elsewhere in the country, in particular Guadalajara and Monterrey. The chains also began to set up stores in intermediate cities in the 1980s. This expansion was accompanied by intense competition among the chains leading to the acquisition of a number of small chains. At the same time, the chains altered their marketing strategies and format to increase markedly their customer base. They also diversified their activities towards related businesses and sought alliances with both domestic and foreign capital to help in their expansion.

The third stage, in the 1990s, was characterised by a very rapid expansion, impelled by the entry of giant chains from the US and France looking for better margins than they earned in their saturated home markets (Henderson et al., 1996). They found a welcoming situation thanks to the liberalisation policy and the new set of domestic regulations for the agrifood sector which fully liberalised foreign investment, abandoning the 49/51 formula that assured control by domestic capital. These multinationals entered the Mexican market, which up to then was controlled by domestic chains, via alliances with those chains. However, these alliances proved short-lived, because of cultural differences and the growth strategies of the multinationals which the domestic chains, after the crisis of 1994/95, were unable to keep up with. Apart from Wal-Mart, which acquired the Aurrerá chain, the other multinationals stayed on in the Mexican market but independent of the domestic chains (Dussel, 2000). On the other hand, US wholesale/retail firms continued in joint ventures with domestic firms: Wal-Mart with Sam's Club; Gigante with Fleming; Comercial Mexicana with Costco (Henderson et al., 1996; Wal-Mart de México, Gigante, and Comercial Mexicana, 2001).

The expansion of the multinationals stimulated the process of consolidation and multinationalisation, but, for all that, without substantial loss for the traditional retail channels. Moreover, this expansion led to the geographic deconcentration of supermarkets from Mexico City – now the largest city in the world with a population of some 25 million – towards other cities. For example, of the 513 supermarkets that opened in 1998 and 1999, 374 (72%) were located outside the Mexico City area (Presidencia de la República, 2000). Nevertheless, there are still almost no supermarkets in towns with fewer than 15,000 persons, which means that the 38% of Mexicans who live in small towns and villages do not have a local supermarket.

That supermarkets still mainly serve middle- and upper-income households can be seen in Table 1 on the regional distribution of supermarkets in Mexico, which shows a marked concentration in the states of the north, with higher than average incomes and consumption habits influenced by the US. By contrast, the poorer states, Guerrero, Oaxaca, and Chiapas, register only 51 supermarkets. Nevertheless, most of the population live in the centre and the north, where Richard Parra of AC Nielsen (2002) reports a total retail share of 46% of the country's supermarkets and convenience stores. This implies that, even in the centre and north, supermarkets and convenience store chains are penetrating lower-middle and lower-income strata markets.

Table 1: Number of supermarkets affiliated with ANTAD per region, 2002

Zone	Megamarkets	Hypermarkets	Supermarkets	'Warehouses'	Clubs	Total
Metropolitan (Mexico City)	20	77	66	96	5	264
Centre	19	111	75	42	5	252
Northwest	9	65	207	1	3	285
North	7	70	80	5	0	162
Northeast	7	73	75	2	1	158
Southeast	7	42	96	9	2	156
Southwest	1	13	25	11	1	51
Total	70	451	624	166	17	1,328

Source: ANTAD (2002: 94-5).

Data on the growth of supermarkets

Table 2 shows the growth during the period 1993-2001 by number of stores, location, and origin of capital (Mexican or foreign). Table 1 shows that in 2002 ANTAD reports that there are 1328 in the various formats (mega, hyper, super, wholesale and clubs – but not including the government ISSTEs). Table 3 shows there are 2221 modern convenience stores. Compare this with 768,799 traditional small retailers (*tianguis*, retail plaza markets, and shops) (INEGI, 2001).

According to AC Nielsen, cited by Hernández (2001), supermarkets have 44.5% of the food retailing in large cities, but with substantial variation: Mexico City, 70.3%, Guadalajara, 34.0%, Monterrey, 55.9%. Richard Parra of AC Nielsen (2002) notes that, for the country as a whole, supermarkets plus convenience stores have 46% of the retail market.

Despite the growth in the number of stores, 1990s expectations regarding supermarket growth and their ability to displace traditional retailing have not been met. Various surveys revealed that consumer preference for shopping in supermarkets fell from 75% in 1993 to 65% in 1995, 57% in 1998 (FMI and ANTAD, 1998) and finally 56% in 2000 (Andersen, 2000). Note that the last is close to the share of supermarkets in overall retailing as measured by AC Nielsen in 2001. Part of the reason is the economic crisis in the mid-1990s, as well as low income levels in the majority of the population combined with a concentration of wealth. With the devaluation (relative to the dollar) of the peso in 1994 and the subsequent economic crisis, average household income fell by 25%, which had a great effect, given that 70% of households have a monthly income less than US\$500 (INEGI, 1999). Moreover, small local markets and shops are convenient for food purchases by Mexican consumers, who have the habit of buying several times a day, and, if possible, on credit. Also, the *tianguis* pay no taxes or rents and thus compete unfairly with supermarkets that have to pay both.

Table 2: Growth in supermarkets and other self-service stores, 1993-2000/01^a

	Start ^b	1993	1997	2000/01	Location	Capital
Wal-Mart, Mexico	1958	114	n.d.	235	All the large cities	US + Mexican until 2000 + Stock exchange
Gigante	1962	180	192	209	All the large cities & Los Angeles, CA	Mexican + US (Fleming) + Stock exchange
Comercial Mexicana	1962	120	147	164	All the main cities	Mexican and US (Costco) + Stock exchange
Soriana	1953	23	65	101	Main cities of the centre and north	Mexican + Stock exchange
Casa Ley	1963	42	72	97	Main cities of the northeast	Mexican + US (Safeway)
Chedraui	1970	20	27	49	Main cities of the centre and south	Mexican
Carrefour	1994	-	17	20	All the main cities in the centre	French
HEB	1997		1	10	Coahuila, Chihuahua, Nuevo León, Sonora, Tamaulipas	US
Auchan	1997		1	3	Mexico City and Puebla	French
Tiendas ISSSTE	1953			266	Whole country	Mexican-government
Comercial V.H.	1963		32 ^c	40	Sonora and Sinaloa	Mexican-regional
Futurama	1954		21 ^c	23	Chihuahua	Mexican-regional
Mercos	1948		12	19	Coahuila, Nuevo León, and Tamaulipas	Mexican-regional
Arteli	1978			20	San Luís Potosí, Tamaulipas and Veracruz	Mexican-regional
San Francisco de Asís	1975			36	Yucatán, Campeche, Quintana Roo, and Tabasco	Mexican-regional

Notes: a) Does not include restaurants and department stores; b) Start as self-service/supermarket; c) Data for 1996.

Source: Websites of chains.

Table 3: Growth in convenience stores, 1997-2002

	Start	1997	2000	2002	Location	Capital
Oxxo	1977	624	1,487	1,700	Main cities (40)	Amoco Oil (US) and FEMSA (Mexico)
7-Eleven	1976	237	280	302	Main cities (Mexico City, Guadalajara, Reynosa, Monterrey, Mérida)	Grupo Chapa + The Southland Corporation (Texas) +Japan
Circle K			100		Mexico City, Baja California	(Grupo Protexa, Monterrey and International Concepts Corp., US)
Comextra (formerly 12 + 12 Serviplus)	1993	39	122	174	Mexico City and Torreón	
Minimercados Am/PM				34	Tijuana, Baja California Norte	
Comercial PRONTO				11	Mérida, Yucatán	

Source: ANTAD (2002) and websites of chains.

The impacts of supermarkets on the FFV supply chain

Consumer preferences and supermarket FFV marketing strategies

Mexican families spend on average 36% of their income on food and beverages; of the food and beverage budget. 17.6% is spent on fruit and vegetables (4.3% and 13.3%, respectively) (INEGI, 1999). Mexicans prefer to buy perishables, such as FFV, in the traditional retailing sector, in particular in plaza markets and *tianguis*. In surveys carried out by the US Food Marketing Institute and ANTAD, it was found that, in 1998, 47% of consumers preferred to buy FFV in municipal markets, 11% in *tianguis*, 7% in specialised shops, and only 21% in supermarkets (FMI and ANTAD, 1998). From 1993 to 1998, supermarkets even lost 5% of consumer acceptance (for FFV purchases) for the reasons noted above. Moreover, FFV prices in supermarkets are relatively high (see Table 4) and the supermarkets have less diversity of produce than the other retailers.

In contrast to consumers' preferences, FFV play an important role in supermarket marketing strategies, as they represent 8-12% of sales and 25-32% of profits, depending on the size of the supermarket and the share of perishables in total sales (ANTAD, 2001b), and because the FFV section is a key attraction for new consumers or reason to continue for established customers. Many supermarkets therefore have ongoing programmes of weekly FFV 'specials' and one day a week present a greater variety than usual for the customer. During our fieldwork in March 2001 in Texcoco, an intermediate city to the northeast of Mexico City, we found that the three supermarkets surveyed sold on average 85 types of FFV, compared with the 129 sold by the municipal market in the plaza, but on the 'specials' day they sold 122 types of FFVs – mid-week. The latter is important because the old phrase 'Tuesday is *tianguis* day' or

'Wednesday is plaza-market day' was used strategically by supermarkets to offer more FFV variety mid-week plus various discounts on non-FFV products – but not on FFVs. This would attract customers to the store in general and away from the plaza market and *tianguis* mid-week. The supermarkets also fought the low-price attractiveness of the *tianguis* by packaging and fresh-cuts (ready-to-eat or cook) and by emphasising quality.

Table 4: Prices of principal FFV products in different retail markets, February 2000 (pesos/kg)

	CEDA	Municipal market	Supermarket: Comercial Mexicana	Warehouse-Supermarket: Aurrerá	Supermarket: Gigante	Government retail outlets: ISSTE
Oranges	1.45	2.50	3.23	5.28	3.50	3.20
Lemons	7.00	12.60	16.06	12.52	13.16	16.10
Plantains	3.31	5.10	5.09	7.64	6.85	7.68
Avocados	5.41	9.89	9.11	8.46	8.97	11.28
Salad tomatoes	3.05	4.75	5.67	5.73	7.49	6.55
Onions	1.00	3.11	3.87	3.74	3.29	3.57
Potatoes	3.94	6.70	6.56	9.91	10.32	9.40

Source: CEDA, <http://www.ceda.df.gob.mx/enlaceco/ventajas/index.html>, 13.07.2001.

Supermarket procurement requirements and systems

To satisfy customers as to quality and freshness and distinguish themselves from the other retailers, the supermarkets impose their own quality standards and practices for FFV procurement:

- they require delivery in consistent volumes and quality (consistency in terms of colour and size);
- they prefer deliveries to be of moderate volumes but continuous throughout the year;
- they tolerate up to 10% of damaged produce;
- they require refrigerated transport for the produce;
- they prefer the product to be packed in cardboard boxes rather than loose;
- they receive the produce only before noon;
- they pay from 8 to 45 days after delivery – depending on the product;
- they demand a discount to cover the supermarket's putting the product on sale (promotion).

We observed these conditions in all the supermarket chains we interviewed, with some variations mainly related to payment practices. Although in general the supermarkets paid their suppliers higher prices than did other buyers (such as the traditional wholesalers who operate in the CEDAs), the net benefit to the supplier is somewhat diminished by the various procurement and payment practices listed above,

making the organisation of the process complicated for the supplier, as we shall see in the case of the lime producers in the state of Oaxaca.

The supermarkets' FFV procurement systems vary substantially according to: the historical phase of development of FFV production and marketing, the particular product, and the experience and objectives of the different chains. There have been three historical phases in the development of these procurement systems.

The first phase was in the 1960s and 1970s, at an early stage of supermarket development in Mexico when supermarkets bought direct from growers and/or intermediaries in the production zones using their own trucks. But at that time very few growers and/or intermediaries were able to meet their quality and delivery requirements. An important problem that growers faced then – and still do – is that it is difficult, especially for small and medium-sized farmers who lack liquidity, for them to wait for payment for from 8 to 45 days, equivalent to their extending credit to the supermarkets. Another problem is the requirement of quality, consistency, and continuity over the whole year. Because of these problems, supermarkets turned, in the second phase in the 1980s, to a more traditional method of buying FFV, via the wholesalers in the public CEDAs.

The third phase, starting in the 1990s, is characterised by a more diversified procurement system, shifting back towards procurement in production zones, gradually away from procurement at the CEDAs, and also towards use of their own distribution centres. These centres provide economies of scale, reduce the costs of intermediation, add value by packing produce and reducing losses in handling thanks to specialised transport (such as refrigerated trucks), and provide a more efficient inventory management system via bar-code scanners that is at the foundation of the practice of just in time.

Nevertheless, for most of the chains, the CEDAs of Mexico City, Guadalajara, and Monterrey continue to be important, signalled by the fact that several of them have offices in the CEDAs. Without doubt the most important CEDA is that of Mexico City, where even supermarket chains which are not located in the central region, such as H.E. Butt Grocers (based in Texas) and Futurama, both operating mainly in the north of the country, and San Francisco de Asís, a supermarket chain in the southeast, have offices in it or nearby. Table 5 gives rough estimates of the shares of total FFVs handled

Table 5: Shares of FFVs and herbs bought by different supermarkets via the CEDA, 2001

	Oranges	Other domestic fruit	Imported fruit	Vegetables	Herbs
Wal-Mart	80	40	50	90	100
Gigante	40	80	70	80	90
Soriana	10	20	n.d.	20	20
Chedraui	90	70	90	90	100
Carrefour	90	90	80	100	10
Futurama	20	80	60	85	100
Casa Ley	80	90	15	90	100
Arteli	50	50	50	50	100
HEB	n.d.	n.d.	20	n.d.	100

Source: CIESTAAM, authors' field work, 2000 and 2001.

by supermarkets that are bought via the CEDAs; they are 'rough' because supermarkets' purchase patterns change as a function of seasons, prices, and consumer demand for particular products.

Direct procurement from growers and use of their own distribution centres

Direct procurement from growers allows the supermarkets to save 10-20% on costs by avoiding the wholesalers. However, it is feasible only for large chains that can handle volumes greater than a truckload (minimum 10 tons), because direct procurement of smaller volumes drives up the cost of the product to the consumer because of transport and handling costs. Thus, direct procurement is concentrated in those FFVs with the greatest consumption in Mexico, for example, oranges, tomatoes, potatoes, onions, bananas, and lemons.

In order to aggregate demand and create economies of scale in procurement, five medium-sized supermarket chains – Arteli, V.H., Futurama, Merco, and San Francisco de Asís – created an Association of Self-Service Stores (IDEA) in 1995 (see Table 2) located in the CEDA of Mexico City. The association buys, for example, on average over the year, 22 tons (two truckloads) of oranges every three days, while one store out of these chains needs only between 60 kg and two tons (one mini-truck) in that time frame, depending on the season (source: interviews with IDEA).

From the other side, growers who want to sell direct to supermarkets have to fulfil their requirements, as discussed above. This means that they have to clean and pack the produce, supply the produce throughout the year, own or rent refrigerated transport (usually a truck), and have enough cash in hand to hold out for the 8 to 45 days before the supermarket pays them. These conditions filter out many growers and leave either the large ones or small ones organised in associations and linked to a packing house and to an intermediary who can set up the direct relations with the supermarket chains.

However, given that supermarkets prefer to buy only the best quality and grower-shippers (who sell direct to supermarkets) also need to be able to sell their lower quality produce, many of them have set up warehouses in the CEDA to sell their produce that does not meet the supermarkets' specifications. A case in point is bananas, that come from Chiapas (in the south) to Mexico City in volumes too large to be sent direct to a supermarket chain's distribution centre. The bananas are therefore delivered to the CEDA and then trucked out to the distribution centres.

Procurement via the CEDAs All the large cities in Mexico have CEDAs. That in Mexico City is the largest for FFV in Latin America and in the world, with a area of 297 ha and a number of wholesalers; the market has 2,182 warehouses handling 20,000 tons of FFV a day (CEDA, 2001). 40% of the FFV produced in Mexico and 80% of the FFV consumed in Mexico City pass through that market (USDA/FAS, 1997). All the supermarket chains procure FFV from it, at least to meet part of their needs. Some chains, depending on their location, use CEDAs in other large cities, mainly Guadalajara and Monterrey. This trend will continue for some time, owing to the preponderant influence that the CEDAs and their leading wholesalers have in the FFV market and their ability to meet supermarket needs.

Research on supply to Mexico City of the 11 main FFV products in 1987 and 1992 (COABASTO-SNIM-BANPECO), partially updated in Echánove (1998) and Lacroix et al. (2000), shows the enormous bargaining power of the leading wholesalers in the

CEDA of Mexico City, in controlling marketing from the grower to the CEDA, in fixing prices and imposing conditions of purchase and sale, and thence supplying the largest city in the world with FFV. Table 6 shows that 91 wholesalers, 4% of the total number, sell 76% of the total FFV volume handled by the Mexico City CEDA; this share varies from 90% for chillies to 44% for papaya. This concentration of financial and organisational power has implications for the supermarket chains' procurement strategies and for the small growers interested in breaking into the 'big time'.

Table 6: Mexico City wholesale market (CEDA): sales concentration

Product	Leading wholesalers		Total volume Volume moved in CEDA (tons/day)	Degree of concentration (%) B/C
	Number	Volume moved (tons/day)		
	A	B	C	B/C
Chillies	3	51	57	90
Onions	7	441	500	88
Tomatoes	13	700	800	87
Potatoes	10	375	450	83
Oranges	9	1,031	1,290	80
Avocados	10	481	600	80
Carrots	8	106	143	74
Pineapples	10	190	275	69
Plantain	7	508	780	65
Lime	7	130	260	50
Papaya	11	84	190	44
Subtotal	91	3,970	5,194	76
TOTAL	2,060		7,337	

Source: COABASTO-SNIM-BANPECO (1987-1992), Echánove (1998), Lacroix et al. (2000).

The CEDAs have maintained their importance not only because of the sheer market power of the leading wholesalers and because they fulfil needs that other market institutions leave unfilled, but also because they have been able to change and adapt. Perhaps the most important of these adaptations has been the following. The requirements imposed by supermarkets in terms of quality and presentation of fresh products are similar to the standards that need to be met to export FFV. It is thus no mere coincidence that a number of large grower/exporter firms have recently located in the CEDAs of Mexico City, Guadalajara, and Monterrey in order to supply differentiated products of high quality for the supermarket chains.

The case of tomatoes is a good example. The 8 main wholesalers of red tomatoes, who control 62% of the total market in this product, are at the same time growers and exporters from Sinaloa or Baja California; their presence in the CEDA is very recent since it coincides with the sharp increase in tomato exports to the US with the initiation of NAFTA in 1994. These new wholesalers/growers/exporters have not only displaced the traditional wholesalers (Muñoz Rodríguez, 1995) but have also introduced modern technology into the handling and storage of tomatoes (Echánove, 1998). It is not

surprising, then, that supermarket chains focus on this new type of wholesaler for procurement via the CEDAs, because they can guarantee quality and appearance/presentation, and because their vertical integration into production zones in the north allows them to bring in tomatoes all the year round.

In the fieldwork we undertook in 2001, we identified another new group of FFV wholesalers in the Mexico City CEDA, who have the capacity to supply the supermarket chains direct from the growing areas, without having to pass physically through either the CEDA or the distribution centre. Their presence in the CEDA is also recent, starting in the second half of the 1990s. Five powerful agroindustrial firms are represented in the group. These firms are vertically integrated, from field production and packing, through marketing all over the country, with their own distribution centres in the main cities; they import and export, move produce via their own trucking chains, and where necessary process or pack the produce in their own (or in association) plants (information from interviews as well as from Bebo, 2001).

Thus, despite the supermarkets' intentions to buy direct from growers, they have continued to supply themselves at least in part from the CEDAs, as they can buy produce there from a variety of zones and at lower prices, as if they were buying direct in the growing zones. In other words, although the large wholesalers set the prices, their size and flexibility and their links to the production zones allow them to adjust to the new needs and requirements of the supermarkets, and this even redounds to the benefit of the supermarkets because they can reduce their transaction costs by working with a few large wholesalers. Thus, the CEDAs in general and the CEDA in Mexico City in particular have not seen their role greatly diminished in procuring FFV for the supermarkets, although there was a significant shift within the CEDAs among the types of wholesalers (traditional versus the new wholesaler/grower/exporter or agroindustry/grower/wholesaler) who serve the supermarkets.

A case of small farmers selling limes to supermarkets

The liberalisation of the Mexican economy since the 1980s inspired in many growers the hope of exporting or selling more directly to retailers – preferably supermarkets that pay best – and consumers, thus avoiding intermediaries. Moreover, the lower-income end of the domestic market was relatively unattractive as a market because of low wages and controls on the prices of basic foods, making export and supermarkets even more attractive.

It was, however, relatively difficult to address the research question of whether small growers benefit from sales to supermarkets, simply because it was difficult to find many small growers who were selling FFV to supermarkets – a research finding in itself. The Union of Lime and Tropical Fruit Growers was the example that we studied. It is unfortunately an example of failure. The Union was formed in 1995 in the state of Oaxaca and by 2000 comprised five rural production associations (SPR) and three social solidarity societies (SSS). The SPRs had 270 member farmers with a combined area of 1,300 hectares under limes and the SSS 278 farmers with 400 ha. The average size of lime farm is 4.6 ha for the SPR and 1.4 ha for the SSS; thus the Union was truly one of small farmers.

In 1999 the Union received credit from the Fondo Acción Banamex (a special government credit fund for small farmers) to improve its orchards and to begin applying

a modern technology package to its lime production. Although the Union negotiated a loan for 1,000 hectares at 3200 pesos per ha, credit for only 850 hectares was finally obtained.

The Union has four packing houses, but only one was working in 2000, from February to June. The Union sold 3,500 tons of limes during those months, 43% of them to supermarkets (Wal-Mart, Carrefour, Gigante, and Soriana), 42% to the CEDAs in Mexico City, Puebla, and Oaxaca, and the rest to processors. The price paid by the supermarkets was the highest (Aurerrá: 7.79 pesos per kg), with the drawback that the Union had to wait a month to get paid, and the limes had to be delivered cooled (to 12°C), implying extra costs in having to provide credit to the supermarkets and having to use refrigerated transport. The CEDAs bought the limes at a price 10-20% lower than that paid by the supermarkets, but with immediate payment or at most a 15-day delay. Finally, the processors paid a very low price (only 0.50 peso per kg).

In 2001, the Union had a bank debt of US\$400,000 and was at the 'end of its tether' with no operating capital. The causes were the following. The poor management of the Union meant that it failed to collect systematically on its credit to the growers, had high office costs because of 'excess personnel', and had very little control of its financial accounts. The growers did not feel they 'owned' the project, as the Union would often use the credit for ends other than investments in increasing lime productivity. The Union could not compete with local intermediaries, who, seeing that their interests were damaged by the new 'avoid the intermediary' arrangement, started to pay growers higher prices than those paid by the Union (from 2 to 5 pesos more per box of 27 kg) and also paid cash on delivery. The Union did not have sufficient working capital, due to the long payback period by the supermarkets and CEDAs, and having to pay interest on bank loans.

The responses of the Union members lead one to conclude that there had been no thorough analysis of incomes and expenditures. Sales price information provided to us by the Union made it clear that the revenues were simply not covering the costs of production, packing, transport, and credit during the whole of May 2001. In the case of sales to the CEDAs and processors the loss period extended from April to June.

Another factor damaging the Union was the power of the large wholesalers in the markets in the centre and north of the country – where the lime market is dominated by only seven wholesalers, who also handle a full 50% of the sales volume in the Mexico City CEDA, and also set the prices. Six of the seven are also grower-packers, and sell their limes under their private label as distinct from the limes of the other wholesalers. Although they come from the state of Michoacán, the main producing zone of the country, they also buy and pack in the state of Oaxaca. All the main packers of Oaxaca are also wholesalers in the Mexico City CEDA.

According to the purchasing agents of various supermarket chains, they prefer to procure limes from the CEDA, because that is where they find limes at the lowest price (as if 'bought direct at the farmgate'), and in the quality and volume needed. Two of the largest seven wholesalers sell limes to the supermarkets. One of them specialises in the reselling of limes to the supermarkets, buying them from other wholesalers in the CEDA or ordering them (noting particular standards) from packers in the production zones, sorting them by grade and packing them for the supermarkets. This firm alone handles volumes (of the best quality limes) well above the entire output of the Union, and supplies Wal-Mart de México with 35% of the limes it needs (Echánove, 1998).

To conclude this section, we should note that the failure of the small lime growers depicted here is not inevitable. In recent studies of limes in Mexico it was demonstrated that it is possible to restructure small-grower production to enable them to earn higher incomes. With greater expenditures on inputs and thus costs (22%), incomes were increased 120% in the first year; with some additional expenditures, quality was raised to export and domestic supermarket standards and thus higher prices were earned.

Conclusion

This article has shown that there has been a ‘supermarket revolution’ in Mexico in the past decade to the point where nearly half of all retailing is dominated by modern ‘self-service retailers’, supermarkets and chains of convenience stores. This has been accompanied by a rapid increase in supermarkets’ share of food retailing.

Supermarkets have shifted somewhat towards sourcing their fresh fruit and vegetables direct from growers and from their own distribution centres, but they have still been relying mainly on the public wholesale market system, the CEDAs. The rise of supermarkets has, however, driven a shift in the CEDAs towards new types of wholesalers focused on and capable of meeting supermarket needs – from traditional wholesalers towards wholesaler/exporters and agroindustries/growers/wholesalers.

Selling to supermarkets is attractive to small farmers who see in that market, along with the export market, relief from the unattractive prospects in stagnant local markets targeting the poorer consumers. We have shown that the growers’ ability to sell direct to supermarkets depends on their organisational and management capacities, their ability to handle marketing requirements, and finally on their economic power, their access to cash. In general, small, usually also very poor, farmers cannot avoid selling to traditional intermediaries (who pay relatively poorly) in order to meet their pressing need for cash to pay off debts, buy basic staples, and so on. Moreover, they have little capacity to obtain credit from the formal financial services sector, which is why it is only in exceptional cases that small growers succeed in selling to supermarkets.

Critical relations for small growers include: their general relationship to the market, and the degree and quality of their control over the marketing of their produce; their relations with the packing houses; their relations with wholesalers in the CEDA or with the large supermarket chains. To manage these three sets of relations well – efficiently from their side and under acceptable conditions from their buyers – demands good organisation and efficient management with good lines of finance.

These latter challenges are severe for small growers. Evaluations of small farmers commonly demonstrate that they require professional training in marketing and the technical aspects of production (Muñoz, 1999). Unfortunately, the few higher education institutions focused on agriculture are not geared to small farmers’ needs, and provide training that is specialised and highly technical. Substantial revision of the curriculum is needed to train small and medium-sized farmers to face the challenges of the new agrifood economy.

Moreover, efforts need to be made not only to strengthen small farmer organisations, but also to provide technical assistance to small growers. These should be aimed at increasing productivity to become cost-competitive in a market that has grown much more competitive with liberalisation, at improving the quality of produce grown

by small farmers, and at encouraging them to participate more actively in the marketing of their produce in order to capture value-added from this segment of the supply chain.

Finally, the problem of financing for the small producer is crucial. The challenge is to find innovative ways to provide that finance. The capacity of small farmers to finance a packing shed and to find the working capital to buy raw materials and to hold out over long payment periods as well as to hang on when fruit is rejected by the buyer – these are fundamental conditions for a small producer to participate in the new economy. The small farmer works in the very short term, and without funding he cannot reduce his reliance on the traditional intermediary or packing firm that pays low farmgate prices but pays on the spot.

References

- AC Nielsen (2002) Speech by Richard Parra at the FMI Convention on Supermarkets in Latin America, Chicago, May.
- Andersen, A. (2000) *Tendencias en México 2000: Actitudes del consumidor y el supermercado*. Mexico City, DF: ANTAD.
- Asociación Nacional de Tiendas de Autoservicio y Departamentales (ANTAD) (1986) *Historia del comercio: Versión compendiada*. Mexico City, DF: ANTAD.
- ANTAD (2001a) *Directorio 2001*. Mexico City, DF: ANTAD.
- ANTAD (2001b) *Gerencia del Departamento de frutas y verduras*. Mexico City, DF: ANTAD, Grupo Editorial Iberoamérica.
- ANTAD (2001c) *Origen y evolución del autoservicio: Manual de asistencia técnica 1*. Mexico City, DF: ANTAD, Grupo Editorial Iberoamérica.
- ANTAD (2002) *Directorio 2002*. Mexico City, DF: ANTAD.
- Bassols, A., Torres, F. and Delgadillo, J. (1994) *El abasto alimentario en las regiones de México*. Mexico, DF: Universidad Autónoma de México (UNAM), Instituto de Investigaciones Económicas (IIEc) and Programa Universitario de Alimentos (PUAL).
- Bebo (2001) Grupo Bebo www.uneabasto.com/bebo/quienes0.htm
- Cámara Argentina de Supermercados (CAS) (2000) *Conociendo al consumidor latinoamericano*. Cámara Argentina de Supermercados. 02.12.2000, www.cas.com.ar/actividades/actividades02.htm.
- CEDA (2001) Central de Abasto de la Ciudad de México www.ceda.df.gob.mx
- Comercial Mexicana. (2001) www.comerci.com.mx/, www.comercialmexicana.com/
- Coordinación General de Abasto y Distribución del Departamento del Distrito Federal (COABASTO), Servicio Nacional de Información de Mercados (SNIM), Banco Nacional del Pequeño Comercio (BANPECO). *Serie Sistema Producto para el Distrito Federal*. México City, DF (various years 1987-92).
- Delgadillo, J. and Gasca, J. (1993) 'El abasto moderno de los alimentos: supermercados y tiendas de autoservicio', in Javier Delgadillo, Luis Fuentes and Felipe Torre (eds), *Los sistemas de abasto alimentario en México frente a los retos de la globalización de los mercados*. México City, DF: Ed. Universidad Autónoma Nacional de México (UNAM), Instituto de Investigaciones Económicas (IIEc) and Programas Universitario de Alimentos (PUAL): 243-64.

- Dussel, E. (2000) 'La inversión extranjera en México', *Serie Desarrollo Productivo* 80, Santiago de Chile: CEPAL/ECLAC, October.
- Echánove, F. (1998) 'El abasto de productos hortofrutícolas a la ciudad de México: Mecanismos de comercialización y estructura de poder'. Doctoral thesis, Universidad Nacional Autónoma de México (UNAM).
- Food Marketing Institute (FMI) and Asociación Nacional de Tiendas de Autoservicio y Departamentales (ANTAD) (1998) *Tendencias en México: Actitudes del consumidor y el supermercado*. Washington, DC: Food Marketing Institute and Mexico City, DF: ANTAD.
- Gigante (2001) www.gigante.com.mx/; 24.03.2001, www.gigante.com.mx/cgi-bin/gigante/nuevo/index.jsp and www.gigante.com.mx/corporativo/N_tiendas.htm
- Henderson, D. R., Handy, C. R. and Neff, S. A. (1966) *Globalization of the Processed Food Market*. Agricultural Economic Report No. 742. Washington, DC: USDA/ERS.
- Hernández, J. (2001) 'Autoservicio: El inmenso mercadito', *Expansión* XXXII (811),: 51-6, March.
- INEGI (1999) *Encuesta Nacional de Ingresos y Gastos de los Hogares 1998*. Aguascalientes: Instituto Nacional de Estadística, Geografía e Informática.
- INEGI (2000 and 2001) www.inegi.gob.mx
- Lacroix, R. L. J., Schwentesius, R., Gómez, M. A. and Echánove, F. (2000) *Mexico. Marketing of Fruits and Vegetables*. Washington, DC: World Bank.
- López-Rosado, D. (1988) *El abasto de productos alimenticios en la ciudad de México*. Mexico City, DF: Ed. Fondo de Cultura Económica.
- Muñoz Rodríguez, M. (1995) *Desarrollo de ventajas competitivas en la agricultura: El caso del tomate rojo*. SAGAR – CIESTAAM.
- Muñoz, M. (1999) *El mercado de servicios para el medio rural*. Mexico City, DF: Ed. Plaza y Valdés.
- Presidencia de la República (2000) 'Reunión con integrantes de la Asociación Nacional de Tiendas de Autoservicio y Departamentales' Press Release No. 1958. 17 January. www.presidencia.gob.mx/pages/vocero/boletines/com1958.html.
- USDA/FAS (1997) *Market Brief: The Mexican Food Retail Sector*. Washington, DC: USDA. www.fas.usda.gov/scriptsw/attacherep/display_gedes_report.asp?Rep_ID=10009226
- USDA/FAS (2001) *Mexico: Retail Food Sector Report 2001*. Washington, DC: USDA, www.fas.usda.gov/gainfiles/200106/110681046.pdf
- Wal-Mart de México (2001) www.walmartmexico.com.mx/framespi.html and www.walmartmexico.com.mx/framneg.html