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**JAPAN AND MEXICO AS GLOBAL PLAYERS IN THE  
HORTICULTURAL WORLD MARKET:  
LESSONS AND CHALLENGES FOR SINALOA**

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## Summary

Horticultural trade reflects the major features of current Globalization.<sup>1</sup> The first one is the multi polarization of the economic world, whereas especially three great centers are dominating, namely, the USA, the EU and East Asia (China and Japan).

The structure and trends of this trade can be explained by the Food Regime analytical approach, which states that during the Third Food Regime, started since mid-1980's, vegetables and fruits became the most relevant part of international agricultural trade flows. In this context Mexico is playing an important role, as major exporter of fresh products, and Japan, as main buyer of these items. Mexico is located in the sphere of influence of the USA and Japan is the axis of the East Asian economic bloc. Mexican exports are depending strongly from the USA market and Japan's demand of food must be satisfied mostly by imports, particularly from USA and China.

At the same time, Mexican fresh vegetables are losing competitiveness in their principal market and the Japanese consumer is losing confidence on the safety of imported foods from China and the USA.

All these facts make clear the necessity, for both countries, of diversify their markets. Therefore it is necessary to explore the possibilities of enhancing the horticultural trade between Japan and Mexico.

Mexico and particularly Sinaloa, as the most important producing area of fresh vegetables, could meet some aspects of the current Japanese demand of food. In order to do this it is unavoidable to know the Japanese horticultural sector, its market and distribution system. It is also advisable to identify the main actors in the horticultural sector and to study the historical trends of consumption and imports of specific products.

The present study aims to contribute to the understanding of these issues.

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<sup>1</sup> Strictly speaking, horticulture includes the cultivation of vegetables, fruits and flowers. In this study flowers are excluded. Therefore, here horticulture means just vegetables and fruits.



## 1. Introduction

According to the Food Regime approach, a conspicuous feature of the Third Food Regime is the exportation of fresh fruits and vegetables from South to North (Takayanagi, 2006). Following this idea, it was obvious to expect a remarkable growth of horticultural exports from Mexico to the USA after the enforcement of NAFTA. Mexico is the most important supplier of horticultural products to the USA during the winter season and Sinaloa, particularly, is the greatest region of production and exportation of these products. Therefore, it is worth noting for analysis what has happened in relation to the aforementioned trade agreement.

Once NAFTA has reached its stage of full open trade, we can witness three facts that are especially relevant. First, concerning the export trends of fresh vegetables from Mexico to the USA, it is not possible to recognize any structural change due to NAFTA.

Second, Mexican and particularly Sinaloan horticultural exports have lost competitiveness in the USA, whereas some other countries, like Canada and the Netherlands, have increased it. This fact points to the growing relevance of trade flows from North to North.

Third, although horticultural exports from Mexico have increased, exports of fruits from the USA to Mexico have also risen. This trend is a good example of trade flows from North to South.

Consequently, it is possible to highlight two modifications experienced by the Third Food Regime. The first one can be described as multi polarization (Takayanagi, 2006) and the second one, which complements the former; I propose to name *diversification*. Multi-polarization means that several countries or groups of countries are becoming centers of attraction for trade flows. The term, *diversification*, suggests that, together with the trade flows among countries which are geographically close, secondary flows exist among distant nations.

If this idea is correct, then it is of crucial relevance for Sinaloa, because it means that it is possible for a diversification of its exports and; therefore, it is feasible to ease its strong dependency from the American demand of fresh vegetables. In this context, it could be interesting for Sinaloa's horticultural growers/exporters to take into account the Japanese horticultural market.

## 2. Third Food Regime and Horticultural Trade

The food regime analytical approach that was formulated by Friedmann and McMichael (1989), points to the first food regime, from 1870 to the First World War. During this period, characterized by the British hegemony, wheat and frozen meat were exported from South America and Australia to the urban areas of Europe.<sup>1</sup> After the Second World War, the industrialized agriculture of the USA assumed the leadership and promoted the agri-food systems based on productivism. This second food regime was controlled by transnational companies. During the 1980s, together with the introduction of neoliberal globalism as dominant ideology, the Third Food Regime began. The transition toward the Third Food Regime followed the breakdown of the former one, which was based on the American model of strongly-regulated national agriculture (Pechlaner and Otero, 2008; 2). This took place when Europe became an important counterweight to the USA within the food world market and, as Japan became stronger in the world agricultural trade, then the Third Food Regime was already based on power multi polarization (Takayanagi, 2006).

Following this approach, Takayanagi (2006) has studied the spatial trade flows of the international horticultural trade and his findings corroborate the basic features of the Third Food Regime, in which fruits and vegetables are the biggest sector of agricultural trade and they are exported from developing to developed countries.<sup>2</sup> However, this study shows that the main trade flows occur among developed nations, but there are also remarkable trade flows between developing countries, particularly in South East Asia and India. Therefore, it can be said that fruit and vegetable global trade follows different patterns. Although it is true that the Third Food Regime particularly promotes fruit and vegetable trade flows from developing to developed countries, especially from Latin America to the USA and from Africa to Europe, there are indeed some other patterns that should not be overseen. There are trade flows among developed countries, and the flows from developing to developed countries are just part of global trade. At the same time, several African, Asian, and Latin American countries import, as well as export fruits and vegetables. Besides, due to their growth level, some developing countries are currently very strong world buyers. Accordingly, fruit and vegetable global trade is passing through a process of multi polarization.

It is worth noting that the main vegetables traded, since 1960, are potatoes, tomatoes, and onions and this situation has not changed until now. However, there are also a lot of new

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<sup>1</sup> “Food regime is a temporally specific dynamic in the global political economy of food. It can be characterised by particular institutional structures, norms and unwritten rules in international food production and consumption that are geographically and historically specific” (Pechlaner and Otero, 2008: 1-2).

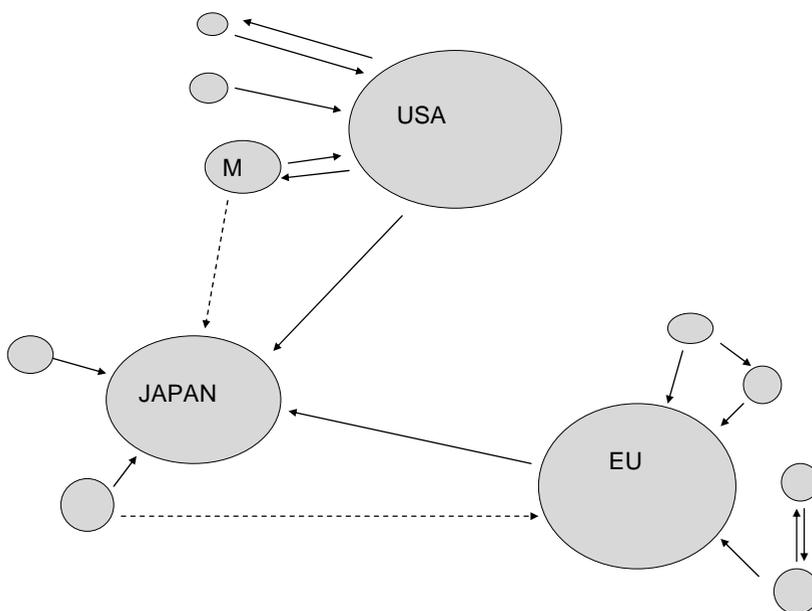
<sup>2</sup> See Appendix, Tables IV and V.

traded products, like watermelons, melons, cucumbers and peppers. Concerning fruit, the situation is similar. The most relevant items are bananas, apples and oranges, and the new products are fruit juices, as well as exotic fruits like papayas and mangos.

According to the trade flows, Takayanagi classifies the flows into 5 categories:

1. Flows among developed countries (peeled tomatoes, frozen and fresh potatoes, lettuce, cauliflowers, and carrots).
2. Flows among developing countries (garlic, green peas, and beans).
3. Flows from developed countries to developing countries (lentils).
4. Flows from developing as well as from developed countries to advanced nations (melons, frozen vegetables, peppers, and cucumbers);
5. Flows between advanced as well as developing countries.

Mexico's horticultural trade, its historical trends, current situation and future perspectives, should be understood within the aforementioned context.



**Figure 1: Multi Polarization and Diversification of Global Flows of Vegetables**

### 3. Mexico in the Global Horticultural Food System

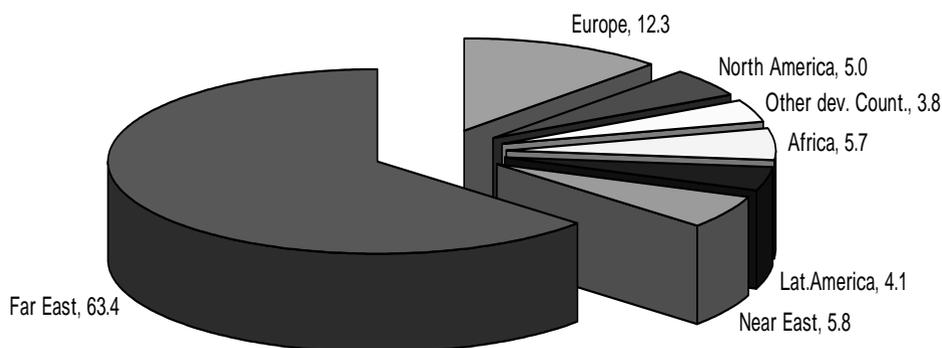
The Global Horticultural Food System is integrated by three kinds of countries or regions: a) Producers, b) Importers, and c) Exporters.

This division is due to the fact that the conditions for the production of fresh vegetables are unevenly distributed in the Earth and also there are great differences among nations concerning levels of population and economic development. Because of these reasons, there are countries which produce more vegetables than they consume, and others whose domestic supply is not enough to meet their needs. Besides, there are countries which are more export-oriented than others.

The structure of vegetable production can be seen in the following figure .

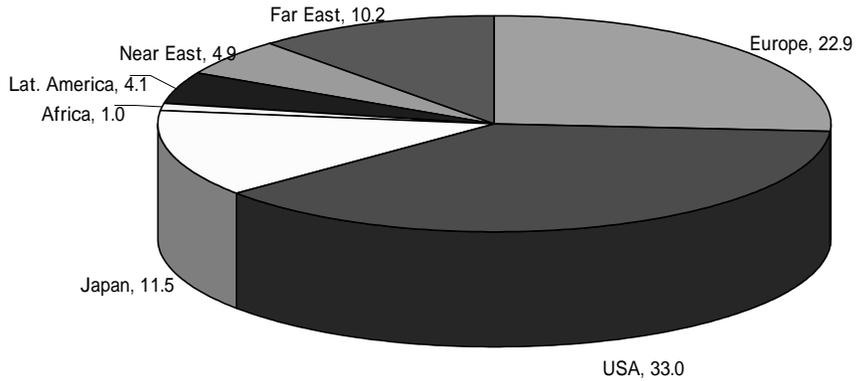
This figure makes clear that Asia is the most relevant area of vegetable production; China and India, particularly, produce huge amounts of fresh vegetables, but because of the dimensions of their populations, most of this production is domestically consumed.

The strong concentration of vegetable production in some areas and the higher purchasing power concentrated in other countries explain the emergence of imports, the world structure of which is depicted in Figure 3.



Source: Elaborated by the author based on data from FAO 2004, The Market for Non-Traditional Agricultural Exports. Table A2.6, p. 114

**Figure 2: Structure of World Vegetable Production in Volume, 2001**

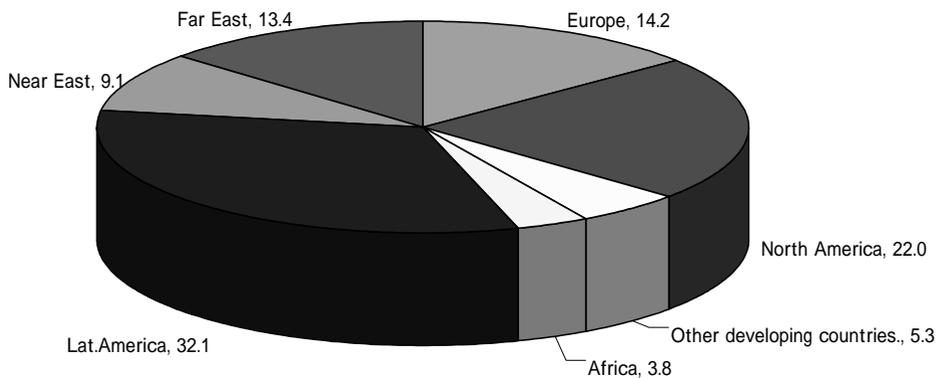


Source: Elaborated by the author based on data from FAO (2004), The Market for Non-Traditional Agricultural Exports, Table A2.9, p. 117.

**Figure 3: Structure of Vegetables World Imports in Value, 2001**

Figure 3 lets us observe that the first importer of vegetables is the USA, the second one is Europe, and the third is Japan. This structure of imports corresponds to the current structure of economic globalization, where the three biggest centers are exactly the same.

On the other hand, the origin of the purchases made, by the aforementioned big centers of vegetable consumers, is shown in the following figure.



Source: Elaborated by the author based on data from FAO, 2004: The Market for Non-Traditional Agricultural Exports, Table A2.3, p. 111.

**Figure 4: Structure of Vegetables World Exports in Value, 2001**

This figure lets us recognize Mexico within the horticultural World market. Our country is, namely, located in the biggest export area of fresh vegetables and her major target market has been, historically, the USA and this situation has been further strengthened by NAFTA.

### 3.1 Mexican horticultural exports and NAFTA

NAFTA's signing among the USA, Canada, and Mexico, allowed the expectation of a remarkable increase of horticultural Mexican exports. For Mexico, those products were the most competitive within the agricultural scenario of the three mentioned countries. Statistically speaking, it was an anticipation of a structural change of the Mexican horticultural export trends. However, in spite of their absolute rise, the share of those exports in the total Mexican exports to the USA decreased from 2.8% in 1993 to 1.7% ten years later. This fact shows that some other industries have benefited more by NAFTA, such as industries dominated by foreign capital, which practice an intensive intra firm trade at world level (see Table 3 in Borbón, 2007: 49).

Accordingly, some scholars have tried to test the structural change hypothesis concerning the trends of Mexican horticultural exports after and during NAFTA. In several articles and reports, Yúnez-Naude and Barceinas (2003, 2004) analyze this hypothesis. Their findings show that, certainly, Mexican fresh vegetable exports to the USA have increased since the enforcement of NAFTA, but that hardly explains these developments. Then, so the cited authors state, there are two stronger elements to take into account, namely, the peso devaluation and the historical trends of Mexican exports. On the other hand, the



Source: [http://www.pickatrail.com/jupiter/location/north\\_america/mexico/mexico.html](http://www.pickatrail.com/jupiter/location/north_america/mexico/mexico.html)

**Figure 5: Map of Mexico**

Table 1: Structural Change of Mexican Horticultural Exports to the USA

ITEM	Year of Structural Change (volumen)	Year of Structural Change (value)
PUMPKIN/SQUASH	1992	1996
EGGPLANTS	1997	1997
PEPPERS	1986	1989
CUCUMBERS	1979	1993
TOMATOES	1992	1992

Source: Maya and Peraza (unpublished)

Mexican agricultural imports do show a structural change due to NAFTA, but not the horticultural exports.

Applying the same methodology used by Yúnez and Barceinas, namely the procedure proposed by Vogelsang, Ben-David, and Pappell, we have estimated the years of structural change for the main Mexican horticultural exports to the USA, most of them produced in Sinaloa. The outcomes of our research are summarized in the following table (Maya and Peraza, (2008).

Consequently, we must agree with Yúnez-Naude and Barceinas. In fact, it is not possible to deduce from NAFTA any structural change related to the trends of Mexican horticultural exports to the USA. The reasons for the observed changes, which are different for each product and even different in terms of quantity and value, are still to be explained.

For the purpose of this study, it is enough to emphasize that there is no empirical evidence supporting the idea that NAFTA has accentuated any advantageous specialization of Mexico as a fresh vegetable exporter to the USA.

Concerning Sinaloa, after the enforcement of NAFTA, it was reasonable to expect increasing exports to the USA. The available statistical information dates from 1999 and it shows the following situation (see Table I of Appendix).

Tomato exports, including all varieties (Bola, Roma, Cherry, Grape, greenhouse), in terms of value, have decreased from 348 thousand tons in 1999 to 310 thousand tons seven years later. The bell pepper export volume has also reduced since 1999-2000 and just in 2005-06 increased about 33%. The export volume of cucumbers, eggplants, squashes and pumpkins plummeted during the observed period and only spicy peppers (chilies) show an elevation in export volume. In some cases, the export value rose, due to higher prices for some products, yet, in other cases, these values contracted for squashes and pumpkins, and even higher export levels of certain items (spicy peppers) could not bring higher revenues.

In view of the foregoing, we can confidently affirm, that Sinaloan exports have not improved due to NAFTA, as was expected, but, conversely, exports of some main products have contracted. However, more importantly than the fluctuations or changes in terms of

dollars or thousands of tons, are the competitive changes experienced by the most relevant fresh vegetables exported to the USA, particularly by those which are mainly produced in Sinaloa.

### **3.2 Decreasing Competitiveness of Mexican Horticultural Exports in the USA**

Although, within the Mexican economy, agriculture has been the most seriously affected sector by trade opening, the fresh produce export sub-sector is a remarkable exception. Actually, fresh produce export enterprises are part of a reduced group of around a thousand beneficiaries by NAFTA, together with some exporters of alcoholic beverages and some importers of meats, grains, fruits and industrial or agricultural inputs (Schwentesiuss and Gómez, 2005).

Because of these reasons, it was logical to think that NAFTA should improve the competitiveness of Mexican horticultural exports to their principal market, the USA. Notwithstanding this, against any expectations and spite of the aforementioned benefits, several scholars have demonstrated that Mexican fresh produce competitiveness, in their main market, shows downward trends.

At the same time, for decades, Sinaloa had been the principal export region of these products to the USA. Therefore, it was also expected to improve its competitiveness.

The scholars, who have studied this topic, have taken the concept of Revealed Comparative Advantage, originally introduced by Balassa, as a starting point. However, methodologically, they used the Vollrath-Index, adapted to export flows.

One of the most recent studies about this issue (Borbón, 2007:44) found that, within the total Mexican exports to the USA, vegetables have reduced their share from 2.8% in 1993 to 1.7 % in 2003. Besides, although their share is smaller, the export value is bigger. Moreover, their competitiveness is still positive, but decreasing.

Borbón states that from 1989 to 2004, the main exported Mexican horticultural articles were the following, in terms of value: tomatoes, peppers, cucumbers, onions, asparagus, eggplants, cauliflowers, and broccoli. Because of this, he analyzes these products and discovers a steady fall of their competitive performance during the aforementioned period (Borbón, 2007:61 and Figure 7, p. 60).

In more detail, during the studied period, tomatoes showed a high but decreasing competitive performance. Cucumbers, peppers, and onions had a stable medium performance, and eggplants had a low stable performance. In contrast, cauliflower, broccoli, and particularly asparagus showed competitive disadvantages (Borbón, 2007:61). On the other hand, Avendaño and Schwentesius (2007) have studied the trends of Mexican horticultural exports for 25 years and they explain how this sector, despite its first place among whole Mexican exports, shows a positive but falling competitive index. This means that, during the last years, this sector has lost its relevance in the international market to

other export countries with their increasing participation in the US market; for instance, Peru (asparagus), Chile (grapes), China (garlic), Canada and the Netherlands (tomatoes), and Middle America (melon). Particularly relevant is the situation of the tomato, which, traditionally, has been the most prominent horticultural export from Mexico. In this case, so maintain Avendaño and Schwentesius, Mexican exporters are confronting a mature and almost saturated market. For this reason, an enhancement of their presence in the American market requires further product differentiation. This means different colors and shapes, as well as different production forms (greenhouse, hydroponic, and organic). However, Mexican growers/exporters could not do this until now, because they did not know, accurately, the most recent market trends and the modern ways of financing (Avendaño and Schwentesius, 2007: 215 ff.).

In another study, Maya and Cabada (2007) scrutinized the competitive changes of five fresh vegetables, which represent the major exports from Sinaloa, from 1989 to 2005. They confirm that the structural change in the case of the tomato, the most conspicuous product of Sinaloa, took place after 1990. During the whole observed period, there is a steady weakness of competitiveness. Concerning cucumbers, the decline started in 1999; in the case of squashes and pumpkins. This happened after 2002, and the eggplant export breaking point appeared after 1992. One exception was the case of peppers, which presented growing competitiveness until the year 2000. Afterwards, it fell and finally recovered toward the end of the observed period.

Speaking of Mexico's competitors, it is worthy to note that the Mexican tomato has lost remarkable market shares to Canada and, in some measure, also to the benefit of the Netherlands. Mexico's market share of American tomato imports was 96% in 1989. Three years later, it was reduced to 91%, and, in 2000, dropped to 65%. In 2004, there was a slight recovery (71%), whereas Canada's share became 24% (Borbón, 2007:68).

With regard to onions, Mexico's market losses have benefited Chile, Peru, Argentina and Colombia. In the market of peppers, Canada and the Netherlands have advanced, where Mexico has gone backwards. Particularly in cucumbers, gherkins, cauliflowers and broccoli, the winner has been Canada. The case of cauliflowers and broccoli is particularly serious for Mexico, whose market share was 76% in 1989 and in just 10% in 2004. Finally, in the asparagus market, the winner has been Peru, and Mexico's market share collapsed from 74% in 1989 to just 41% in 2004.<sup>3</sup>

This information can be supplemented by newly published USDA (2007) data, presented in a set of statistical tables about products, which satisfy SPS requirements and,

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<sup>3</sup> Peru has displaced Mexico in the USA asparagus market. Shimizu (2006) explains the reasons for the expansion of exports of this product. However, it is worth mentioning that, in the Japanese asparagus market, Mexico remains far above Peru. The proportion in terms of volume is approximately 3 to 1. See Nisseikyō, 2008, Table 20, p. 50.

**Table 2: Mexico’s Competitors in the US Horticultural Market**

ITEMS	COUNTRIES
TOMATOES	<b>Spain, Netherland, Canada</b> , Belgium, Italy, France
BELL PEPPER	<b>Spain, Netherland</b> , Canada, Israel, Belgium, R. of Corea
EGGPLANTS	<b>Spain, Netherland</b> , Honduras, France
SQUASH	<b>Spain, New Zeland</b> , France, Netherland, Italy
CUCUMBERS	<b>Spain, Netherland</b> , Canada, Honduras

Note: In bold letters main competitors of Mexico.

Source: USDA, Phytosanitary Regulation of the Entry of Fresh Fruits and Vegetables into the United States, <http://www.ers.usda.gov/Data/FruitVegPhyto/>. Accessed 05/04/08.

therefore, can be exported to the USA. Based on this information, we have created the following table. It allows us to identify Mexico’s competitors with regard to each one of the five main horticultural products exported by Sinaloa.

According to the above explanation, we can conclude that Mexico has lost its competitiveness in the US horticultural market, due to developed countries (Spain, the Netherlands, Canada, and New Zealand), as well as to the developing countries of Honduras and Peru. These facts are notable if we consider the kind of competition which is taking place within the horticultural markets, in the light of the Food Regime analytical framework.

### **3.3 Mexico’s Horticultural Imports: A Case of Diversification of Trade Flows**

While it is true that, since 1982, imports of US fruits and vegetables from Mexico have grown faster than exports, it should be noted that, within this category and in the global context, the USA is a leading exporter of fruit. According to USDA data for the years 2004 to 2006, this country exported 2540 million dollars of fresh fruit, while its imports totaled 3995 billion dollars. 44.8% of those exports went to the other two NAFTA countries and 40% to Asian nations. It should be noted that the fruits most imported by this nation are tropical, while the exports are citrus and temperate fruits.

In particular, within this group of items, the most relevant exports from USA to Mexico have been apples, pears and grapes. The first are the most significant, especially during the current decade, reaching a value of more than 100 million dollars in 2001 and declining thereafter.

If we look at the trends in exports of fruit from the USA to Mexico in the long term, before the enforcement of NAFTA, it is evident that they were growing since the late 1980s and reached a peak around 1994, and, after a drop of approximately 50%, an erratic behavior took place. Since the middle of this decade, there were signs of a new recovery. These fluctuations suggest that NAFTA has little to do with the identified flows. In addition, the

described trends point to a sort of specialization within the horticultural trade that should be studied separately by each product.

Another noteworthy development is the case of fruit imports carried out by Mexico from Chile. Look briefly at the most notorious cases, namely, grapes, apples and kiwis.

In the case of grapes, we note that, around 1986, our country only imported 19 tons from Chile (12 thousand USD). Ten years later, the figure had already risen to 6.4 thousand tons (5 million USD). In 2006, Mexico already had imported 31 thousand tons of fresh grapes from the South American country (33 million USD). We should add that the Chilean grapes compete with great success in the Mexican market, with US grapes from Sonora and Baja, California as well as fruit from several national states, such as Coahuila.

With regard to apples, we find a similar situation. Since 1997, just 106 tons (76 thousand USD) were imported, and, in 2006, the imported volume amounted to 25 thousand tons (13 million USD). It is interesting that, in the same year, Chile sold Peru 34 thousand tons of the mentioned fruit (12 million USD). In the Mexican market, Chilean apples are competing with US apples, especially those from Washington State. This, also, has contributed to a notable decline in demand for domestic apples, mainly affecting the state of Chihuahua, once the largest supplier of apples in Mexico.

In the case of kiwi fruit, until a few years ago, completely unknown in Mexico, the products of Chile competed strongly with those of New Zealand. Thus, we find that, in 1997, Mexico only imported 997 tons of this fruit from Chile, whereas, in 2006, the figure was 4 thousand tons (4 million USD).<sup>4</sup>

These examples, drawn from transactions undertaken by Mexico with other countries, show that the horticultural trade flows North-South and South-South are also relevant. This fact is, undoubtedly meaningful from the point of view of the Food Regime approach, which should, therefore, be revised to account for these developments (see Table III of Appendix).<sup>5</sup>

### **3.4 Consequences of the Mexican Case for the Third Food Regime**

According to the observed phenomena, it is necessary to incorporate two elements into the Food Regime framework. One is the multi polarization, as it has been emphasized by Takayanagi (2006) and the second one, derived from the former, is diversification. When we talk about diversification, we are not only thinking of trends already present in some measure, as in the fact that one country at the same time exports and imports horticultural products, either at different times of the year, or focuses on certain products, such as when the USA exports temperate fruits to Mexico and imports tropical products from them. When

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<sup>4</sup> All data are from UNComtrade.

<sup>5</sup> Horticultural trade flows North-North must also be taken into account. In this case it is important to note that the USA is the main supplier of food from Japan. Major fruits exports from USA to Japan are oranges and apples.

we say diversification, we want to stress potentially present trends, which are likely to be accentuated in the coming years. This could be promoted by trade agreements between countries located in three different major horticultural markets: America, Europe, and East Asia. In this context, this could mean an advantageous situation for Mexico, and particularly for Sinaloa. Then, some exports could be directed to other countries, like Japan, without pretending that this country can replace the USA as the main market for Mexico; but it is possible that, for certain products, Japan has become an attractive and reliable market. This has already happened in the case of avocado and mango exports from Mexico to Japan.

In short, diversification means that an exporting country leads most of their exports into a center. However, it is always open to the possibility of channeling a marginal or secondary flow to another import center. This is possible because of multi polarization, and then there will always be more than one center that could be the destination of exports.<sup>6</sup>

It should be noted, moreover, that these phenomena are under the influence of extra economic, cultural, political, and demographic factors. Without denying the weight that still plays the geographic proximity, under present conditions characterized by the use of technologies that can reduce transportation costs to levels never before imagined, it is essential to weigh the relevance of the social, political, and cultural proximity. The best example of this would be the trade relations between Europe and its former colonies in Africa and, recently, the relations between Japan and Africa.<sup>7</sup> Reinforcing this argument, in the sense that diversification is influenced not only by economic, but also by political and other factors, it is worth recalling the case of exporting asparagus from Peru to the USA, which increased so much that they displaced Mexico in this market.<sup>8</sup> The rationale was not strictly economic or technical but political, namely the agreement between this country and Peru aimed at discouraging coca cultivation and providing various incentives and facilities for the cultivation and export of asparagus.<sup>9</sup>

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<sup>6</sup> This trend is clearly illustrated by the fruit exports from Chile to Mexico. Sales, in Mexico, of grapes from Chile amount to just 4.2% of the total exports of Chile. The figures for apples and kiwi fruit are 3.4% and 3.5 % respectively. However, in Mexico, these products have conquered a very strong position that enables Chile to diversify its export markets. Although Europe is still the most important market for Chilean apples, only one-third of its exports flow there.

<sup>7</sup> It is also, unfortunately, true that sometimes the geographic proximity, when accompanied by ethnic, religious or ideological conflicts, becomes a barrier to trade. Consider, for example, the relationship between Israel and Palestine, Serbia and Croatia, as well as Greece and Turkey in the past or between Russia and Georgia in 2008.

<sup>8</sup> The term, *displacement*, must be nuanced while Mexican exports of asparagus to the USA take place between January and March, while the Peruvian ones occur from September to December (see Shimizu 2006; 17).

<sup>9</sup> It is the Andean Trade Preference and Drug Eradication Act (ATPDEA), which is a new version of the Andean Trade Preference Act (ATPA), from 1991. For details, see Shimizu (2006).

### **3.5 Lessons and Challenges for Sinaloa: Necessary Export diversification and Relevance of Japan as a Possible Market**

From the above, the following conclusions can be drawn. First is the undeniable existence of a strong commercial link between the USA and Mexico, and especially Sinaloa, concerning horticultural trade. However, this link does not seem to have been positively affected by NAFTA, at least not with regard to historical trends of Mexican exports.

Secondly, major Mexican vegetables exported to the USA show, with variations depending on each product, a steady reduction of competitiveness in that market. This loss corresponds to gains of other countries, especially developed and some developing nations, which have taken more advantage of the possibilities offered by the USA than Mexico has done.

Thirdly, global horticultural transactions let the recognition of the consolidation of several centers which import these products. Under these circumstances, it seems appropriate and even necessary for Mexico and, especially, for Sinaloa, to seek to diversify their markets. Just for geographical reasons, it is evident that the USA will remain the main destination of Mexican horticultural exports, but nothing makes it impossible to maintain parallel commercial ties with other countries, so that these flows help to reduce the current dependence of Mexican horticultural exports from a single market.

According to Takayanagi (2006), there are currently several centers that are attracting global imports of agricultural products in general and horticultural items in particular. Under these conditions one could think about various options. One channel could be a flow of Mexican horticultural trade to Europe, since a trade agreement with the European Union already exists. Though, it should be noted that, within the same European countries, there are great horticultural powers, such as Spain and the Netherlands. Moreover, there are also old commercial ties with African countries, which are strong vegetable growers. To this, the participation of Turkey in the European market must be added. With the foregoing, we wish to point out that competition in the European market is, as in other major markets, very strong.<sup>10</sup>

Another possibility is to promote horticultural trade with other Latin American countries, although in the area there are also major horticultural exporters, such as Brazil and Peru as well as others who are beginning to have an international presence, such as Honduras. In any case, there is the possibility of a kind of complementary market, focused on certain products or niche markets.

A particularly interesting alternative is Japan. In the scenario of global horticultural trade, this country is playing, for several reasons, a conspicuous role. With the signing of the

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<sup>10</sup> About the European horticultural market, see Labaste (2005), as well as Chapter 4 of Huang (2005), written by Kelch.

Economic Partnership Agreement (EPA) on the first of April 2005, Mexico became the first country to which Japan opened the door to agricultural imports. Yet, before the existence of such an agreement, Mexican horticultural products, such as avocados, mangoes and pumpkins (*kabocha*), had already won an important place in the Japanese market. Nevertheless, SPS restrictions are still a very strong barrier, which prevents the entry of Mexican Solanaceae to Japan, with the exception of tomatoes. Consequently, it is necessary to think about the industrial processing of certain horticultural products for export to Japan (jams, pastes, and juices). Although it is a long and costly process, it is also advisable to demonstrate that the Mexican Solanaceae and, especially, those of Sinaloa are free of the tobacco blue mold. These efforts are worthwhile when we take into account the potential that represents the Japanese market for Mexico, especially with regard to the food-processing industry, which currently experiences a strong growth. Nonetheless, we must not forget that, in Japan, there are already present powerful horticultural competitors, including the USA, China, the Philippines, and Peru, to name a few. Besides, there is a remarkable domestic production, characterized by its high standards of quality and safety.

It is obvious that nothing ensures an automatic success, but the profitable experiences of the avocado and mango, demonstrate that it is possible to gain a strong competitive position in the Japanese market. Yet, this requires, first of all, a good knowledge of that market. The purpose of the following pages is to provide that knowledge to those people interested on the Japanese market.

#### 4. Japan as a Global Player in the Horticultural World Market

According to the classification made by Takayanagi (2006: 31) of the horticultural world trade flows, Japan ranks fourth as a center for attracting such flows, following the USA, Germany and Russia.

Mainly the horticultural exports are flowing toward Japan, from the economies of the Asian Pacific area, particularly from Taiwan, China and New Zealand, followed by Thailand. Although flows from the USA are huge in absolute terms, they represent a smaller percentage, from the American perspective.

From the above, we can conclude the central position of Japan, especially in one of the three major economic blocs that make up the current global economy, namely the East Asian (see Table VII of Appendix). This does not mean, as already noted, that flows from other blocs do not exist, but their relative importance varies with the perspective that is taken (from the standpoint of the seller or the buyer).

In this context, Japan is currently the sixth global importer of vegetables, after the USA, Germany, UK, Ireland and France, and Japan is the second one, after the USA, in the case of vegetables, roots and tubers, prepared or preserved.<sup>11</sup> Fruit took first place among worldwide importers.<sup>12</sup>

The participation of Japan in world imports of horticultural products is 7% for prepared vegetables and fruits, including juices. Although Japan buys these products from 54 countries, its three largest suppliers account for 66.9% of the purchased goods. In the case of imports of fresh or frozen vegetables, the participation of Japan in global terms is 4.8% and they maintain trade relations with 43 countries; but here, too, the first three occupy a segment of 76.8%. In the world imports of other fruits, citrus and melons, Japan's share is 3.6%, and it buy from 49 countries, but the three largest sell this country 68.3% of the mentioned articles.<sup>13</sup>

Japan's main suppliers of these products are the USA and China, but other countries are major suppliers of specific products, as we shall see later.

Moreover, it should be noted that, in recent years, the Japanese government has shown a strong preference for trade agreements with several countries.<sup>14</sup> Although rice remains excluded, that is not the case with horticultural products. In fact, these products have not been protected as rice has, so, in this sector a fierce competition has long prevailed both among domestic producers and against suppliers from the outside.

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<sup>11</sup> Data from International Trade Centre, UNCTAD/WTO, <http://www.intracen.org/tradstat/sitc3-3d/ip056.htm>, accessed 2008, August, 5th.

<sup>12</sup> 4th place in preserved and prepared fruits, 6th place in World purchases of fruit and vegetable juice and 10th place as a buyer of fresh or dehydrated fruits.

<sup>13</sup> Data from UNComtrade.

<sup>14</sup> About the current Japanese policy towards FTA's, see Namikawa (2005) and Higashi (2008).



Source: <http://www.worldatlas.com/webimage/countrys/asia/jp.htm>. Accessed 30/09/08.

**Figure 6: Map of Japan**

#### **4.1 The Japanese Demand of Horticultural Products**

Japan has a population of about 127 million people, of whom 21% are seniors (65 years and older), with a GDP per capita of 39,184 dollars (about three times higher than that of Mexico), in a territory of 374,744 square kilometers, i.e., a bit smaller than the state of California, and, approximately, one-fifth of the Mexican territory. Because of its mountainous geography, the area available for agriculture accounts for only 11.64%.

Being the third largest economy in the world, after the USA and China, Japan has a very small agricultural sector, thus contributing 1.5% of the GDP and provides employment to 4.6% of the workforce.

Despite the long-term reduction of expenditures of Japanese consumers, they spend more on food than consumers in other developed countries like the USA. Also, food prices in Japan outnumber prices in other countries with similar levels of development. The Japanese consumer is willing to pay more if the product quality deserves it. Quality also includes taste, freshness, and safety. The product should be a seasonal product, and it must have an attractive appearance. Recently, the most important requirement has become convenience; it must be easy to prepare or, if possible, ready to eat. Finally, the presentation also counts; for instance it should have attractive packaging, as can be seen in the following picture.

The demand for food in Japan is explained by social, economic and cultural changes. In demographic terms, the biggest change now is the fact that approximately 8 million Japanese born during the baby boom of the second post-war period, are reaching retirement age. Most of these people enjoyed the boom of the Japanese economy, have a high purchasing power and, at the same time, are geared toward healthy eating, where fresh horticultural products play a notorious role.<sup>15</sup>



Photo: C. Maya, September 2008.

**Figure 7: An attractive presentation of fresh products is basic requirement for the Japanese consumer.**

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<sup>15</sup> Data from CIA The World Fact Book, <http://www.cia.gov/library/publications/the-world-factbook/print/ja.html>, accessed 2008, April, 4th; FAO Statistical Yearbook, Country Profiles. [http://www.fao.org/ES/ESS/yearbook/vol\\_1\\_2/site\\_en.asp?page=cp](http://www.fao.org/ES/ESS/yearbook/vol_1_2/site_en.asp?page=cp). Accessed 2008, April, 5th.

In the economic field, there are two outstanding phenomena. One is a new socio-economic stratification; namely, the egalitarian society born after the second war has changed into a society with a layer of very high incomes, willing to pay any price for products of excellent quality; and a low-income stratum, steadily searching for low prices. The other phenomenon is the presence of women in the workforce. Around 1990, women accounted for 40.5% of the workforce and, in 2006, this figure rose to 41.5%. In addition, it is noted that female participation in the workforce shows the form of an M-shaped curve, which indicates that women leave their jobs when they marry and have children, to return when their children have grown. By comparing the current situation with that of a decade ago, it appears that the participation of women between 25 and 29 years of age has risen 7.6 percentage points, while that of women between 30 and 34 years has risen 7.8 percentage points.<sup>16</sup>

The growing participation of women in the paid workforce has very important consequences. The first is that women acquire economic independence and develop a career that involves long-term commitments. Under these conditions, a marriage that could reduce their income or make them economically dependent is unattractive to them. The second is that most Japanese men are unwilling to, or their working conditions do not allow them to, assume the childcare duties, traditionally performed by women. Thus, in the case of having children, women have to sacrifice their careers, at least for a few years, as shown by statistics. Every day, there are more Japanese women who are unwilling to renounce their professional life, nor to assume full responsibility for child-rearing. These same conditions explain the elevation in the number of divorces, because at some point, the careers of women become incompatible with married life. In consequence, more people are obliged to take their meals away from home or buy prepared food, either because they live alone or because they have no chance of eating with their families.

Also, in the economic sphere, it should be noted that traces of the stagnation years of the Japanese economy during the 1990s, have not yet been erased. Hence, expenditures on personal consumption are still hampered. In particular, food costs as a percentage of personal expenses show a declining trend. The most recent data reveal that monthly expenditures on consumption per household rose by 1.3% in nominal terms and 1.2% in real terms over the previous year, after a deadlock of three years. As for the distribution of consumption expenditure, there have been no major changes since 2000 and the situation for the year 2007 can be summarized in the table below.

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<sup>16</sup> Data from the Ministry of Internal Affairs and Communication, <http://www.stat.go.jp/english/data/handbook/c12cont.htm>. Accessed 2008, October, 9th.

**Table 3. DISTRIBUTION OF CONSUMPTION  
EXPENDITURES IN JAPAN (2007)**

CONCEPT	PARTICIPACION IN PERCENT
Food	22.9
Housing	7.4
Electricity and water	7.1
Furniture and utensils	3.2
Clothing and footwear	4.4
Medical expenses	4.2
Transport and communications	12.8
Education	3.5
Reading and entertainment	10.8
Other consumption expenditures	23.7

Source: Statistics Bureau, Ministry of Internal Affairs and Communication 2008, Table I-1-4.

I would like to emphasize that the percentage allocated to food has fallen slightly. In 2000, it was 23.3%. On the other hand, the shares of light and water, medical expenses and transportation and communications have been augmented a little.

Let us see, in more detail the spending for consumption of horticultural products. Within the part intended as food consumption, expenditure on the purchase of fresh vegetables was 7% in 2000 and 7.1% in 2007. However, it should be noted that, in absolute terms, the expenditures for the purchase of food for preparation at home, such as fresh vegetables, have been reduced annually, in part because of higher purchases of food preparations, including salads and dishes ready to eat, but also because it is reducing the consumption of vegetables among young people, which is already of concern to the government, hence the launch of the official program of education for food.<sup>17</sup>

The Japanese consumers demand fewer food items to cook, while increasing their demand for prepared and processed food, which is satisfied by the food industry and the food service sector (restaurants, hotels, coffee shops, supermarkets, convenience stores), as we shall see later when we study the food distribution system in Japan. However, we must not forget that, consuming about 17 million tons of vegetables annually, Japan ranks among the countries which have the highest per capita consumption of these products in the world. On the other hand, before reaching this point, we will lead our attention to the food supply from domestic production.

<sup>17</sup> The Japanese Food Education Program is promoted by the Japanese Government. Details of this program (Shokuiku), can be read at the following web address: <http://www.maff.go.jp/e/topics/pdf/shokuiku.pdf>.

## 4.2 Domestic Supply

Since the 1990s, the Japanese horticultural sector has experienced great changes. One of them has been a remarkable concentration of manpower in the post-harvest activities, such as sorting and packing products. Under these circumstances, only the best and most efficient producers could survive. Since then, the types of producers have diversified. Currently, from 5% to 10% of producers are companies that come from outside the agricultural sector and 80% are traditional local producers (Katzuki, 2008).

Because the demand for food of the Japanese people could not be met by domestic production, imports are unavoidable. This situation is related to the specific conditions of Japanese agriculture, which, within the domestic economy of Japan, has been displaced by industry and services. The current contribution of agriculture to the GDP is only 1.4%, while its share in the employed population is 4.6%. Within the agricultural sector, rice accounts for 24% of the value, 25% corresponds to vegetables, and 51% is for the rest of the other products (Fujino, 2008). These proportions are equivalent to those of other developed countries. The low competitiveness of the sector and the low rate of food self-sufficiency are problematic of the country. The first can be explained largely by the effects of the protectionist agricultural policy, especially focused on the rice crop. In this context the small scale of the agricultural units (1 to 2 hectares, on average), the presence of part-time farmers in agricultural work, and aging people without descendants, who are willing to devote themselves to the countryside, play a decisive role.<sup>18</sup> The little knowledge that farmers generally have about management of modern agricultural enterprises should be added (Ohwa, 2008). The problem of labor shortages became serious between 1980 and 1990, when farmers born before World War II ceased to constitute the largest age group. To confront this situation, the Japanese government is currently promoting the immigration of farm workers from other Asian countries.

On the other hand, the rate of food self-sufficiency is the lowest in the OECD countries. However, the situation of each food group, as presented in the table 4, should be taken into account.

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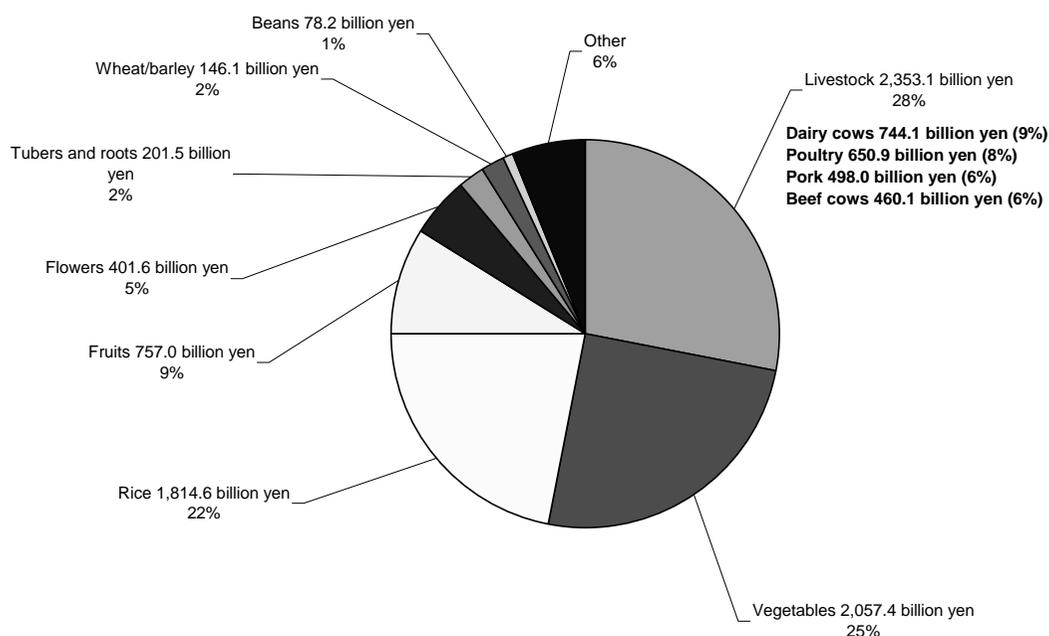
<sup>18</sup> The history of Japanese agriculture since the Second World War is of particular interest for an analysis of the separation between agriculture and rurality. It is worth pointing out, however, that Japan is different from other developed countries because the vast majority of the production units are small scale and family-type, and not the typical Agribusiness found in other nations. Also, a meaningful element for this discussion is the fact that small agricultural units are located within the urban area in all Japanese cities. For the discussion on agriculture and rurality, see Friedland (2002).

**Table 4: Self Sufficiency Food Rate of Food for Selected OECD Countries**

Food Group	USA	CHINA	EU-25	CANADA	AUSTRALIA	JAPAN
Grains	132	100	97	146	333	27*
Meats	108	99	104	132	158	55
Suggar	86	103	111	7	249	32
Vegetables	96	101	110	59	96	79
Fruits	77	101	74	17	97	39

Note: Excluded rice.

Source: Table II Main Statistics of Selected Countries, p. v, MAFF, Monthly Statistics of Agriculture, Forestry and Fisheries, Nr. 7, July, 2008.



Source: [http://www.maff.go.jp/e/annual\\_report/2007/pdf/e\\_indi.pdf](http://www.maff.go.jp/e/annual_report/2007/pdf/e_indi.pdf), p. 61. Accessed on 26/09/08.

**Figure 8: Japanese Agricultural Output(2006)**

This information elucidates the following remarkable facts. The rate of self-sufficiency in Japan is very low in all concepts, except in the vegetable sector. The low self-sufficiency in cereals does not include rice, but other cereals, such as wheat. Besides, there are rice imports, not for final consumption, but for the food-processing industry. In the case of rice for consumption, there is an oversupply which does not coincide with the new

diet of the Japanese population, where rice has been replaced by other foods.<sup>19</sup> Because of this reason, a crisis in the Japanese agriculture means, basically a crisis in the rice sector. By contrast, the highest rate of self-sufficiency, even higher than in Canada, belongs to vegetables. The rate for fruit is low, but not the lowest in the OECD. What we want to emphasize here is that the vegetable industry in Japan is better placed than the rest of agriculture, from the point of view of its participation in the total supply as well as in terms of competitiveness. Because this sector has not been protected, at least not under the same conditions as rice, it has been forced to be competitive. Consequently, horticultural farmers try to modernize their facilities, build greenhouses, and use hydroponics. This, in turn, is explained by several factors.<sup>20</sup> One is the fact that horticulture requires greater dedication than rice. One cannot be part-time or weekend horticultural farmers in the rice sector. Currently, 83% of horticultural farmers are working full-time (Fujino, 2008). In fact, this sector is very labor-intensive, especially in the activities of harvesting, sorting, and packaging. For example, greenhouses require between 10 and 20 people to work at harvest. Currently, during the harvest season in Japan, workers come from China, the Philippines, Vietnam, and other countries. Formally, these people are practitioners, who are participating in training programs and, after 2 or 3 years, must return to their countries.<sup>21</sup> Unlike the horticultural sector, however, rice cultivation is highly mechanized and does not require much manpower (Nakashima, 2008).

Another relevant factor is the fact that horticulture can be developed cost effectively in relatively small areas, especially if it is protected in a greenhouse or simply covered with plastic. This does not mean that the Japanese horticulturists have no problems or that the horticultural sector is not demanding structural reforms. One problem is the optimum size or scale of the horticultural unit, although it does not require such large extensions such as cereals. These units are too small to sufficiently increase their productivity and efficiency.<sup>22</sup>

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<sup>19</sup> As far as rice, it is pertinent to clarify the following. The Japanese consumers prefer domestic rice, albeit more expensive than abroad, but the food and beverage industry itself employs imported rice as an input for a wide variety of processes. This explains the growth of imports of rice from the USA, Thailand and China.

<sup>20</sup> Katsuki (2008) asserts that the policy of stabilizing prices has been a way to protect horticulturists, provided they comply with the requirements. The system of price stabilization functions as follows: If prices decline, farmers can receive compensation if: a) their production comes from a major producing area designated by the MAFF, b) is organized into the JA to bring their product to the wholesale market, and c) the product is used for a major national wholesale market (e.g., Tokyo, or other big cities). Now, to promote the agriculture by contract, the requirements have been relaxed. If there is a contract, then the producer may receive compensation even if he is not located in a major production area.

<sup>21</sup> According to MAFF, in 2006, there were 20 thousand trainees and 10 thousand technical interns in the agriculture, forestry, fisheries, and food sectors and these figures demonstrate upward trends. See: [www.maff.go.jp/e/annual\\_report/2007/pdf/e\\_all.pdf](http://www.maff.go.jp/e/annual_report/2007/pdf/e_all.pdf), p. 36.

<sup>22</sup> An alternative to increasing the size of the units would be to merge horticultural units or to extend them. However, some landowners refuse to sell, hoping that land prices will rise. These speculations were successful in the past, but now there is no sign of a further increase of land prices (Wanaka, 2008).

It is also necessary to raise the product quality according to the needs of the food processing industry, and to reduce costs of production and distribution. The first are impacted by rising prices of fertilizers, which are all imported (Nakashima, 2008; Wanaka, 2008).<sup>23</sup>

Horticultural farmers need to better know the current demand for their products and to take into account the decreasing purchases of fresh products as ingredients for food preparation by the final consumer, as well as the growing demand for ready-to-eat or pre-cut fresh produce, as well as the industrial demand (Wanaka, 2008). It is at this point that the link between the horticultural farmers and domestic food-processing industry is particularly problematic. In fact, one of the current concerns of the Japanese Government is encouraging cultivation under contract, in order to supply raw materials to the industry and the food service sector. The problem is that Japanese farmers have traditionally refused to work under contract, because it is more convenient for them to bring their products to the cooperative (JA), who collects and transports them to wholesale markets, where everything is sold. Hence, it is clear that producers have in mind the final consumer who buys vegetables in the



**Figure 9: Example of small horticultural units**

Photo: C. Maya, June 2008.

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<sup>23</sup> The meaning of knowing the current consumer demand, which prefers comfort and convenience in the purchase of food, is well illustrated by the example of the sweet melon. This melon is bigger and heavier than the Chinese melon, which is better-known and consumed in Japan. In order to raise the low demand for this product, it started to be sold peeled and packed in small pieces and combined with other fruits such as grapes or sliced kiwi. The outcome was a success and the demand immediately rose (Wanaka, 2008).

market or in stores and for whom the appearance of fruits and vegetables is very important. For this reason, the great efforts of the Japanese horticulturists to improve the appearance of their articles, does not take into account the needs of food-processing companies, which do not buy products that do not meet their specific requirements, which are not identical to those from supermarkets.

This is unpleasant for farmers, because food-processing companies usually pay lower prices than those obtained in wholesale markets. However, in contrast, these firms usually buy large volumes throughout the whole year and their prices are stable. Price stability can be an advantage for producers, but becomes a disadvantage when the daily fluctuations in wholesale markets raise the prices of their goods. In this case, being tied to a contract means missed opportunities. For its part, the food-processing companies do not pretend, as in other countries, to control production by taking ownership of agricultural units or investing directly. They prefer to work through subcontracting or outsourcing (Morio, 2008).

In addition, there are three other problems that are currently facing the Japanese horticulture sector. The first one is maintaining the productive unit; that is, finding what the sustainable production unit is. Perhaps it is no longer only the family unit, but manpower must be recruited. The second issue is the increasing use of greenhouses and protected horticulture, in general. For example, in the Netherlands, the average size of a greenhouse is 1 ha, while in Japan, it is only 0.3 ha. The third complication is finding technology that saves labor. Then, traditionally, Japanese agriculture has been labor-intensive (Katsuki, 2008). Fujino (2008) identifies three additional problems. The first is that Japanese farmers should be able to adapt to the demands of the food-processing industry and should compete with inputs imported by this industry. The second one is the production of differentiated items with a high additional value, which can satisfy the requirements of the final consumers (families). The third one is appropriate marketing to promote their products among consumers.

The next fact of note is that Japanese cuisine includes a huge variety of vegetables that are totally unknown in Western countries or, if known, are not used in the same way. Also, we must highlight the fact that Japanese households prefer domestic products, while industry prefers imported. In addition, Japanese consumers are willing to pay up to a 20% surcharge for domestic products, but not more than that. The industry is willing to pay a premium of 10% for domestic products, but nothing else (Katsuki, 2008).



**Figure 10: The demand for pre-cut fresh vegetables is growing in Japan**

Photo: C. Maya, September 2008.

Also, the cultivable area is not very large compared with that of other countries, because mountainous areas occupy about three-quarters of the total land area. To this, we must add the fact that increasing urbanization and industrialization are destroying agricultural areas. In spite of these facts, between 1997 and 2003, the domestic production of vegetables increased nearly 20% and the area for cultivation expanded slightly (5%). Family management is still the main type of agricultural management, but there has been a recent emergence of companies, which currently contribute 5% to 10% of marketed products. Some families get together and create an enterprise. Others are formed with capital coming from outside the agricultural sector. Therefore, there are already new ways to produce and sell, other than traditional forms. Now, local production is for local markets, and small producers are producing for the direct-marketing points. Until recently, consumers were unable to consume local products, since they were transferred to large, national gathering centers. Now it is different because there is a greater diversity of types of farmers (Katsuki, 2008).

Japanese statistics make the distinction between three types of vegetables: roots and tubers, leafy vegetables, and fruit vegetables. This distinction is relevant because the Japanese cuisine includes a wide variety of vegetables that are not known or not used in the West. For example, the root of the lotus or the type of radish called *daikon* falls within the first group and *komatsuna* in the second. Moreover, in the third category, there are some



**Figure 11: Vegetables production in the middle of urban areas is very common in Japan**

Photo: C. Maya, June 2008.

products that are used in a completely different way than what is observed in the West. For example, Japanese people eat pumpkins (*kabocha*) cut into small pieces and cooked alone with fish broth or mixed with *tofu*, or prepared in *tempura*. The same happens with soy beans, which are prepared in numerous ways, and black or red beans that are used for different sweets.

According to the aforementioned classification, it is notable that, between 1980 and 2005, the total area under cultivation has been reduced from 2.3 million hectares to 1.7 million hectares. In particular, the acreage of vegetables has also diminished, except for the squash and lettuce, which have remained constant. The only one that has enlarged is the area for the cultivation of broccoli. The production volumes were also reduced since 1985, with the exception of lettuce and broccoli.<sup>24</sup>

Of the 4.6 million hectares devoted to agriculture, areas planted with vegetables in 2003 were 391791 hectares, plus 15000 hectares used to grow watermelons and 11900 hectares for other melons (data tables 6 and 4, JSHS, 2006: 16-17). However, the contribution of vegetable production to the agricultural product is the highest in terms of value. The share of vegetables was 22.5% in 1990 and 23.5% in 2005, while the share of fruits was 9% in 1990 and dropped to 8% in 2005.<sup>25</sup>

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<sup>24</sup> Data from Japan Statistical Yearbook 2008, Ministry of Internal Affairs and Communications, Japan, Tokyo, 2008, <http://www.stat.go.jp/data/nenkan/zuhyou/y0715000.xls>, accessed 2008, August, 6th.

<sup>25</sup> The share of rice production in the agricultural product is 21%.

Simultaneously, the produced volumes waned in recent years. Taking as reference the index numbers of production (100 is the production in 2000), the production of vegetables for 2005 was equal to 91.5, while the figures for each type of vegetables fluctuate between 86.4 and 96.1. This coincides with the declining trend of total agricultural production--the index number which was 95.3 in 2005 (See: Table 2, MAFF, 2008: 502). What is happening is that domestic Japanese production is not adapting to the trends in consumption and distribution/marketing of vegetables. It is inadequate to the requirements of the industry, despite the fact that currently more than 50% of the production of vegetables is used by the industry (Katsuki, 2008). Hence, imports began to rise since the 1980s, with differences of a few years depending on the product, as we shall see below, and particularly, imports from China are growing (Katsuki, 2008).

### 4.3 Imports

Masayoshi Honma (1991:18) was probably the first scholar who drew attention to the importance of Japan as a center of attraction for horticultural imports from developing countries. He classified the horticultural imports to Japan, which had begun a decade before his research, into four groups according to their role in the Japanese market: 1) goods that are imported when domestic production is insufficient or out of season (onions, squashes and asparagus), 2) items rarely cultivated in the country (tropical fruits and nuts), 3) products preserved in brine or vinegar and whose process of conservation is cheaper abroad (ginger, cucumbers, eggplants and bracken), and 4) the rest of the horticultural products whose demand was already quickly rising, reflecting the internationalization of the Japanese eating-habits as a result of frequent abroad travels and better knowledge of other countries through mass media. This is particularly relevant in the case of fresh produce because, after traveling abroad and tasting other dishes, the Japanese consumer is beginning to prefer the foods of these countries and, in the case of authentic food, price is irrelevant. A good example is the boom of Italian cuisine in Japan (Morio, 2008).

On the other hand, Japan is the largest importer of food in the world.<sup>26</sup> The reasons for the growth of these import flows in recent years are, according to Falck (2006: 125-126), a stagnant agriculture, the increased demand for a population with higher income, changes in patterns of food consumption, the appreciation of the yen against other currencies (239 yen per USD in 1985 rose to 128 in 1988),<sup>27</sup> deregulation of the food distribution system during

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<sup>26</sup> In 2007, food imports amounted to more than 51 billion dollars. Besides, these imports represented 8.2 % of total Japanese imports (Data from JETRO based on Ministry of Finance).

<sup>27</sup> The exchange rate was, on August 13th, 2008, 110 yen per 1 USD and it is a sign of the current depreciation of yen, related to the likely beginning of a recession of the Japanese economy. During the last years, the exchange rate had been around 100 yen per 1 USD.

the eighties and nineties, and the search for low prices caused by the prolonged recession cycle that the country faced recently.

Among the imported foods, sea products rank first, which accounted for 25% of food imports in 2007. The meats and grains (17.1% and 15.7%, respectively) purchased abroad are second. Vegetables and fruits occupy the next place, with 6.7% and 5.8% of total food imports.<sup>28</sup>

The most important suppliers of food to Japan are the USA, China, Australia, Canada, and Thailand.<sup>29</sup> Although the first of these countries is still the most conspicuous supplier, in recent years this country has lost several percentage points in favor of China, Australia, Brazil, and Chile. The role of China can be explained by several reasons. The fact that vegetables are sensitive to transportation which is a relatively short distance from China (from Tokyo to the east coast of China is about 1206 km--2 or 3 days by ship).<sup>30</sup> In addition, the cost of labor in China is a twentieth of the cost in Japan and, most importantly, Japanese companies have invested in China and they are exporting to Japan. To understand this phenomenon, it must be remembered that nearly 15 years ago, China needed a lot of foreign investment and Japanese companies had no difficulty in making them. Moreover, the fact that Japanese companies are controlling and monitoring the production of imported Chinese fruits and vegetables, instills confidence in the Japanese consumers to purchase these products. Otherwise, there would be suspicions about their safety and quality.

Under these circumstances, it is very difficult for other countries to compete with China. Yet the confidence of Japanese consumers on foods imported from China has strongly decreased, particularly, since several incidents occurred, involving violations of sanitary rules. Hence, consumption of domestic vegetables has increased during 2007.

Concerning horticultural products, including 3 million tons of vegetables,<sup>31</sup> the USA provides most of the non-tropical fruit, while China is the largest supplier of fresh vegetables, followed by the USA. These two countries, together, contribute 84.5% of the volume of fresh vegetables imported by Japan. They are also strong suppliers of frozen vegetables. However, considering specific horticultural products, there are other countries that took first place in the Japanese market; for instance, Mexico as the supplier of avocados and mangoes; Thailand for asparagus, with New Zealand, Tonga, and Mexico for kabocha, to name a few.

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<sup>28</sup> JETRO data based on the Ministry of Finance,

[http://www.jetro.go.jp/en/stats/statistics/0607\\_import\\_1e.pdf](http://www.jetro.go.jp/en/stats/statistics/0607_import_1e.pdf). accessed on August 4, 2008.

<sup>29</sup> The share of these countries in Japan's food imports in 2005 were, respectively, 22.1%, 16.2%, 8.6%, 6.1%. Other relevant suppliers are Brazil, France, Chile, Denmark and Korea. Data from USDA, GAIN Report, 2006, p. 21.

<sup>30</sup> The distance from Culiacán to Nogales, Sonora, the closest border, is 990 km.

<sup>31</sup> As comparison, it should be mentioned that Mexican exports of fresh vegetables in 2007 amounted to 4.9 million tons (Data from UNComtrade).

Focusing our attention specifically toward imports by Japan in the long run, of those products that are mainly produced and exported by Mexico and, particularly, by Sinaloa, we note the following trends, which are useful to assess the chances of Mexico in the Japanese market.

The Japanese imports of avocados began in the 1980s, but it was in the mid-1990s when it increased markedly, reaching the figure of 60 million USD by the year 2005. According to data for the year 2007, Japan imported avocados from Mexico, New Zealand, Chile, the USA, and Cuba, but, by far, Mexico contributed the bulk (94.2%).

Eggplants started to be imported to Japan in the second half of the 1990s and these purchases grew until 2000, but, since then, they have fallen sharply, from nearly 4.5 million USD to less than 1.5 million USD between 2000 and 2005. Something similar happened with imports of kabocha and squash (zapayos). By contrast, imports of fresh chilies and peppers strongly improved since the beginning of the 1990s and imports of dried chilies and peppers showed notable augments during the 1990s as well as during the first years of the next decade. The rising imports of these products may be of interest to Sinaloa, but it must first be demonstrated that these products are free of pests. On the other hand, imports of fresh cucumbers and gherkins experienced a boom in the 1990s, but after 2001, they have fallen sharply. The tomato imports are an entirely different situation.

Japan began importing peeled tomatoes and tomato paste, since the second half of the 1970s, while the imports of unpeeled tomatoes began in the early 1990s. It should be noted that import levels of peeled tomatoes were much higher than unpeeled, at a ratio of 4.6 to 1 by 2005. The import of tomato paste is greater in value (around 30% higher than those of peeled tomatoes). These two products are demanded by the food-processing industry in Japan. This fact confirms the above-mentioned growing relevance of this industry within the Japanese food industry. Moreover, external tomato purchases are small compared to Mexican exports. For example, in 2007, they amounted 4260 tons,<sup>32</sup> from the following countries: USA (50.6%), Korea (26.5%), Canada (15.3%) and New Zealand (7.4%).<sup>33</sup>

Here it should be stressed that, although Japan has close tomato suppliers, such as Korea, there are also more distant suppliers, such as Canada and New Zealand. The latter country is far from Japan (9406 km)--nearly 200 km farther than Sinaloa.

The Mexican mangoes have come to occupy a prominent place in Japanese imports in recent years (43.7%), followed by the Philippines (30.6%) and Thailand (12.6%). However, it should be noted that they are, in fact, two different products. The Mexican mango has a better appearance and sweeter taste. Hence, it is swallowed as a fruit or used in slices in the preparation of pastries. In addition, it is not uncommon to find these mangoes packed as a gift, as a luxury item. On the other hand, mangoes from the Philippines are more

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<sup>32</sup> Sinaloa exported 316 thousand tons of tomatoes during October-June of this year, 2008.

<sup>33</sup> My own calculations based on Nisseikyo (2008).



**Figure 12: Kabocha is one of the most consumed vegetables in Japan.**

Photo: C. Maya, September 2008.

suitable for industrial processing. Some of the Thai mangoes resemble the Mexican's, but the latter are higher quality and, therefore, sold at higher prices.<sup>34</sup>

There are reasons to believe that Japan's food imports will continue. The following are among the most significant:<sup>35</sup>

- a) High standard of living of the population on average.
- b) Low productivity and high costs of Japanese agriculture, in general, and the aging of the population engaged in agriculture, many with no descendants to continue the agricultural work. This fact causes an absolute reduction of the employed labor force in agriculture.
- c) Gradual reduction of tariff barriers to food imports.
- d) Increasing demand for Western products, processed foods, and healthy items, along with a permanent interest in experiencing new flavors.
- e) Sophistication and the high purchasing-power of Japanese consumers; especially, a high-income stratum, willing to pay high prices for luxury items.

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<sup>34</sup> Consumer prices of Mexican mangoes fluctuate around 900 yen for one piece.

<sup>35</sup> See: "10 Reasons Why Japan Is Essential for USA Agriculture", USDA. American Embassy, Tokyo, Japan, <http://www.usdajapan.org/en/reports/10%20Reasons.html>. Accessed at June 25th, 2008.



**Figure 13: Mangoes from Mexico at the Ohta Wholesale Market**

Photo: C. Maya, August 2008.



**Figure 14: Mangoes sold at a department store in Tokyo**

Photo: C. Maya, September 2008.

It must be specified, however, that within the imported horticultural products, there are some that are most likely to increase, such as counter-seasonal vegetables, and very heavy vegetables, for instance, kabocha and tubers. The reason is that most farmers are elderly and cannot handle very heavy products. Also, we must take into account differences in the characteristics of the products demanded by the industry and those demanded by end users. In the first case, it requires stability in four areas: volume, quality, time of entry into the market, and price. Besides, the industry specifies certain features of the product, depending on the industrial use. The industry also requires delivery of products in large reusable packaging and, finally, that the products have already gone through an initial processing in their home countries. Instead, the characteristics of vegetables demanded by the final consumer follow. First, stability of the factors mentioned in the previous case is not important, but, in this case, there are variations in volume, price, etc. Secondly, appearance is highly appreciated by the consumer. The product is packed individually, in small, cardboard boxes that can be safely discarded. Finally, these are raw products that have not been processed (Fujino, 2008). These reasons explain the augmenting vegetable imports made by Japan in recent years, although it must be noted that only purchases of fresh or frozen vegetables have decreased slightly, from 1779 to 1731 million USD between 2001 and 2005. By contrast, imports of vegetables, roots and tubers, prepared or preserved, rose from 1305 to 1577 million USD, while purchases of vegetables and fruit juices have risen from 459 to 594 million USD. Imports of prepared and preserved fruit rose from 733 to 847 million USD and dried and fresh fruit rose from 1754 to 2104 million USD in the same years.<sup>36</sup>

Before concluding this section, it is pertinent to explain certain differences between corporations engaged in importing horticultural products.<sup>37</sup> On the one hand, importers of fresh fruit to Japan handle enormous quantities; they are big businesses and, therefore, have the capacity to sustain a partnership like Nisseikyo. These big businesses (trading companies) are very few. For example, there are only 5 or 6 companies that import bananas. This fruit is imported mainly by Dole, Del Monte, and Sumitomo. By contrast, fresh vegetables are imported in small amounts by small businesses, which do not have the financial capacity to sustain an organization like the fruit importers. Furthermore, it is easy to import vegetables. It is an operation that anyone can make by phone or the Internet and the orders can be for only one container, for example. Because of this, there are many importers of fresh vegetables and it is not possible to trace these movements.<sup>38</sup>

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<sup>36</sup> Data from International Trade Centre, UNCTAD/WTO, <http://www.intracen.org/tradstat/sitc3-3d/ip056.htm>, accessed at August, 5<sup>th</sup>, 2008.

<sup>37</sup> Information from interview with Wanaka (2008).

<sup>38</sup> Nisseikyo, also, gathers information about fresh vegetable imports, albeit not as quickly as data for fruits.

All of these imported products, together with those offered by the Japanese farmers, satisfy consumer-demand in the country, through the distribution mechanisms that will be explained in the following paragraph.

#### **4.4 The Japanese Distribution System of Fresh Vegetables**

The distribution system of fresh vegetables in Japan reveals two things. The first is the presence of domestic competition in the sector--the Japanese horticulturists are in strong competition with each other and are aware of this struggle. Their main objective is to ensure consumer confidence. The second one is the presence of global competition--Japanese fruits and vegetables compete with foreign imports, particularly, with those for the food-processing industry. Usually, the Japanese farmers are not aware of this situation (Morio, 2008).

The key distribution channel for fresh produce is the wholesale importer, which can be local or central in a big city. The next step is the wholesale intermediaries, located in wholesale markets. Then, products pass to retailers and consumers (Morizono, 2008).

Unlike what has been happening in other developed countries, wholesale markets, in Japan, still play a role of great importance for the distribution of fresh vegetables, including those imported. However, sales of vegetables through these markets have decreased. In 2005, for example, only 75% of sales were made through these markets and in the case of fruit, the percentage is even lower (Fujino, 2008).



**Figure 15: Heart and cubic shaped watermelons as examples of sophistication**

Photo: C. Maya, May 2008.

These markets are located in big cities and they are managed by private companies under government supervision. They get a commission on sales of 5% to 10%. Moreover, they emerged to link many small producers with many small retailers, which traditionally were small fruit and vegetable shops (*yaoya*) that can still be seen in some localities, but they are disappearing in the modern areas. Within the wholesale markets is a key piece the auctioneer responsible for the pricing of goods. The structure of the wholesale market can be represented in the following diagram (see Figure 16), which lets us recognize the major actors within this market.

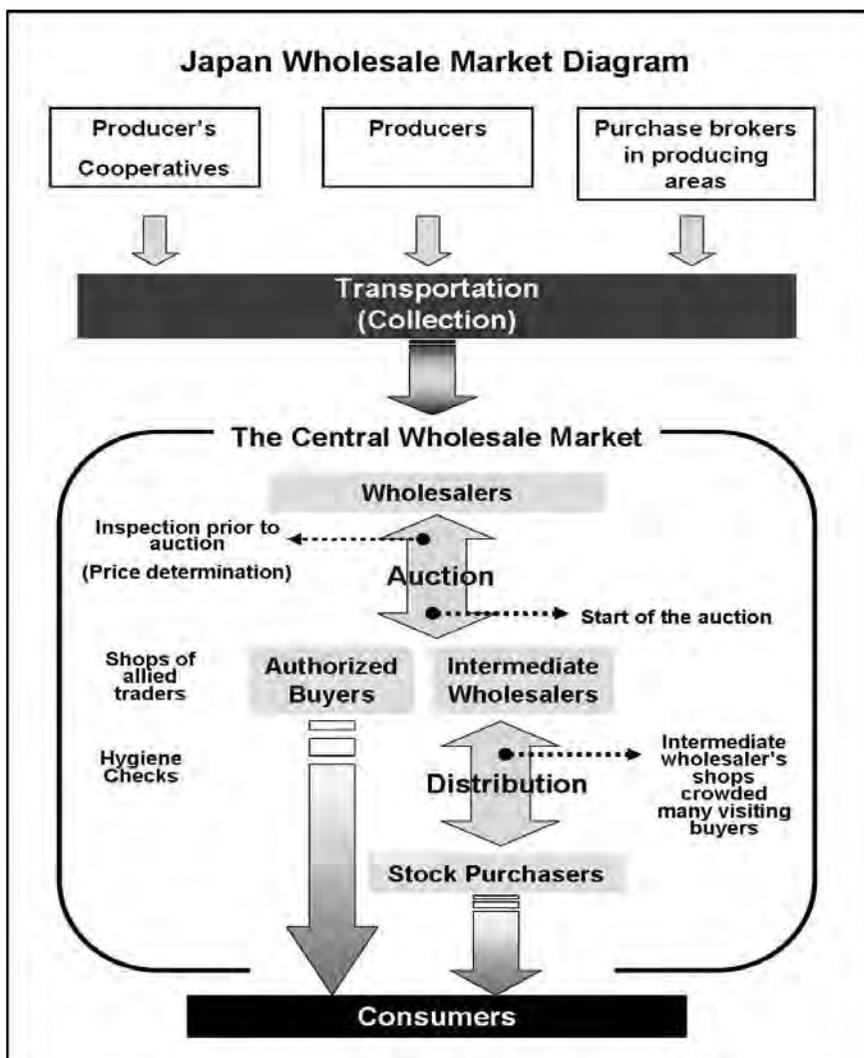


Figure 16: Structure of wholesale Market  
 Source: Modified from Ohta Wholesale Market home page,  
<http://www.shijou.metro.tokyo.jp/english/>. Accessed 2008/09/26.

The main actors of the wholesale market are:

1. Wholesalers.

Wholesalers auction the goods that the producers have consigned to them. Their commission is fixed by municipal ordinance at 5.5 percent of the wholesale price for seafood, 8.5 percent for vegetables, 7.0 percent for fruit, 3.5 percent for meat, 9.5 percent for flowers, and so forth. The wholesaler in the market must get permission from the Minister of Agriculture, Forestry and Fisheries.

2. Intermediate wholesalers.

Intermediate wholesalers sell goods purchased from the wholesalers at their own shops to buyers including stock purchasers, who come to the market. To do business as an intermediate wholesaler, permission is needed from the Establishment authority.

3. Authorized buyers.

The retailers and supermarket agents, who usually buy goods from the intermediate wholesalers in the market, may directly purchase from the wholesalers at the auction, the same as intermediate wholesalers, if they get approval from the Establishment authority.

4. Traders of market-related goods.

There are traders to sell market-related goods such as knives, boots, and packing materials, and, also, restaurant and transport agents are housed in the market.

Such businesses are permitted by the Establishment authority.

5. Establishment authority.

The Tokyo Metropolitan Government has established 11 Central Wholesale Markets, in order to assure that the fresh foods transported to the market are delivered to the consumers safely, promptly, and at a reasonable price. The government administers the construction of markets, maintenance and management of the facilities, assignment of instructions and the supervision of the product handling, according to the Wholesale Market Law and Ordinances.

Nevertheless, since the 1980s, things have been changing and, currently, a few large suppliers are participating in these markets; namely, agricultural cooperatives that organize the small producers in each region, and a small number of large buyers, particularly supermarket chains, along with distribution companies which supply retailers, who sell to hotels, restaurants, cafeterias, schools, hospitals, self-service shops, etc. These new conditions make it necessary to reform the system of wholesale markets. Currently, the horticultural products tend to flow to wholesale markets in big cities like Tokyo and Osaka and then they are transported to local wholesale markets, which are declining because they have been integrated to form bigger wholesale markets. The disappearance of this kind of market in small towns is due to pressure from supermarkets. The reduction in the operations of wholesale markets is due mainly to the involvement of supermarket chains, because when they purchase directly from producers, lower flows are marketed through wholesale markets.

Thus, in 1985, 87.4% of vegetables and 81.4% of fruits were sold through them. By 2001, the percentages were reduced to 79.4% and 54.1%, respectively. This means that distribution channels of horticultural products are increasingly diversified.

Besides, the logistics built around the terminal markets are still relevant. A good example of this is the fact that Carrefour wanted to use its own logistics and failed. It should be added that within these markets are companies that buy products and then sell them to supermarkets. These companies are responsible for packing products in a manner that is suitable for supermarkets, namely small presentations, combinations of various products, either whole or cut into portions that are easy to handle.

Currently, wholesale markets are responsible for collecting products, setting a fair price through auction, putting the goods into the hands of distribution companies and providing reliable information about market trends. The auction system in terminal markets is a unique feature of the system of distribution of fresh produce. The primary wholesalers in wholesale markets auction products shipped that day to authorized buyers, intermediate wholesalers, and brokers. Supermarkets usually do not buy at auctions, because they take place in the morning. They prefer to buy at midnight and by negotiation. It also happens that the importing companies sell directly to food-processing companies. It is important to note that, although nominally all sold products pass through the wholesale markets, in physical terms, this does not actually happen. In other words, only the documents relating



**Figure 17: Auction in the Ohta Wholesale Market**

Photo: C. Maya, August 2008.

to the transactions go through the wholesale market. Besides, only about 20% of the products are sold by auction, currently, but the prices set for this percentage provide a benchmark for setting the prices of other products (Nakashima, 2008).

Also, the expansion of horticultural imports has led to an increase in distribution outside the terminal markets. Multinational companies and marketing firms (trading companies) that import vegetables and fruits are absorbing the wholesalers in the form of affiliates-- large multinational companies who are trying to merge small companies, to obtain a higher market segment and, therefore, more control power. Thus, large volumes of operations are done directly with supermarket chains. This is, particularly, noticeable in the case of fruit, so that only 54% of sales occur through wholesale markets, whereas in the case of vegetables, 79.4% still take place through such markets (Morizono, 2008).

An additional factor that has contributed to reduce the flow of operations in wholesale markets is the direct sale centers of vegetables, installed by the national JA (Japan Agricultural Co-operative) and some prefectural governments, as a response to inefficiencies in the distribution of products from local areas of production to supermarkets (Nakashima, 2008). Traditionally, there were major production and consumption centers, which excluded small suppliers. In order to support them, these points of sale were created (Katsuki, 2004). Currently, there are approximately 13 thousand of these points. They are similar to farmers marketing in the USA. The procedure is to transfer the products of local producers to the national cooperative, which puts them at the center of direct marketing, where supermarkets and consumer cooperatives can buy them (Nakashima, 2008).

A central player in the distribution of vegetables is the aforementioned JA, which has four levels of organization: rural villages, cities, prefectures, and the country (see Figure 20). However, in the case of vegetables, currently more than 50% of their sellers are not members of JA. In addition, the participation of JA in sales of vegetables at wholesale markets has not changed since 1998 (53%). This means that 47% of sales of vegetables do not pass through JA. This is because the primary role of JA is to make farmers sell and receive payments together. However, the sales of vegetables by JA have declined. The reason is that many farmers, who are entrepreneurial-oriented, can obtain more money by selling their own products, either because they are better-quality, or because regional markets offer better prices. On the contrary, regional differences in prices are cancelled when selling through JA.

Due to the small-scale of agricultural units, JA is responsible for organizing shipments of vegetables to wholesale markets, bringing the production of numerous farmers and dealing with them, collectively. Because of the small scale of production units, they do not have their own package facilities, as in other countries, but JA is responsible for conducting the packaging. If necessary, producers will only make a small provisional packaging, sometimes simply a box. JA has many other key roles in the Japanese agricultural sector. It also operates as a bank to finance producers and as an insurance



**Figure 18: Activities at the Ohta Wholesale Market in the morning**

Photo: C. Maya, August 2008.

company, but instead of cash, JA provides inputs and services, which must be paid by the farmers after selling the harvest. Also, JA is responsible for establishing linkages with large supermarket chains and to provide farmers with seeds and other necessary inputs. Although JA is still the largest producer cooperative, since mid-1980s and during the 1990s, other organizations at the local level emerged in parallel to JA.

Another player, whose presence in this scenario has been augmenting, is the supermarket chain. Their purchasing power is growing steadily and their ways of selling are determining the functioning of the entire distribution chain for agricultural products. This is a pressure on producers to reduce the prices of their products. In addition, some supermarkets now have their own units of agricultural production (Fujino, 2008). It is certainly true that Japanese supermarket chains can not be compared with their USA or European counterparts, but they are already a key element in the horticultural market. They have transformed the distribution of vegetables and fruits and displaced the previously existing small shops and even reduced the operations of wholesale markets. However, in Japan, unlike other countries, the logistics of supermarkets is different, because they use the wholesale markets to get in touch with producers.

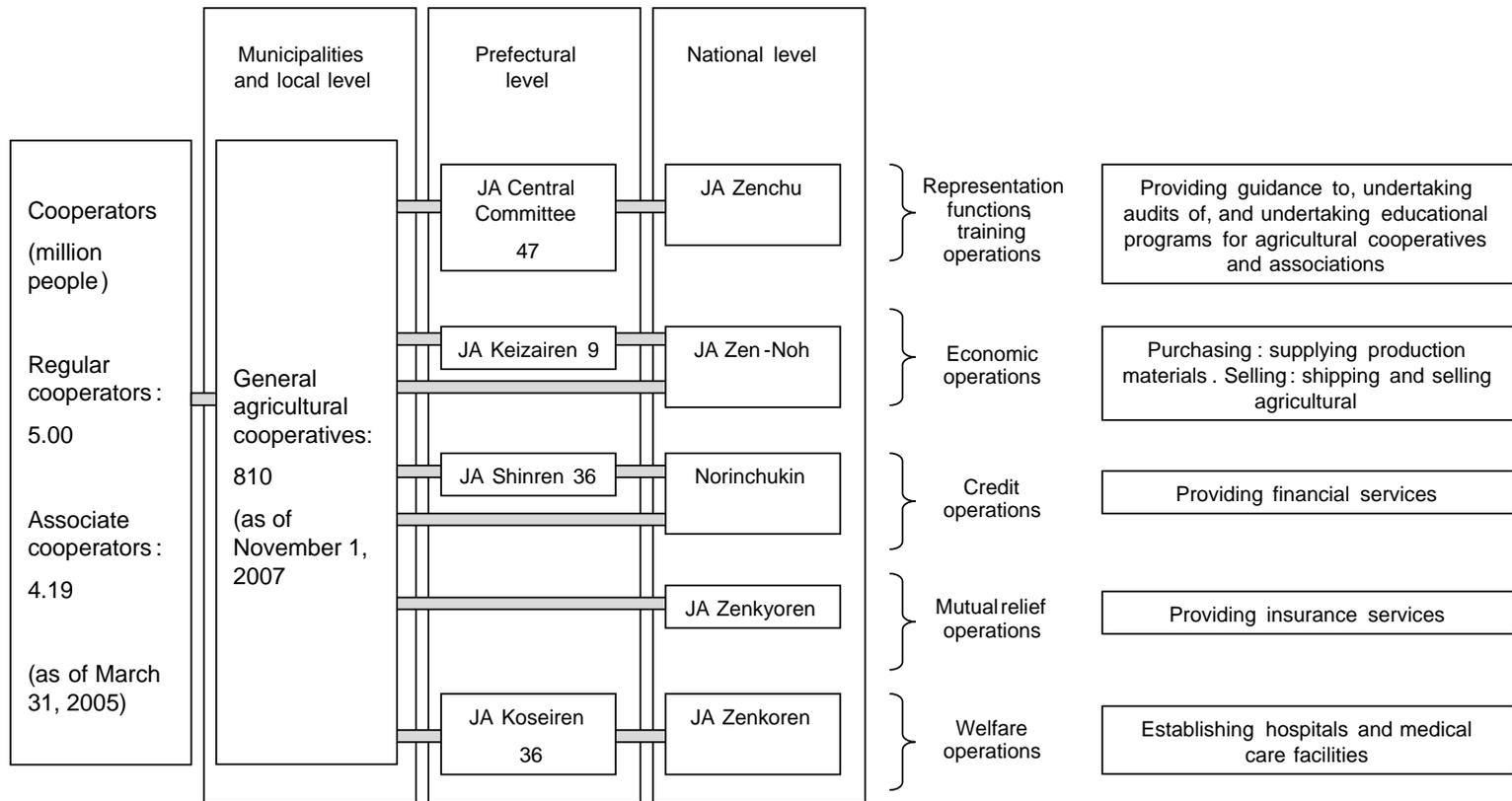
Ninety percent of investments in Japanese supermarkets come from Japanese capital. In addition, formerly foreign supermarkets are now Japanese, such as Carrefour, bought by AEON and 7Eleven, now the property of Ito Yokado.



**Figure 19: Building of the cooperative JA in Chiba City**

Photo: C. Maya, September 2008.

On the other hand, Wal-Mart, a foreign supermarket chain, has not been very successful in Japan for several reasons. One, it prefers not to use the logistics of wholesale markets. Another is that its policy of low prices everyday does not go according to the customs of the Japanese consumers, who prefer to have sales on special days. In addition, for the Japanese consumer, the appearance of fresh produce is more important than low prices (Fujino, 2008).



Source: [http://www.maff.go.jp/e/annual\\_report/2007/pdf/e\\_2-2.pdf](http://www.maff.go.jp/e/annual_report/2007/pdf/e_2-2.pdf), p. 37. Accessed on 02/10/08.

**Figure 20: Main organizations and operations of the JA Group**

Moreover, although the link between supermarkets and producers has been complicated, now they already have some contracts, but this generally occurs through wholesale markets. In this way, producers can obtain the payment for their goods within 4 to 7 days rather than the 60 day wait, with a direct contract with supermarkets (Katsuki, 2008). Besides, the prices set by auction in wholesale markets remain the guide for determining prices in the contracts between supermarkets and producers.

Another form of relationship between supermarkets and producers has been through outlets or direct sale points. The supermarkets establish these points and the producers take their articles there, paying a commission for renting space for selling the items. This has been a strategy of supermarkets to confront competition from farmers' markets (*chokubaiyou*), where, sometimes, JA participates.

Now, we must mention an agent in the distribution of horticultural products that represents a phenomenon of particular relevance in Japan and that can be a model for other countries, especially in Asia. We are talking about convenience stores. These stores exist in other countries, but in Japan they are more extended and they offer a range of products and services that greatly exceeds what has been observed elsewhere in the world. In these stores the consumer can find fruits and vegetables in packages ready for consumption, such as salads or as a complement to other foods. These food presentations are very convenient for people who want to save preparation time. This kind of shopping is the fastest growing



**Figure 21: AEON and ITO-YOKADO are leading companies  
in the supermarket sector**

Photo: C. Maya, September 2008.

sector within the retail food market in Japan. They are, moreover, linked with large supermarket chains, led by Aeon and Ito-Yokado, followed by 10 more chains operating nationwide.<sup>39</sup>



**Figure 22: Convenience stores are extended through all Japan**

Photo: C. Maya, September 2008.

A fifth agent would be the food-processing companies, whose presence has been expanding in recent years. According to data from the input-output matrix for 2000, the latest available, 62% of food purchases were made by the industry.<sup>40</sup> Also, these companies are the largest importers of food, because domestic production is geared more toward selling for direct consumption. These companies make their imports regularly though importing companies, although in some cases, if the volume of transactions can reduce costs, they import directly.

This sector comprises more than 400,000 companies, many of them small, employing a total of more than one million people. Imports come mostly from the USA (30%), China (12%), and Australia (11%), as reported by the USDA (GAIN Report, p. 3). On the other hand, some large companies in this sector have already established subsidiaries

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<sup>39</sup> See the table about sales of the 10 major supermarket chains in Japan, in GAIN Report, p. 16.

<sup>40</sup> See diagram on page 36 of Statistical Yearbook of Ministry of Agriculture Forestry and Fisheries Japan, 2006-2007, titled: "Flow of Food and Drink Expenditure until Final Consumption." The share for purchases of fresh products is 8.3% and 29.5% for foods outside.



**Figure 23: Prepared vegetables salads are sold at the convenience stores in Japan**

Photo: C. Maya, September 2008.

in other countries, particularly in China, in the case of processed, semi-processed, and frozen vegetables.

Within the food-processing industry, fruit and vegetable imports come mainly from China (45%) and the USA (19%).<sup>41</sup>

The next group is the food service sector, which includes six types of establishments: restaurants, hotels, institutions, public houses and transport agencies, and "ready-foods sold in retail stores." It should be noted that, with the exception of the latter group, this sector has been declining and, consequently, there has been a process of concentration.<sup>42</sup> The sixth group consists of prepared foods sold in convenience stores, supermarkets and department stores, *nakashoku*. Their sales account for 17.4% of those for the entire sector of Japanese food service.

Finally, there is an agent in the distribution of horticultural products, which is of particular interest because it is a unique case in Japan: the consumer cooperatives, where roughly 10%

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<sup>41</sup> In the realm of processing other foods, the important suppliers after the USA and China, are Mexico and Denmark for pork meat; Brazil for soy beans, fruits and chicken meat; the Philippines for fruits; and New Zealand for dairy products.

<sup>42</sup> The cause of the collapse of selling in this sector since the end of the 1990s was unfavorable trends which reduced the personal disposable income, enhancing unemployment and uncertainty. At the same time, companies reduced expenses in banquets, receptions and entertainment in general (see USDA, GAIN Report, p. 3).

to 15% of total sales of fresh vegetables in the country take place.<sup>43</sup>

The system of consumer cooperatives consists of direct transactions of fresh produce, based on contracts, between producers and consumers, who are organized to form small groups of 5 or 6 families. Here, the main concern is to ensure quality and food safety and promote good agricultural practices (GAP). This system appeared in Japan in the 1970s in response to incidents of food contamination, false labeling, and abuse in the use of chemicals to achieve an allegedly perfect appearance. In the 1990s, this system expanded and became a lever to revitalize production and to encourage the adoption of SPS measures that are favorable to the consumer. However, this system has troubles, in terms of economic efficiency, and is not linked to industry. The current discussion is around issues of standardization of products, the dichotomy between regional development versus a system focused on products (specific policies for each product), the opinion of consumer cooperatives about growing imports of fresh products and, on the definition of a clear policy regarding distribution, the relationship between wholesalers and distributors.<sup>44</sup>

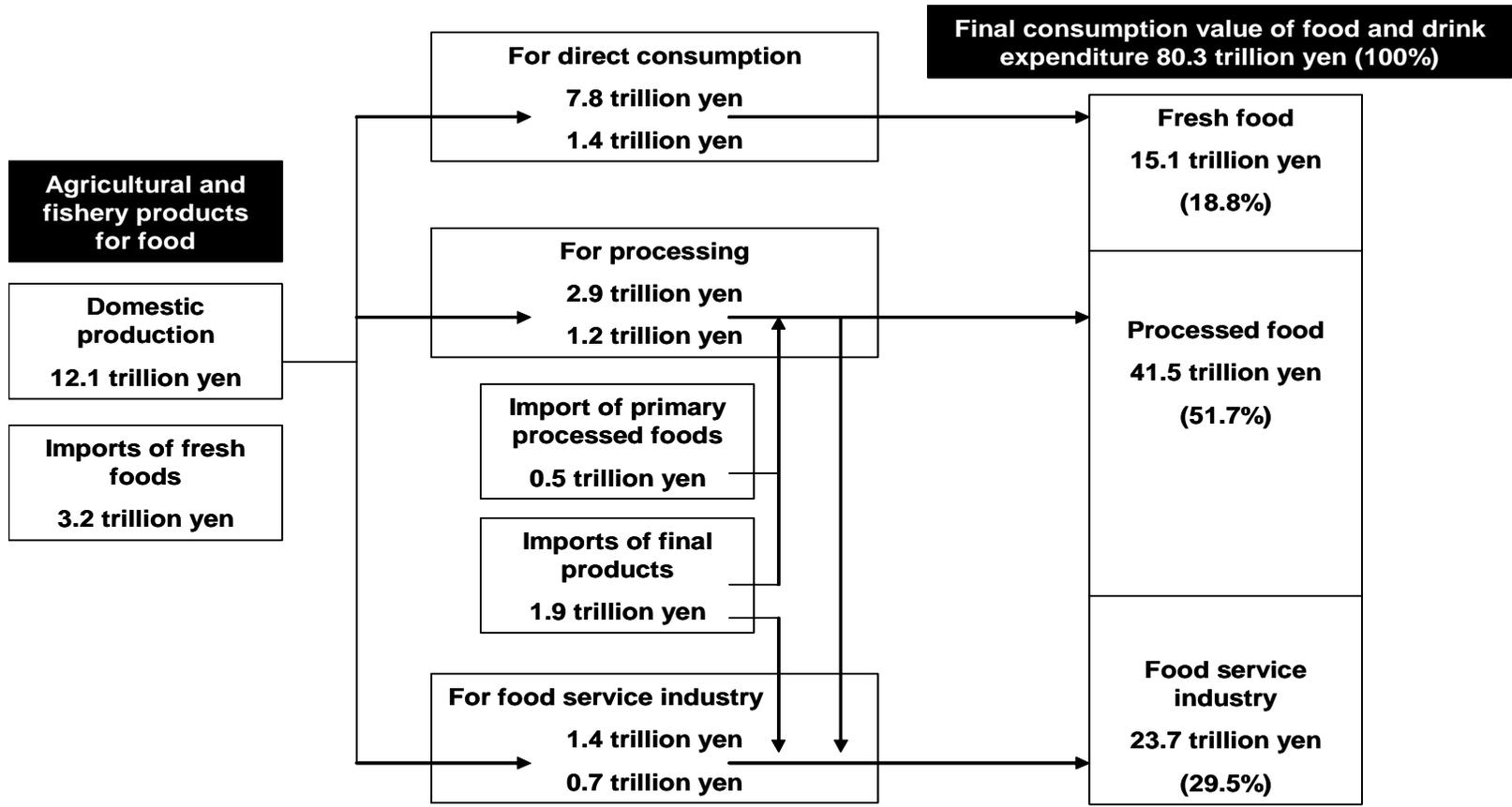
An accurate knowledge of the distribution system of fresh vegetables in Japan is necessary for potential exporters of these products to this market. Mexico has been present in Japan with certain goods and the trade agreement signed three years ago between the two countries, makes it worth exploring the opportunity.

Next, we should turn our attention to the trade relationships between the two countries, especially the horticultural trade and also it is advisable to make an assessment of the EPA and to draw some lessons from the implementation of this agreement.

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<sup>43</sup> Interview with Yasuhiro Nakashima (2008), expert on cooperatives of consumers in Japan.

<sup>44</sup> See website of Institute of Cooperatives of Consumers of Japan, [http://www.co-op.or.jp/ccij/english/pdf/ccijnews\\_42.pdf](http://www.co-op.or.jp/ccij/english/pdf/ccijnews_42.pdf). Accessed 6/8/ 2008.



Source: [http://www.maff.go.jp/j/wpaper/pdf/fy2006\\_rep.pdf](http://www.maff.go.jp/j/wpaper/pdf/fy2006_rep.pdf) p. 26. Accessed on 30/09/08.

Figure 24.: Flow of Agricultural and Fishery Products for Food from production to Final Consumption (2000)

#### 4.5 Horticultural Trade between Japan and Mexico

It was already stated, that in 1991, Honma stressed the importance of Japan as a center of attraction of horticultural exports from developing countries. A few years later, Melba Falck (1996) was the first scholar who specifically highlighted the possibilities of Mexican horticultural products and their perspectives in the Japanese market. The starting points of her study were the limitations of Japanese agriculture on the one hand, and the abundance of labor and land in the Mexican agricultural sector, on the other. Falck has continued this line of research and she has participated in the discussions previous to the EPA. The result of her studies is a text devoted to the transition from protectionism to liberalization in agriculture in Japan, South Korea and Taiwan. Concerning the Mexico-Japan relationship, Falck (2006:73) maintains that there is an undeniable complementarity between the two countries. On the one hand, Mexico's horticultural exports show a growing trend, which led him to occupy almost 2% in the global total. Japan, meanwhile, has become a net importer of these products. Mexico has specialized in the production of labor-intensive goods, a factor which, along with the earth, is abundant in Mexico. These factors are rare in Japan, where, on the contrary, there is abundant capital and high technological development, which are scarce in Mexico. This combination of factors suggests complementarity in the agricultural sectors of these two countries. Hence, the author thinks that Japan (along with other Asian countries) gives Mexico the opportunity to diversify its agricultural market and lessen its dependence on one market. In addition, she recalls that, since 2002, Mexico has lost ground in the US market, falling below Canada and China as a supplier of products to that country. This same line of reasoning is followed by Hiroyuki Tani (2005), who emphasizes that some rivals of Mexico will probably appear in the US market. For this reason, it is urgent for Mexico to diversify their markets, and Japan represents an excellent alternative.

Before the signing of the EPA, agri-food exports from Mexico to Japan tripled between 1993 and 2004. However, this amount represents only 4.6% of Mexican agricultural exports. The main food products exported by Mexico to Japan have been the Persian lemon, avocado, melon, tuna, mango and pumpkin. Mexico also exports asparagus, beer, sardines and broccoli (Falck, 2006: 236 ff).<sup>45</sup>

Of particular relevance are the avocado and mango. In the case of the avocado, as shown in the table below, it can be seen that, since the 1980s, this product is gaining strength in the Japanese market, and it has displaced the imports from the USA. Currently, the Mexican avocado has a solid position as the first supplier to Japan. Also, new competitors have emerged, but they have not been able to occupy more than marginal spaces.

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<sup>45</sup> Within the food trade are remarkable Japanese imports of beef and pork from Mexico, particularly from the state of Sonora. This product is outside the scope of this study, but it should be taken into account, because these transactions were initiated at least a decade ago.

**Table 5: Avocado Exports from Mexico to Japan (1988-2006) in volume**

YEAR	QUANTITY (TONS)
1988	866 (2 <sup>nd</sup> place after USA)
1989	1,009 (2 <sup>nd</sup> place after USA)
1990	1,251 (1st place)
1995	2,992 (1st place)
2000	14,000 ((1st place, 99.7% market share)
2004	28,294(1st place; new entrants: Chile, New Zealand, Cuba)
2005	26,630 (1st place; competitors: Chile, USA, New Zealand)
2006	26,553
2007	25,165

Source:

UNComtrade, (<http://comtrade.un.org/db/dqBasicQueryResults.aspx?px=H0&cc=080440&r=392>).

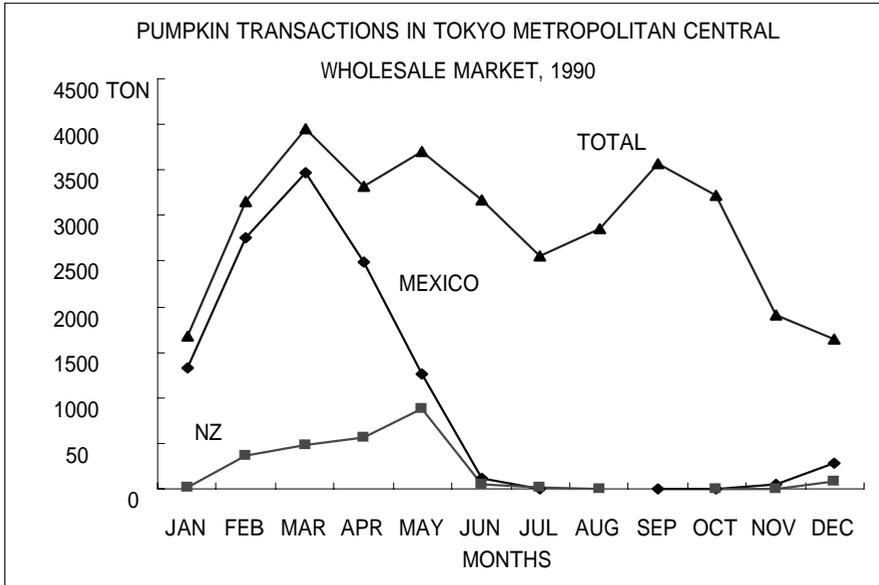
Accessed ka2008/07/28.

It is also worth noting that, in this case, the EPA does not appear to have exerted any effect.

With regard to mangoes, there is also a growing presence of Mexico since the late 1990s and there was a certain growth, though not very intense, after the signing of the EPA. Mexican exports of this product amounted to 1169 tons in 1990 and 3154 tons ten years later. After a slight reduction in 2004, import volumes have continued to grow to 5388 tons in 2007. Two other major exporting countries of this fruit to Japan are the Philippines and Thailand, but other countries are or have been present in recent years, such as India, the USA, Brazil, Cuba, Australia, and Fiji.

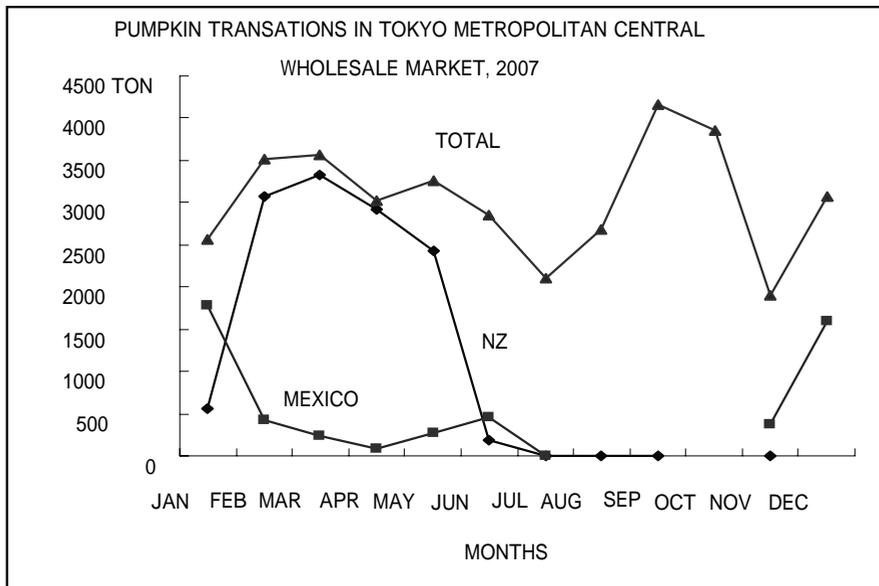
In kabocha squash, Mexico is the second largest supplier of Japan, after New Zealand (their shares in imports were 23.8% and 70.3%, respectively). In this market, other countries are, also, present--both developed (the USA and Australia) and developing (Chile and Tonga), as well as economies in transition (Russia).

It must be explained why New Zealand displaced Mexico as the first supplier of this product. If we compare the following two figures, we discover that, in 1990, our country was in first place. The history of this interesting experience should be the object of future inquiries.



**Figure 25: Pumpkin Transactions through the Tokyo Metropolitan Central Wholesale Market, 1990**

Source: Agriculture and Livestock Industries Corporation, Vegetable Total and Aggregate Information Network, [www.vegetan.vegenet.jp](http://www.vegetan.vegenet.jp).



**Figure 26: Pumpkin Transactions through the Tokyo Metropolitan Central Wholesale Market, 2007**

Source: Agriculture and Livestock Industries Corporation, Vegetable Total and Aggregate Information Network, [www.vegetan.vegenet.jp](http://www.vegetan.vegenet.jp).

Of particular interest is the case of Mexican exports of vegetables, fresh and frozen, to Japan and the comparison with Chinese products. Tani (2005) draws attention to a drop in the flow of Mexican vegetables to the Japanese market since 1998, parallel to rising purchases of these products to China. The explanation of Tani deserves to be taken into account, considering the difficulties that have faced Mexican exporters due to protectionism from the Japanese government, a highly-closed distribution system, and the Japanese way of doing business. On the other hand, this author points out the lack of knowledge of Mexican exporters concerning the specific features of the demand from Japanese consumers (Tani, 2005: 81). At the same time, Tani highlights the scarce diversification of Mexican supply as a weak point, which coincides with what we see regarding the situation of Mexico in the US market. The supply is very different from China. It is highly diversified and this is a good lesson for Mexican exporters. Of course, other relevant factors in this context are the presence of Japanese capital in China and low transaction costs and, especially, labor costs. All these factors enabled the systematic reduction of prices of vegetables from China. These elements explain the fact that Chinese vegetable exports to Japan increased fourteen times in about a decade (Tani, 2005: 84).

The aim of presenting this information is to underline the fact that the fruit and vegetable trade between Mexico and Japan is not very extensive, but it is not nonexistent. It focused on a few products and, although in some cases competition is very strong, Mexico is well-positioned.

These circumstances started the discussion about the relevance of a trade agreement between the two countries. The first step was the integration of the Commission “Mexico-Japan XXI Century”, in November 1998. Six years later, on Friday, September 17, 2004, at the National Palace in Mexico the Agreement for the Strengthening of the Economic Partnership was signed. Japan was, especially, interested in strengthening its automotive and electronics industries, which is understandable, if one bears in mind that exports of machinery and equipment account for just over two-thirds of the total Japanese exports. The interest of Mexico was geared toward opening up the Japanese market to agricultural exports, given that food imports from Japan account for about one-tenth of its total.<sup>46</sup> At first, Japan excluded this possibility, the talks were stalled and later restarted, but not without difficulty. It must be remembered that the only precedent was the trade agreement with Singapore, yet Mexico was different because it was an agri-exporter, developing country.<sup>47</sup>

In this context, it was expected that agricultural exports from Mexico to Japan would

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<sup>46</sup> It should be mentioned that machinery and equipment made up 28.2% of Japan’s imports during 2004. Hence, it can be deduced that intra firm trade is of considerable relevance. Data from Mexico’s Trade Counseling in Japan, February, 2005.

<sup>47</sup> The reasons for signing the EPA, from the Japanese part in the Asian context are discussed by Solís and Katada (2007).

be fueled as a result of the aforementioned agreement, which has not happened as we will explain later.<sup>48</sup> However, it should be noted that Mexican food exports to Japan rose from 131 million USD in 1992 to 499 million USD in 2004. Mexican agricultural exports to Japan are less important than those of machinery and equipment (vehicles, parts of leather seats, accessories for tractors, as well as parts and accessories for data-processing machines, for example) and within food exports, beef and pork products rank first. The avocado is, also, a relevant item within the same category, followed by melons, pumpkins, asparagus, mangoes, lemons, and frozen broccoli.<sup>49</sup> In particular, Mexican exports of vegetables in 2007 amounted to 3.7 billion US dollars, of which 96.2% were sold to the USA. The remaining percentage was distributed among many countries, especially Spain, Canada, Algeria, El Salvador, Italy and Japan (Data UNComtrade).<sup>50</sup>

The current situation, three years after enforcement of the EPA, is described by Falck (2008: 2). She states that quotas granted for agriculture are under-used or not used at all. In other words, windows of opportunity that opened with the EPA are not being used. The explanation is that Mexican producers are largely unaware of what is offered by the agreement and, in particular, unaware of the dynamism and operation of Asian food markets and the opportunities they offer. Moreover, there is a lack of coordination among key actors to exploit such opportunities (Falck, 2008:2).

On the other hand, the Mexican government's official view is that the EPA is very successful. This statement is supported by figures on Japanese FDI in Mexico (3.4 billion USD since 2004) and bilateral trade (20 billion USD). Concerning agricultural exports, it is mentioned that they grew by 21% from 520 million to \$629 billion between 2006 and 2007.<sup>51</sup> However, these amounts are negligible, considering the magnitude of the Japanese market. Furthermore, the really stronger imports from Mexico (avocados, mangoes, citrus fruits, melons, *kabocha*) were already improving before the signing of the EPA.

The following factors explain the poor performance of Mexican horticultural exports

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<sup>48</sup> See the opinion of Mexico's Trade Counseling in Japan (Bancomext, 2005a: 19, 20). Particularly, concerning the horticultural products, the quoted document states that the greatest potential corresponds to the Mexican agricultural sector.

<sup>49</sup> The outstanding place of automobile exports from Mexico to Japan corresponds to the growth of Japanese investments in the Mexican automobile industry, where Japanese companies control a remarkable share. Firms, like Nissan and Honda are major players in this market. Recently, Toyota has been present there as well.

<sup>50</sup> The share in 2002 was 87.2%. This figure points to an increasing dependence of Mexican horticultural exports on the US market during the last five years. At the same time, the value of these Mexican exports to Japan was the same in the two mentioned years, namely, 6.5 million USD, equivalent to 0.17% of exports to the USA (Data from UNComtrade).

<sup>51</sup> Figures were quoted by Eduardo Sojo and Alberto Cárdenas, Ministries of Economy and Agriculture, respectively, and published by *The Japan Economic Review*, Tuesday, April, 15<sup>th</sup>, 2008, p.6. This figure equals approximately the Mexican total export value of avocados (558 million USD) and broccoli (74 million USD) during the 2006-2007 season (Data from CIDH).

to Japan:

1. The supply of Mexican producers is insufficient to meet the needs of Japanese importing companies.
2. There are unexpected weather or pest problems affecting production in Mexico.
3. During recent years, Japan has already signed new trade agreements with other countries, so now there are more competitors.
4. Limited or inexistent credit reduces the ability of Mexican producers to enter into the Japanese market.
5. Japanese bureaucracy is too slow and the phytosanitary certificate issued by the Japanese government for the use of EPA quotas may take up to 2 weeks.

To this, we must add the case of vegetables produced and exported by Sinaloa. The Japanese government assumes that products of the solanaceae family (tomatoes, eggplants, and peppers) are affected by the tobacco blue mold. It has been demonstrated that this idea is completely wrong about tomatoes. However, now Sinaloa's exporters must prove that the rest of their products are free of this and other plagues. Unfortunately, this procedure involves time and money for Mexican producers, as happened with tomatoes.

Among the horticultural products, in which Sinaloa is a leader, that can now be exported to Japan are tomatoes, cucumbers, pumpkins, mangoes and avocados. The first tomatoes, 27 tons just as a test, have been exported during the first quarter of this year, but they were not from Sinaloa, but from Zacatecas. They were transported by plane and, therefore, their prices were too high for the Japanese market. *Kabocha* is already exported. In 2007, Japan imported 25 thousand tons, mostly from Sonora and Sinaloa. This amount represents about one-quarter of total imports made by Japan and the largest supplier is New Zealand, whose share is about three times higher than the Mexican one. However, if we compare the situation in 1996 with that of 2004, a sharp decline can be observed from over 40 thousand tons to only 20 thousand (Data from the Commercial Ministry of Mexico in Japan taken by the Ministry of Finance of Japan). By contrast, both mangoes and Mexican avocados have increased their presence in the Japanese market, but they probably do not come from Sinaloa, but from Michoacán and others states located in the center of the country.<sup>52</sup>

In the case of sensitive products and those with limited shelf life, air transportation is necessary because a ship can take up to six weeks. If the exported products can withstand ship transportation, it is also imperative to reduce costs by avoiding triangulation via the United States. In other words, we need Mexican ports with the capacity and facilities to carry out the transfer directly to Japan without going through US ports.<sup>53</sup>

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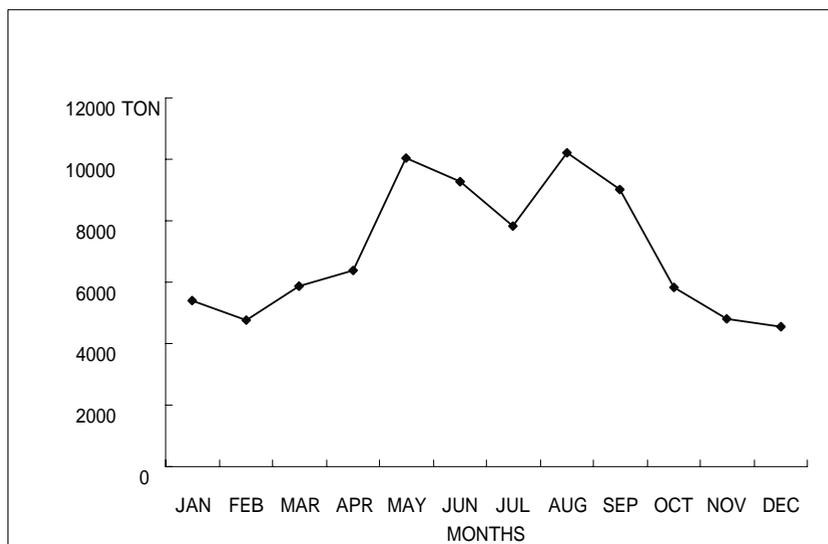
<sup>52</sup> Also good perspectives in the Japanese market have some other products from Sinaloa, for instance, chickpeas, as well as several sea foods.

<sup>53</sup> A good example is the port of Guaymas, in Sonora, from which several products are already exported to Japan.

It is advisable that Mexican producers try to process their products rather than exporting them fresh.<sup>54</sup> Tomato paste and sauce have very good chances of success in Japan.<sup>55</sup>

These considerations can be supplemented by a detailed analysis of the figures for most important horticultural products of Mexico. Let us start with the most notable of them, the tomato. The first tomato exports occurred, as noted above, in the early months of 2008, after a long process to demonstrate that Mexican tomatoes are free of the tobacco blue mold. For this reason, during more than half a century, Japan did not buy tomatoes from Mexico. It should also be noted that it is still forbidden for the other Solanaceae, such as eggplant and peppers, to enter Japan. The study of the tomato market in Japan, submitted by the Delegation of Bancomext in Tokyo (Bancomext, 2006), concludes that it is advisable to promote Mexican tomatoes in Japan, because Mexico is able to offer the kind of tomato required for the manufacture of juices and other processed products.

It is also pertinent to study the monthly trends of sales for each product and to find out if there is only domestic or also foreign production. For instance, we observed that there are no tomato imports and that the domestic production is very high from May to September. Therefore, the rest of the year, namely from October to April, could be an opportunity for the Mexican exports of tomatoes (see Figure: 27).



**Figure 27: Tomatoes Transactions through the Tokyo Metropolitan Central Wholesale Market, 2007**

Source: Agriculture and Livestock Industries Corporation, Vegetable Total and AggregInformation Network, [www.vegetan.vegenet.jp](http://www.vegetan.vegenet.jp).

<sup>54</sup> Interview with Castañuela, 2008.

<sup>55</sup> Other products that have good perspectives in Japan are the orange, guava, coffee, honey from maguey, nopal and alcoholic beverages, wines and spirits made from agave (Tequila).

Besides, this situation has not changed in the last ten years. This means that the domestic production was, and is still, seasonal.

This situation can be also found in other products, like eggplants, for instance. If we compare statistical data, we must draw the same conclusion that corresponds to the domestic production of tomatoes. In consequence, the months from October to April are, also, interesting for Mexican exporters of these products.<sup>56</sup>

On the other hand, an observation of the rest of Mexican exports to Japan does not let us detect significant changes attributable to the EPA.<sup>57</sup> Moreover, it is very important to make clear that the EPA specifies tariffs, but the door is always open for phytosanitary barriers, which currently constitute the main obstacle to world agricultural trade and Japan is no exception.<sup>58</sup> In this case, exporters interested in the Japanese market should satisfy the phytosanitary requirements stipulated in the Food Sanitation Law. Also, they should observe the Japan Agricultural and Forestry Standard Law (JAS), with regard to conditions of standardization and labeling of products as well as other regulations concerning the import procedures.<sup>59</sup> For horticultural products, the control of pesticides is particularly important. For this reason, every supermarket makes an analysis of pesticide residue and so do consumer cooperatives, but small supermarkets outsource this task to specialized companies. All this is very costly, but it is necessary to preserve consumer confidence, especially after the pollution problems appeared in 2001, which gave rise to the enactment of a new law on food safety. It should be noted that such problems are happening again in 2008, reducing consumer confidence in food from China. In Japan, food safety and consumer confidence are very important and to ensure this confidence labeling is necessary, which provides consumer product information and allows the identification of its provenance (traceability). This is possible now, thanks to special tags that transmit information to mobile phones via the Internet. Finally, regarding safety, there are two key factors: disease and pesticide use. Diseases affect regions or countries, while the use of pesticides relates to specific products (Nakashima, 2008).

It is necessary to explain the non-use of quotas specified in the EPA. It is true that, usually, Mexican producers do not know the Japanese market, but it is also true that the Japanese government is not doing its best for granting the licenses required to use the quotas in question. The formalities are so slow that many producers, as well as the Japanese

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<sup>56</sup> See for statistical information: Agriculture and Livestock Industries Corporation, Vegetable Total and Aggregate Information Network, [www.vegetan.vegenet.jp](http://www.vegetan.vegenet.jp).

<sup>57</sup> This is the opinion in the directives of Japan's Fresh Produce Import and Safety Association (NISSEIKYO), interviewed by the author, June, 25th, 2008 and corroborated by statistical information published by Nisseikyō, 2008.

<sup>58</sup> Of course, phytosanitary requirements are a barrier only when applied to imports, but not when they are applied to all products, including domestics.

<sup>59</sup> All the necessary information is available in English and can be downloaded from JETRO's website. See: <http://www.jetro.go.jp/en/market/regulations/>

importing companies, prefer to pay the tariffs than to conduct their operations within the EPA.<sup>60</sup> Also, it should be remembered that the *kabocha*, mango and avocado do not have fixed quotas in the EPA; therefore, there are no obstacles to increase their exportation.

One more factor, perhaps more relevant than the previous ones, is the undeniable fact that Mexican exporters are strongly oriented towards the USA. Perhaps, it is because they know this market well, and, allegedly, they already know how to maintain their position within it, so they do not try to explore new options.<sup>61</sup>

At this stage of our study, one can ask about the possibilities offered by the EPA to Mexican horticultural exports, and, in the following paragraphs, I will try to answer this question. Firstly, it must be recognized that, because of geographical conditions and level of economical development, the USA will have to remain Mexico's main trading partner.<sup>62</sup> However, this does not mean that for specific products or niche markets, as is already happening, albeit very limited, Mexico cannot become the main supplier of Japan. However, this first requires a clear understanding of market trends and Japanese culinary culture, especially the likes and dislikes of the Japanese consumer.<sup>63</sup> Secondly, we must understand that the Japanese horticultural sector is very strong in vegetables and very weak in fruits.<sup>64</sup> Thirdly, we must bear in mind the powerful dynamics of the Japanese industry of processed foods that require inputs not completely fresh, but with some pre-processing (e.g., peeled tomatoes or tomato paste), not forgetting that transactions with this sector involve advantages and disadvantages (safe buying of large volumes, price stability but not at very high levels, and credit operations).

Finally, it is essential to know the experiences of Japan's major trading partners in the horticultural realm (the USA, China, and Australia) and to try to learn from them, recalling that no market is absolutely safe and that, sometimes, a rumor or an unconfirmed suspicion can mean wasted millions of dollars. Even more serious is the case when the incidents are confirmed, as it happened recently in the USA, in relation to Mexican chilies contaminated with salmonella. Also, it is imperative to remember, as stated in any elementary Economics textbook, that monopoly situations are undesirable, particularly for those who depend on that monopoly, either on the supply or the demand side. Thus, for Mexican growers/exporters,

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<sup>60</sup> Information from JETRO specialists, interviewed in Tokyo by the author.

<sup>61</sup> An example of this is the "tomato war," the most recent stage of which has been the negotiation of a New Suspension of Antidumping Investigation concerning fresh tomatoes from Mexico, enforced for the next five years. Details can be found on the CIDH web site. [www.cidh.org.mx](http://www.cidh.org.mx).

<sup>62</sup> I wish to stress that geographical conditions are not enough. Otherwise, China would never have displaced Mexico in the US market.

<sup>63</sup> For instance, appearance of fresh products is basic, but other important factors are variety and novelty, concerning size, color, taste, texture and easiness for handling and preparation.

<sup>64</sup> A good example of this is the fact that, for the first time after 13 years, Japan's self sufficiency ratio, slightly increased (0.1%), and this is thanks to a greater consumption of rice and domestic vegetables. See *The Japan Times*, 6/08/ 2008.

diversification of their markets is unavoidable. They should not gamble all their winnings on the behavior of the US economy.

## 5. Concluding Remarks

In the context of the Third Food Regime, significant developments have happened in relation to global horticultural trade flows. The most outstanding of them is multi polarization, which means that not only developing countries sell such products to developed countries, although this remains the main trend. In spite of this, there are also ties in other directions on the planet as there are several major centers attracting imports. One of them is the USA, and the Mexican horticultural export sector is inside its sphere of influence. Another center is Japan, whose ties are woven mainly in the Asia Pacific region. In parallel, however, there are also trade flows of specific products connecting developed and developing countries. In this scenario, lies the current status of Mexican horticultural exports, whose main features are: a) strong and growing dependence on the US market, b) marked concentration in a narrow range of products, c) concentration of exports during the autumn-winter season, d) absence of structural change due to NAFTA, and e) loss of competitiveness in the US market.

Consequently, it is urgent to expand the range of horticultural products exported, to extend temporarily the offer, going beyond the months of autumn-winter and, most important, to diversify markets. These tasks require taking into account the situation of world horticultural trade and accordingly to assess the possibilities offered by Japan to Mexican horticultural exports.

Particularly, in order to participate successfully in the Japanese market, it is imperative for Mexican horticultural exporters to know its characteristics and modes of operation. In this regard, it is worth recalling that, since the beginning of liberalization of horticultural imports to Japan, more than a decade ago, imported fruits and vegetables have become part of everyday life for Japanese consumers, and this fact has carried the following consequences (Morizono, 2008):

- a) A noticeable increase in imports and a fall in the rate of self-sufficiency in Japan.
- b) The domestic production continues to decline due to the reduction of horticultural production units.
- c) The aging of farmers and setbacks in mechanization and measures to save energy. Consequently, domestic production has fallen and there is a huge price difference between Japanese and foreign products, as well as the proportion of costs in the price at retail.
- d) On the whole, the increase in horticultural imports has stimulated the domestic market and altered the structure of the industry.

According to the above-mentioned facts, Mexican exporters interested in the Japanese market should take into account the following points:

- a) They must understand, perfectly, the dietary preferences of the Japanese people and their culinary culture.
- b) They should be sure to offer only high-quality products and to meet the food-grading standards, which require a certain size and appearance of products. Since it takes a long time to ship horticultural products from Mexico to the arrival at the final consumer, it is necessary to take measures to preserve freshness and minimize possible damage to the products.
- c) Mexican growers/exporters ought to ensure the continuity of their supply during the whole year.
- d) It is preferable to export some products in processed form (juice, paste, jelly or jam, frozen or dehydrated) and not fresh, because of the possibility of maturing earlier than desired, and the risk of potential damage.<sup>65</sup>
- e) They must distinguish between the declining trends of consumption of vegetables directly purchased by households in shops and supermarkets, and the rising demand from the food-processing industry.
- f) It is advisable to identify niche markets for fresh produce, which can be seen as luxury items, such as cherry tomatoes, tomatoes of different shapes, sizes and colors, which can achieve high enough prices to cover the costs of air transport. It is relevant, also, to identify market niches for healthy and environmentally-friendly products.<sup>66</sup>

However, in the short run, Mexican exporters could ask if it is more convenient to focus on the final consumer or on the food-processing industry. A general answer would be that this industry is, in fact, more attractive, although, there are successful experiences of Mexican avocados and mangoes as well as *kabocha* from New Zealand. This situation calls for some reflection.

Mexican exporters should analyze, carefully, the composition of agricultural production costs of Japanese fresh vegetables, as well as the structure of the retail price of fresh food.<sup>67</sup> This inquiry should reveal that the labor costs represent more than 50% of agricultural production costs and, in the case of the retail price, the production cost corresponds to 47% of this price. At the same time, the cost of collection and shipment amounts to 21% of the retail price of fresh food. This situation should be taken into account and Mexican exporters could estimate if it is possible to compensate possibly higher transport costs with lower labor expenses.

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<sup>65</sup> It is convenient to know well the specifications of the EPA, and, also, to identify which products are already tariff-free, such as tomato paste. This product, by the way, currently is imported, in large quantities, from Spain and Turkey, by the Kagome Company.

<sup>66</sup> The formation of such a niche is more feasible with increasing inequality in the income strata of Japanese society and, simultaneously, reinforces the message to potential exporters that price is less important than product quality, including its presentation and organoleptic qualities.

<sup>67</sup> As example for cabbage, see Figure 28 and Figure 29 in the Appendix.

The successful stories of exports directed to the final consumer show that in spite of a general market contraction, there is always the possibility of setting good prices on excellent quality products that fully meet the final consumer's requirements. Therefore, an option is to create or to identify new niches for other products, either exotic or already known, but more attractive in taste, appearance, texture, etcetera.

The second option is to become a supplier of the food-processing industry, but in this case it is unavoidable to consider the competition from China, which is based mainly on low prices derived from minimum labor and low transportation costs. Therefore, a strategy based on low prices would be a wrong way to confront Chinese competition. More advisable would be a strategy based on product quality, confidence in the Mexican supplier, and the safety and constancy of supply.<sup>68</sup> Also, firm relationships with large trading companies that import fruits and vegetables to Japan must be helpful.<sup>69</sup> Besides, it would be profitable to keep contact with major Japanese supermarket chains and convenience stores, as well as with consumer cooperatives, whose main concern is to ensure quality and food safety.<sup>70</sup> Also, it would be desirable to establish links based on co-investments with Japanese trading companies, following the example of Japanese association with Chinese producers.

Of course, nothing guarantees an automatic success in the Japanese market, as nothing has secured a steady position for Mexican vegetables in the US market. The only certainty is just the fact that competition is getting more intense and success can be achieved, only through the development of a comprehensive capacity for adaptation and innovation, in terms of types of offered products, quality, presentation, marketing and commercialization. Adaptation refers to the dominant trends in target markets. Otherwise, left to inertia, Mexican horticultural exporters will have no future.

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<sup>68</sup> The most serious incident is currently (middle of September, 2008) discussed and it is related with tainted rice imported from China, Viet Nam and the USA, and distributed in Japan by the food company Mikasa. The immediate outcome has been a number of resignations, including the Minister of Agriculture, Food and Forestries, Seichi Ota.

<sup>69</sup> Names and addresses of these companies may be provided to interested parties by JETRO, an organization that has offices in Mexico.

<sup>70</sup> In this regard there is already some experience. Currently some consumer cooperatives are selling bananas from Mexico. Furthermore, in their advertising, these cooperatives give to know their partners, to create greater confidence in them, name, address and even the photograph of the Mexican producer.

## Appendix

**Table I Sinaloa's Horticultural Exports to the USA**

ITEM	YEAR						
	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
TOMATOES vol.	348	318	262	291	272	286	310
TOMATOES val.	243	249.8	215	265	236.2	312	399.2
BELL PEPPERS vol.	127	86	109	88	107	109	170
BELL PEPPERS val.	101.1	117.7	85.3	102	119.8	114.7	194
CUCUMBERS vol.	151	152	145	117	136	108	124
CUCUMBERS val.	90.3	87.6	78.6	75.9	93.3	64.7	100.8
SQUASH vol.	67	55	54	39	59	36	46
SQUASH val.	41.6	41.8	38.9	29.3	45.3	28.7	36.2
CUCUMBERS PICKLE vol.	47	46	40	40	46	41	40
CUCUMBERS PICKLE val.	24	24.9	23.5	23.5	22.7	22.7	26
CHILIES vol.	22	22	20	20	22	28	35
CHILIES val.	20.2	24.9	14	16.1	23.5	26.6	12.7
EGGPLANTS vol.	41	31	37	37	34	36	39
EGGPLANTS val.	23.3	23.9	24.4	24.1	34.6	37.2	33.1
PUMPKIN vol.	13	10	12	9	11	9	9
PUMPKIN val.	10.7	8.6	9.4	4.7	14	7.8	6.9

Note: Tomatoes include all sorts of tomatoes

Vol: volume in thousand tons

Val: value in millions of US dollar.

Source: CIDH, Cierre de Ciclo de Hortalizas, several years.

**Table II Fruits Exports from the USA to Mexico  
(Thousand Dollars), 1989-2007**

<b>YEAR</b>	<b>VALUE</b>	<b>YEAR</b>	<b>VALUE</b>
1989	<b>36,397</b>	1999	<b>75,932</b>
1990	<b>48,047</b>	2000	<b>98,668</b>
1991	<b>62,103</b>	2001	<b>123,009</b>
1992	<b>83,713</b>	2002	<b>103,387</b>
1993	<b>118,294</b>	2003	<b>94,032</b>
1994	<b>196,920</b>	2004	<b>78,422</b>
1995	<b>91,271</b>	2005	<b>88,565</b>
1996	<b>102,024</b>	2006	<b>132,419</b>
1997	<b>124,983</b>	2007	<b>144,638</b>
1998	<b>143,086</b>		

Source: FATUS

**Table III World Agricultural Exports  
(Billion Dollars), 2003**

Intra-Western Europe	233.4	55.7%
Intra-Asia	70.6	16.8%
North America to Asia	38.2	9.1%
Intra-North America	34.5	8.2%
Latin America to Western Europe	22.1	5.3%
Latin America to North America	20.4	4.9%
<b>Total</b>	<b>419.2</b>	<b>100%</b>

Source: [http://www.wto.org/english/res\\_e/statis\\_e/its2004\\_e/its04\\_bysector\\_e.pdf](http://www.wto.org/english/res_e/statis_e/its2004_e/its04_bysector_e.pdf)

**Table IV World Exports of Fruits and Vegetables  
(Thousand Dollars) 2005**

	VALUE	SHARE %
European Union	50,685,354	<b>45</b>
Africa	4,456,657	<b>4</b>
North America	14,117,595	<b>12.5</b>
Central America	7,465,110	<b>6.6</b>
South America	8,703,974	<b>7.7</b>
Asia	23,467,715	<b>20.9</b>
World	112,537,120	<b>100</b>

Source: FAOSTAT

**Table V World Imports of Fruits and Vegetables  
(Thousand Dollars) 2005**

	VALUE	SHARE %
European Union	72,081,371	<b>60.7</b>
North America	19,165,603	<b>16.1</b>
Asia	20,214,485	<b>17</b>
World	118,749,371	<b>100</b>

Source: FAOSTAT

**Table VI Vegetables Exports by Countries,2005 (000 USD)**

<b>COUNTRIES</b>	<b>ITEMS</b>	<b>000 USD</b>
Afghanistan	Veg.Prod.Fresh Or Dried	1143
Argentina	Vegetable Frozen	1628
Australia	Vegetable Frozen	4563
Austria	Vegetable Frozen	8032
Belgium	Vegetable Frozen	822127
Bosnia and Herzegovina	Vegetable Frozen	1435
Bulgaria	Vegetable Frozen	14639
Canada	Vegetable Frozen	75734
Chile	Vegetable Frozen	27820
China	Veg.Prod.Fresh Or Dried	207583
China	Vegetable Frozen	488105
Czech Republic	Vegetable Frozen	4898
Denmark	Vegetable Frozen	20219
Ecuador	Vegetable Frozen	3713
Egypt	Veg.Prod.Fresh Or Dried	1689
Egypt	Vegetable Frozen	24817
El Salvador	Vegetable Frozen	3862
Ethiopia	Vegetable Frozen	5248
Finland	Vegetable Frozen	1654
France	Vegetable Frozen	206275
Germany	Veg.Prod.Fresh Or Dried	11603
Germany	Vegetable Frozen	59525
Greece	Vegetable Frozen	12941
Guatemala	Vegetable Frozen	8788
Hungary	Vegetable Frozen	32811
India	Veg.Prod.Fresh Or Dried	1205
India	Vegetable Frozen	10708
Indonesia	Vegetable Frozen	2688
Israel	Vegetable Frozen	4674
Italy	Vegetable Frozen	38228
Kenya	Vegetable Frozen	2681
Lithuania	Vegetable Frozen	5900
Luxembourg	Vegetable Frozen	1139
Madagascar	Vegetable Frozen	5280
Mexico	Veg.Prod.Fresh Or Dried	1253
Mexico	Vegetable Frozen	201056
Moldova	Vegetable Frozen	1091
Morocco	Veg.Prod.Fresh Or Dried	6874

Netherlands	Vegetable Frozen	169286
New Zealand	Vegetable Frozen	61143
Nigeria	Veg.Prod.Fresh Or Dried	2743
Peru	Vegetable Frozen	27381
Poland	Veg.Prod.Fresh Or Dried	1084
Poland	Vegetable Frozen	187772
Portugal	Vegetable Frozen	30026
Romania	Vegetable Frozen	17130
Russian Federation	Vegetable Frozen	7738
Saudi Arabia	Vegetable Frozen	10923
Serbia and Montenegro	Veg.Prod.Fresh Or Dried	2882
Serbia and Montenegro	Vegetable Frozen	11518
Slovakia	Vegetable Frozen	2985
South Africa	Veg.Prod.Fresh Or Dried	22816
South Africa	Vegetable Frozen	3864
Spain	Veg.Prod.Fresh Or Dried	4764
Spain	Vegetable Frozen	209398
Sudan	Veg.Prod.Fresh Or Dried	24831
Sweden	Vegetable Frozen	34497
Syria	Veg.Prod.Fresh Or Dried	1573
Thailand	Veg.Prod.Fresh Or Dried	1741
Thailand	Vegetable Frozen	50676
Macedonia	Vegetable Frozen	3622
Turkey	Veg.Prod.Fresh Or Dried	11877
Turkey	Vegetable Frozen	45346
Ukraine	Veg.Prod.Fresh Or Dried	4536
Ukraine	Vegetable Frozen	2639
United Arab Emirates	Veg.Prod.Fresh Or Dried	17016
United Arab Emirates	Vegetable Frozen	1787
United Kingdom	Vegetable Frozen	58977
United States of America	Veg.Prod.Fresh Or Dried	6997
United States of America	Vegetable Frozen	68845
Zambia	Vegetable Frozen	16458

Note: Excluded exports under 1 million USD

Source: FAOSTAT

**Table VII Forty Biggest Fruits and Vegetables Import Countries**

COUNTRIES (2005)	000 USD
United States of America	14083478
Germany	13777844
United Kingdom	10061010
France	8598902
Japan	6749753
Netherlands	5978991
Belgium	5413486
Canada	5065010
Italy	4546487
Russian Federation	3621657
Spain	3319051
China	2064929
Austria	1928541
Sweden	1725993
Switzerland	1608236
India	1455607
Poland	1440607
China, Hong Kong SAR	1372414
Denmark	1241679
Mexico	1194295
Korea, Republic of	1152788
Saudi Arabia	1051885
Czech Republic	992148
Australia	945740
Portugal	927995
Norway	827738
Ireland	811368
Greece	761342
Singapore	702199
Finland	667219
Malaysia	604399
Brazil	577155
United Arab Emirates	548039
Hungary	467989
Indonesia	391996
Slovakia	391841
New Zealand	362742
Romania	345164
Bangladesh	322398
Thailand	321447

Source: FAOSTAT

**Table VIII Exports of selected Fresh Vegetables From Mexico to the USA**

YEAR	CUCUMBER	SQUASH	PEPPERS	TOMATO	EGGPLANT
1965	10	NA	9	161	2
1966	24	3	17	217	3
1967	29	5	16	213	5
1968	30	5	14	240	7
1969	55	10	22	277	11
1970	59	13	35	365	14
1971	70	17	43	312	14
1972	78	21	33	330	19
1973	83	21	54	420	24
1974	74	20	44	296	17
1975	70	16	12	329	17
1976	99	27	18	354	15
1977	122	34	8	428	15
1978	129	36	12	464	18
1979	147	47	16	401	17
1980	272	48	16	373	24
1981	266	38	13	465	20
1982	216	57	NA	579	12
1983	204	40	9	336	16
1984	200	41	12	451	15
1985	275	111	NA	481	12
1986	208	83	NA	538	21
1987	231	102	105	517	22
1988	229	100	131	466	25
1989	219	120	148	439	21
1990	203	151	145	392	21
1991	207	201	155	423	27
1992	189	203	134	192	23
1993	227	138	171	488	23
1994	236	143	195	460	27
1995	265	202	254	717	34
1996	309	210	261	718	33
1997	312	253	295	688	36
1998	384	313	312	888	54
1999	357	293	326	665	48
2000	371	327	325	690	55
2001	374	417	334	772	56
2002	386	164	374	848	52
2003	423	30	401	903	53
2004	399	31	433	895	51
2005	398	39	478	901	54

Source : FAOSTAT

**Table IX Share of Mexico In the USA Imports  
of Fresh Vegetable**

YEAR	TOMATOES	CUCUMBERS	SQUASH	EGGPLANTS	PEPPERS
1989	96.7	93.8	97.3	99.3	78.5
1990	98.1	93.3	98.0	99.7	85.6
1991	96.0	92.7	98.2	99.7	78.6
1992	91.5	87.9	97.6	99.5	76.5
1993	93.4	90.5	97.2	99.0	74.1
1994	91.7	93.2	97.2	99.3	74.1
1995	90.1	93.1	97.8	98.0	72.7
1996	86.3	92.5	98.4	97.5	72.4
1997	79.7	88.0	97.8	96.9	72.8
1998	74.9	90.3	98.8	96.6	72.8
1999	71.0	86.5	98.9	95.7	69.6
2000	64.3	84.7	98.5	92.3	73.9
2001	67.2	82.5	98.9	90.7	72.2
2002	69.4	80.6	98.5	86.7	65.4
2003	72.6	80.5	97.0	84.4	64.9
2004	71.2	80.3	95.8	85.9	69.8
2005	72.7	77.2	95.5	84.3	72.3

Source: FAOSTAT

**Table X Vegetables and Fruits (Nine Wholesale Markets:  
Tukiji, Ota, Toshima, Yodobashi, Itabashi, Setagaya,  
Kita-adach, Tama New Town Kasai) Total Auction days: 278**

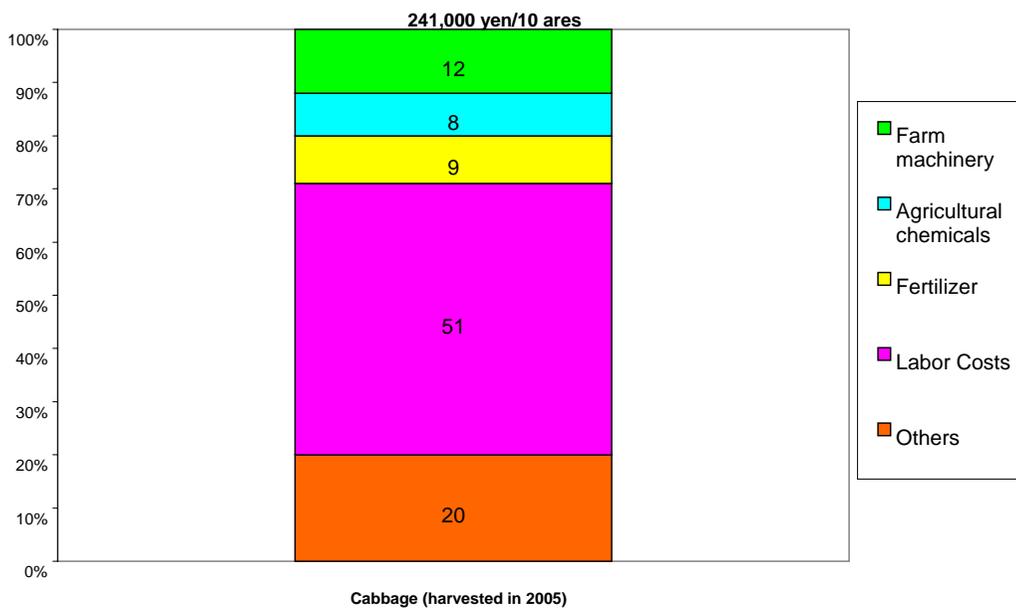
	Volume handled (Unit: ton)	Amount handled (Unit: 1,000yen)
Total	2,196,310	538,864,270
Vegetables	1,569,881	348,612,690
Cabbages	174,178	15,842,679
Japanese radishes	133,708	12,452,194
Onions	131,679	11,972,312
Chinese cabbages	109,889	7,849,793
White potatoes	88,546	11,282,468
Carrots	90,847	10,350,620
Fruits	562,375	172,539,780
Tangerines	128,966	29,586,538
Bananas	65,278	7,330,734
Apples	63,021	17,664,811
Water melons	49,208	8,819,898
Melons	31,892	14,515,499
Pickled products	18,498	8,215,030
Black Eggs	18,050	3,696,285
Others	27,506	5,800,485

Source: [http://www.shijou.metro.tokyo.jp/english/03\\_02\\_04.html](http://www.shijou.metro.tokyo.jp/english/03_02_04.html)

**Table XI Handled Amounts of Main Imported Vegetables and Fruits and Ratios**

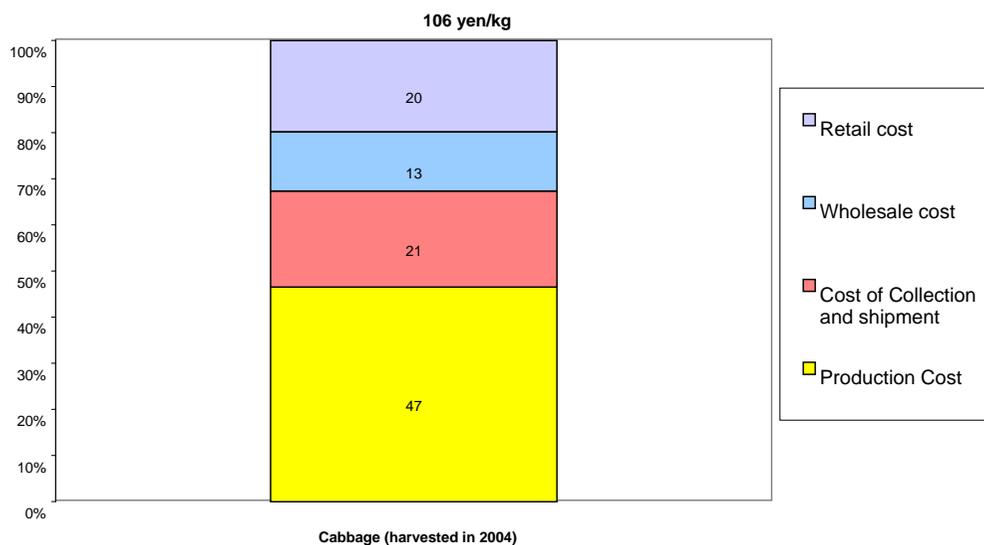
	Volume handled (Unit: ton)	Ratio (Unit: %)
Imported amounts and ratio of main vegetables	75,054	4.8
Pumpkins	16,947	44.2
Onions	10,121	7.7
Broccoli	5,797	30.2
Shiitake Mushroom	4,370	41.7
Field peas	3,906	73.8
Green ginger	3,817	52.1
Garlic	4,376	66.9
Asparagus	2,398	36.9
Long onions	5,642	9.6
Imported amounts and ratio of main Fruits	109,350	19.4
Bananas	63,912	97.9
Grape-fruit	17,028	100.0
Lemons	7,119	91.0
Pineapples	6,016	99.1
Valencia oranges	3,871	99.8

Source: [http://www.shijou.metro.tokyo.jp/english/03\\_02\\_04.html](http://www.shijou.metro.tokyo.jp/english/03_02_04.html)



Source: [http://maff.go.jp/e/annual\\_report/pdf/fy2006\\_rep.pdf](http://maff.go.jp/e/annual_report/pdf/fy2006_rep.pdf), p. 39 accessed: 30/09/2008

**Figure 28: Composition of Agricultural Production Costs**



Source: [http://maff.go.jp/e/annual\\_report/pdf/fy2006\\_rep.pdf](http://maff.go.jp/e/annual_report/pdf/fy2006_rep.pdf), p. 39 accessed: 30/09/2008

**Figure 29: Composition of Retail Price of Fresh Food**

## Glossary

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ATPA	Andean Trade Preference Act
ATPDEA	Andean Trade Preference and Drug Erradication Act
BANCOMEXT	Banco Nacional de Comercio Exterior
CHOKUBAIYOU	Place of directly selling
CIDH	Comisión para la Investigación y Defensa de las Hortalizas
Daikon	Japanese radish. <i>Raphanus sativus longipinnatus</i>
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Statistical Database
FATUS	Foreign Agricultural Trade of the United States
FDI	Foreign Direct Investments
FTA	Free Trade Agreement
GAIN	Global Agriculture Information Network
GAP	Good Agricultural Practices
JA	Japan Agricultural Cooperative Association
JAS	Japan Agricultural and Forestry Standard Law
JETRO	Japan External Trade Organization
JSHS	Japanese Society for Horticultural Science
Kabocha	Winter Squash or Japanese Pumpkin. <i>Cucurbita maxima</i>
Komatsuna	Japanese Mustard Spinach. <i>Brassica rapa</i> var. <i>pervidis</i> or var. <i>komatsuna</i> ,
MAFF	Ministry of Agriculture, Forestry and Fisheries
NAFTA	North American Free Trade Agreement
NAKASHOKU	Home meal replacements
NISSEIKYO	Japan Fresh Produce Import and Safety Association
OECD	Organisation for Economic Co-operation and Development
Solanaceae	Family of flowering plants, like tomatoes, eggplants, peppers and others
SPS	Sanitary and Phytosanitary
Tempura	Seafood and vegetables deep fried in batter made of cold water and wheat flour, eggs, baking soda or baking powder, starch, oil, and/or spices.
Tofu	Coagulated soy milk.
UNComtrade	United Nations Commodity Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America
USD	United States Dollar
USDA	United States Department of Agriculture
WTO	World Trade Organization
Yaoya	Greengrocer

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## **“AUTHOR (& MAJOR WORKS)”**

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Dr. Carlos Javier Maya Ambía studied Economics at the Universidad Nacional Autónoma de México and then he received his Master Degree in Political Science in 1977 and his Ph.D. in Economics in 1980 at the Free University of Berlin, with a dissertation on German Industry.

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In his formal academic work, he has focused on Industrial Organization, History of Economic Thought and Political Theory. Since 2001 he focuses his attention on the analysis of the effects of globalization on regional development, in particular in relationship with horticultural exports.

Maya-Ambía is the author of four books, editor of nine and has published more than fifty articles in national and international specialized journals.

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2. La industria de transformación en México. Grandes plantas y estructura de la competencia, Universidad Autónoma de Sinaloa/Universidad Nacional Autónoma de México, México, 1987.

3. Ilusiones y agonías de los nietos (teóricos) de Lenin. Crítica a la Teoría del Capitalismo Monopolista de Estado, Siglo Veintiuno editores/Universidad Autónoma de Sinaloa, México, 1994.
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