Working Under Contract for the Vegetable Agroindustry in Mexico: A Means of Survival

Flavia Echánove Huacuja

Flavia Echánove Huacuja is a researcher at the Instituto de Geografía, Universidad Nacional Autónoma de México.

Introduction

In recent years, consumers have changed their food-consumption habits to include a wider variety of food products, increased amount of processed foods ("convenience food"), and more food eaten away from home. An increasingly complex system of food processing and distribution developed to meet this change in demand (Perry and Banker 2000:50). This has led to the expansion and strengthening of agroindustry, which increasingly controls the agricultural production process and plays a key role in restructuring agriculture in many countries. Among the most common mechanisms through which the progressive integration and subordination of agriculture to agroindustry takes place includes vertical integration and contract farming.

Contract farming is defined by Roy (1972:3) as "those contractual arrangements, either oral or written, between farmers and other firms, specifying one or more production and marketing conditions of an agricultural product." To this definition one must add that, besides these companies, growers may establish working relationships with government or parastate businesses, or with producer organizations as shown by several study cases (see Watts 1994:36; Grossman 1998). Contract farming constitutes one type of "vertical coordination" by agroindustry, as well as a sourcing mechanism that is intermediate between purchases that agribusinesses carry out in the open market and the production at owned or rented land ("vertical integration") (Cepal-Gtz-Fao1998:45). Although this contract arrangement represents a highly heterogeneous institution, assuming a great variety of modalities at a global scale, it differs from commercialization or labor contracts because it directly affects the decisions of independent growers by exerting a certain control on their activity by regulating in advance aspects such as pricing, production practices, product quality, and credits. For this reason, contracting in the late twentieth century is "a form of industrial appropriation of discrete activities within the agrarian production process" (Little and Watts 1994a:6), which allows agribusinesses to ensure a continuous product supply with specific characteristics and quality, and hence to adequately respond to changes in consumer preferences.

Although contract farming is not a new institution, several case studies (Lawrence 1999; Little and Watts 1994b; Raynolds 1994a, 1994b, 1997; Vellema 1999; McKenna 1999; White 1997; Morvaridi 1995; Teubal 1995; Glovel and Kusterer 1990; Grossman 1998; Cepal 1995), exemplify its evident expansion on a worldwide scale over the last two decades. Although this labor arrangement is widely used in hog and chicken-breeding, it has rapidly expanded to fruit and vegetable production. Some of the features of these products—labor-intensive, relatively resistant to mechanization, highly perishable, destined for some form of processing, and linked to demanding "grade" and "quality" standards that allow them to be rigorously classified, screened, differentiated, and priced in the contract— are the ones that explain the presence of contract farming in their production (Watts 1994:45). In Third World countries, the expansion of this labor arrangement has been linked to the dynamics of non-traditional product exports, including fruits and vegetables. Due to the structural adjustment programs implemented by governments, these shipments have increased since the 1980s. The programs resulted from the government's foreign-debt crises and the need to restructure their exporting sectors (Llambi 1994; Raynolds 1997). International organizations (e.g., World Bank, International Monetary Fund) have fostered contract farming, either directly, as in the case of Africa, where it has been advertised as being the remedy to poverty (Clapp 1994: 78), or indirectly, through imposing the above mentioned adjustment programs (Watts 1994:36).

In Mexico, contract farming is the labor arrangement under which sugar and tobacco are currently produced. However, it is also used in chicken-breeding, hog-breeding, fruit, vegetable and seed production and, to a much lesser extent, grain production. With regards to horticultural products, it is more common to find contract farming in relation

to vegetable processing than in production for sale as fresh produce. This is also true in relation to exporting sectors devoted to supplying the internal market, where product quality requirements are much lower. According to Glover and Kusterer (1990:3), contracting is most commonly practiced by food processing firms. Since their processing plants have high fixed costs, these firms have an interest in keeping raw material inflows at a steady level close to plant capacity. However, relying on open market purchases is unlikely to achieve this.

Specifically, agribusinesses devoted to frozen vegetables—products which can be considered as "nontraditional"—for export in Mexico, seek contract farming as their main sourcing mechanism. The core objective of this case study is to contribute to the knowledge of the relationships that are established between frozen companies and growers, as well as the implications or impacts of contract farming for the latter. The research was based in the central Mexican state of Guanajuato. Guanajuato is the country's second major vegetable producing region and a major site for frozen vegetable firms. Along with participant observation, many interviews were conducted at all existing firms (with general directors, plant or production managers, persons in charge of logistics, agriculture, greenhouses, field supervisors, etc.), as well as with growers in the various regions of the state, intermediaries, public officers, and so on.

This article will unpack the dynamic features that characterize contract farming with special attention the context of how contracting links local with global processes. Specifically, as frequently occurs when dealing with transnational commodity chains, I argue that retail and fast food sectors outside of Mexico have a powerful influence on Mexico's agricultural processing industries and contract farmers. Similar processes and the dominance of those sectors have, in fact, been documented not just in North-South relations but also within First World contexts, as in the case of Australia (Rickson and Burch 1996; Lyons 1996; Burch and Goss 1999).

The Role of the Frozen Agroindustry in Horticultural Expansion in Guanajuato

Although Guanajuato remains primarily a grain producer, vegetable production has extended in such a way that nowadays this state constitutes one of the major horticultural producers in the country, surpassed only by the northwestern region. In 2000, 58, 771 hectares of vegetables were harvested in Guanajuato, representing nearly 10 percent of the national area devoted to them (Sagarpa 2001). Despite the fact that vegetables have a relatively low importance, both in terms of cultivated area (about 9 percent of the agricultural area in the state) and of produced volume, they provide one quarter of the value generated by agricultural activity in the state. Additionally, they are considerably relevant regarding job generation, not only in the production phase, but also in processing, commercialization, and services.

The 1980s represented a period when vegetable-cultivated areas in Guanajuato grew nearly 2.5 times (Sagarpa 2001). During the 1990s, they kept expanding as part of a *grain-by-vegetable-replacement* process. The importance of the main vegetable species, broccoli, makes Guanajuato the leading producer at a national level, which is also the case for cauliflower, garlic and carrots. It ranks second in asparagus, strawberries, lettuce and onions. Finally, it is the fourth largest in potato production.

In order to know which factors have determined horticultural expansion in Guanajuato, it is necessary to identify the destinations or markets of the main products. Most broccoli and cauliflower enter agribusinesses that freeze them for export to the U.S. Garlic and asparagus are also processed for export for the U.S. market, but only as fresh produce. Most production of strawberries and all other vegetables (onions, carrots, green peppers, potatoes, lettuce, etc.) is distributed in the internal market as fresh produce, although some of them are also directed to canning and preserved-food industries.

Hence, the growth of vegetables has been made possible not only from the increasing foreign demand, largely from the U.S., but also from the expansion of the internal demand for these products. Horticultural industries (canning, freezing, and fresh-produce) have played a transcendental role in this process, with Guanajuato, along with other states of central Mexico, constituting the area where most fruit- and vegetable-processing firms are located. In 1960, the Campbell's Company came to Guanajuato's *Bajío*, followed by Del Monte two years later. Both supply the domestic canned-food market and have numerous farmers growing vegetables under contract-farming arrangements. During the 1960s and 1970s the first frozen firms arose, but it is from the 1980s onward that most agribusinesses of this sort opened their doors, as well as those dedicated to fresh vegetables. In total, these companies currently comprise more than 30 mature establishments.

In the specific case of the broccoli and cauliflower, frozen firms have been the ones playing the main role in the stimulus and expansion of these products, which constitutes their major input. These vegetable species started to be

cultivated in Guanajuato after the first frozen enterprise, the U.S. transnational firm Birds Eye, arrived in Mexico, opening a plant in the vicinity of Celaya in 1967. Afterwards, in 1976, the Covemex Company was constituted with Mexican capital and, since the 1980s, the remaining agribusinesses currently operating in Guanajuato became established there—adding up to a total of ten firms.

From a total of 18 frozen firms in the country, three quarters of the total volume of frozen vegetables is produced in Guanajuato. This production is directed mostly to the U.S., where the demand under expansion determined the growing rhythm of Mexican exports in late 1990s. For example, from 1985 to 2000 the per-capita consumption of frozen vegetables in the U.S. increased by 21 percent (USDA 2000), reflecting the growing demand for fast, easy-to-prepare food ("convenience food"). In part, this demand developed from changes such as population and income growth, immigration, working women and, thus, consumption outside the home. Other factors include: population aging, reduction in family size, a higher concern about health and diet, and the improvement in refrigeration technology (Cook 1990; Henderson 1998).

The main clients for agroindustrial firms located in Mexico are retail establishments and U.S. restaurants. The former organize the industrial process, defining key aspects such as what to produce, how to process and pack it according to specific orders from the latter, that in turn depend on consumer preferences (Echánove 2001).

Regarding the origin of capital for agroindustries located in Mexico, two are U.S. transnational firms (Green Giant and Birds Eye), three resulted from the joint venture between national and foreign capital (MarBran-Simplot, Icemark, and Congeladora Ceuta), and the majority (13) correspond to national capital. Except for one, which is located in a northern municipality, all others are located along the so-called "industrial corridor" (Celaya-León), near the Panamerican and toll highways. This strategic location guarantees access to the northern border, through which products are exported. In fact, Guanajuato has an important geographic advantage regarding sourcing areas in eastern U.S. compared to the main frozen-vegetable production zone of that country, the state of California, whose products have to travel longer distances to arrive in those states. Another important geographical factor is the closeness of firms to vegetable production or sourcing zones, which becomes crucial in the case of rapidly perishable products, and also represents lower transportation costs between production fields and processing industries. Also, availability of cheap labor and water, that during the 1980s was still abundant, were factors that led agribusinesses to be established in Guanajuato's Bajío.

Characteristics of Contract Farming

The mechanisms that agribusiness corporations use to obtain cultivated products depends on several factors: product type, seasonality, demand, the type of grower with whom firms establish relationships, experiences (negative or positive) that result from this relationship, specific policies of the firm and, as Raynolds (1997) points out, land ownership and the political environment of the country where they operate. The two transnational firms, Birds Eye and Green Giant, are not vertically integrated. That is, they have not purchased or leased land for the production of the vegetables they require, nor have they purchased any of the product on the open market. Rather, they acquire inputs through contracts with growers and, to a lesser extent, from product purchases from other firms. The manager of one of these agricultural firms pointed out during an interview that it decided to concentrate only on industrial processing, since the vertical integration carried out by other businesses has not been very successful given that yields obtained by contract growers are up to 30 percent higher than those recorded in company-owned land. In addition, if the product harvested by it does not meet the required quality, the firm faces the issue of what to do: discard it or process it?

In contrast, all other agribusinesses have simultaneously opted for both contract farming and self-production. Among these firms, the importance of the two sourcing mechanisms differ and may change through time. For example, whereas the major firm (MarBran-Simplot) splits equally between land it owns and contract-farming areas, in the case of Covemex, 92 percent of controlled land is owned by the company, and for Congelados Don José only one quarter of the sourcing areas are included in this modality (Table 1).

However, regardless of the specific combination used by each agroindustrial firm, they jointly control nearly 32,000 hectares in Guanajuato, 58 percent of which is cultivated with vegetables under contract farming, and the remaining percentage is constituted by land in which firms directly grow their inputs. "Vertically coordinated" transnational firms control nearly 8,000 hectares of orchards of their contract growers.

Although no official numbers are available to this respect, interviews carried out in agribusinesses allowed me to estimate that there are 18,350 hectares cultivated under contract farming in Guanajuato, involving 584 growers (Table 1). Firms use a written contract signed by their legal

Table 1
Supply Mechanisms of Frozen-vegetable Companies Established in Guanajuato (2000)

Company	Controlled Area (hectares)	Owned and Rented Land (hectares)	Contracted Land (hectares)	No. Contract Growers
MarBran/Simplot	10,200	4,590	5,610	300
Expor San Antonio	7,500	4,500	3,000	70
Green Giant	4,800	--	4,800	85
BirdsEye	3,000	--	3,000	70
Covemex	2,500	2,300	200	4
Congelados Don José	1,680	420	1,260	30
Fresport	780	300	480	13
Frugo, La Esperanza, La Hacienda	600 (200 ha each)	n.a.	n.a.	12
Total	31,060		18,350	584

SOURCE: Field work, Guanajuato, México, 1998-2001.

representative and the contracted grower. To date all agreements were individual. That is, there were no contracts with grower groups or organizations. The objective of contractual arrangements is to guarantee sourcing to the firm and control quality. Most of them provide funding to contract growers, but some of them also work with "non-financed" producers. However, the contract specified the amount of land on which crops will be grown, the quality requirements to be met, and the price to be paid. The farmer commits to follow the technical instructions provided by the firm's authorized personnel, and to sell all the harvest to it. In most cases, the product belongs to the grower until it is delivered to the firm. Furthermore, the firm commits to provide technical assistance to the grower, and to purchase his production as long as it meets the specified quality requirements.

"Financed" growers, which represent the majority, receive seedlings (for broccoli and cauliflower) or seed, pesticides, fertilizers and fungicides. Conversely, "non-financed" growers only receive the seedling and are forced to absorb costs derived from chemical inputs. The high costs of these inputs underscores that the growers working under this modality are predominately large producers. Growers contribute with land, water, electricity, labor, fuels, machinery, equipment maintenance (bombs, tractors) and transport. Technical assistance from firms represents a mechanism through which they ensure, as far as possible, a certain product quality, for which they have an agriculture department where the activities of several technicians or supervisors are coordinated, who take pesticides to growers' parcels, and provide precise instructions about how and when to apply them, and supervise all other agricultural activities (irrigation, transplant, harvest, etc.).

Producers receive weekly payments for the product delivered to processing plants. Early payments for seedlings, inputs and technical assistance are deducted, so that no debts remain when the contract expires. When the product arrives at the plant, it is subjected to a quality and plague evaluation process, the characteristics and requirements of which vary among the different firms.

Profile of Contract Growers: Exclusion of True Smallholders

Most growers contracted by frozen firms are large and mid-sized farmers, including very few small-scale producers, either private or *ejidatarios*.[1] Agribusinesses prefer to deal with growers of a certain size because they reduce so-called transaction costs, defined (Cepal-Gtz-Fao 1998:54) as those bore by an agent, on top of costs related to production or purchase of the good or service of interest, to ensure that its acquisition corresponds as close as possible to the firm's needs or expectations. These costs include searching for potential clients, contract negotiations, distributing products or services, and monitoring contract growers' behavior (Runsten 1999:389). These are the parameters used by agro-industry in general to define the type of growers to hire. Firms will establish relationships with small-scale growers if transaction costs are lower than those involved in product acquisitions from mid-sized or large farmers, or when costs are lower than those associated to direct production (Cepal-Gtz-Fao 1998:54).

In this regard, the frozen firms considered technicians' or supervisors' travel expenses a very important expense, which decreased when they supervised only a few growers

within a relatively small geographical area as opposed to visiting a large number of geographically scattered small-scale growers across the state of Guanajuato. One reason why firms avoid hiring ejidatarios relates to the restrictions they have on water usage. For vegetables are irrigated using well-water in Guanajuato. Since wells are managed by groups of 8 to 12 ejidatarios, or "partners," the equitable and timely distribution of water is not always easily met. This is clearly a problem given the great amount of this resource used for vegetable crops, and the need to have it available at the right time and place.

Firms carefully select contract growers. The requirement for them to have particular infrastructure and knowledge is specified in some contracts, since according to one supervisor, "a poor harvest causes an investment loss for the company." Growers must have a tractor, certain pieces of equipment (to fumigate, etc.), transportation to pick up seedlings and fertilizers from agribusinesses and to deliver the harvested product, and available currency to cover expenses not financed by firms. These include salaries, as a hectare of cultivated broccoli requires between 80 and 100 working days (cultivation and harvest) for each production cycle (three months) and most growers carry out two cycles per year. Funding provided by firms covers about one half of the total production cost for broccoli (averaging US$2,340 per hectare in July 2001). Thus, growers must have US$1,170 available per cultivated hectare for each cultivation cycle. All these factors limit the possibility of smallholders getting incorporated with contract farming for the agribusinesses.

These firms point out that they preferentially seek "strong" growers that have "economic solvency" and ready access to water for irrigation. The manager of one of the largest firms, for example, stressed during the interview that it no longer hires growers not having at least 20 hectares per year for contract farming, but that it prefers mid-sized farmers (those cultivating 50-80 hectares per year for contract farming) over large ones (those cultivating 100 hectares or more), because the latter cannot be controlled, and they view themselves as needed by the firm.

In general, agribusinesses have had to decrease their grower options—reducing them by choosing those with larger individual fields. Some companies point out that they do have some smallholders contracted, but given that these are defined depending on the size of their largest growers, they usually refer to those growing between 10 and 25 hectares per cycle (20-50 hectares per year). True small-scale growers, (considered here as farmers cultivating up to 5-6 hectares per cycle) are rarely hired today by frozen firms. In fact, during fieldwork only one of the smallest agricultural firms, which faced serious financial problems in 2001, hired three ejidatarios that cultivated three hectares of broccoli each.

In the past this was not always the case, given that in the beginning many agricultural firms had no option but to depend on true small-scale growers. Key and Runsten (1999: 393) mention that when recently established in Mexico, the transnational firm, Green Giant, hired ejidatarios because it was hard to find enough producers for sourcing. But since 1987, when the profitability of grain production plummeted because of the changes in government policy, there were many other growers willing to produce for frozen firms. It was then when this firm stopped hiring small-scale growers and contracted the larger ones in order to reduce transaction costs. For this same reason, Birds Eye also abandoned contracting with ejidatarios from Aguascalientes and southern Guanajuato. Other agribusinesses have kept growers until today which were originally small but that have progressively increased their operational scale, as is the case of the ejidatarios detailed below.

Agribusinesses defined large and mid-sized contract growers as those having 100-200 hectare farms. They have a very diversified production. They not only grow broccoli for frozen firms (25-40 hectares per cycle by mid-sized growers; and 41-75 hectares by large ones), but also other vegetables for those firms and/or the fresh-produce market (cauliflower, carrots, beans, garlic, asparagus, hot peppers), as well as grains and/or alfalfa. Given that most growers only cultivate broccoli in the same land for two consecutive cycles (three-months each), it is during the third one that they grow the other vegetables mentioned above, although they also grow them on other land within their property. Grains are grown for commercial purposes.

Regardless of their size, growers also attempt to minimize risks by growing vegetables for at least two different firms. A private broccoli producer mentioned that he has to work for several firms because, on occasion, they get saturated and do not purchase the product. They also grew broccoli for the fresh-produce market. Although the selling price was lower, buyers paid for the product immediately. Many growers have a long history of contract farming with frozen firms. Some growers have developed a tradition in these crop types since their predecessors also grew them, whereas others ventured to cultivate vegetables as a result of the termination of guaranteed prices for grain, especially corn, during mid-1990s, and the subsequent loss of profitability.

As already mentioned, there are a few cases of ejidatarios contracted by the firms of study. In the following

section the case of the Santa Rita *ejido* will be analyzed, which has been noted by some firms in the region as a successful and exemplary case. The municipality in which it is located, Santiago Maravatío, along with two other municipalities (Valle de Santiago and Salvatierra) is part of a zone of southern Guanajuato where grain-by-vegetable replacement process is evident, mostly within ejidos.

The Case of the Santa Rita Ejido

This ejido comprises 150 hectares and has 32 ejidatario members. Of the total arable land, about 120 hectares are sowed with broccoli and irrigated with water extracted from four wells. These wells, dug in 1982, allowed four ejidatarios to start cultivating that vegetable. It was not until 1990, however, that the rest of ejidatarios also joined in broccoli production. One of the major growers, for example, cultivated grains until 1982 when he started growing broccoli and cauliflower under contracting with Campbell's, the first firm that arrived in the area. Afterwards he cultivated for Passa (a fresh vegetable exporter), for Birds Eye until 1989, and then finally for Marbran. He is currently cultivating for Expor San Antonio.

Although there are ejidatarios that only cultivate their portion of ejidal surface (5 hectares on average), there is also a group of six or seven farmers that cultivate between 15 and 20 hectares of broccoli during each production cycle, under a contract with the Marbran and / or Expor San Antonio frozen firms. These areas are constituted by land that is either rented or owned by them and / or cultivated within a sharecropping agreement. One of the major producers, for example, does not own land since his father was the former ejidatario and still owns the land. However, through leasing and sharecropping he progressively increased the cultivated land. In 1998, he cultivated 11 hectares of broccoli, plus four of corn. By 2000, he was cultivating 25 hectares of broccoli, plus three hectares of pumpkin in addition to beans and corn. All production was contracted with Expor San Antonio. Because of the high volume of broccoli production there, most rented land is located in nearby ejidos, since rents are lower when compared to his ejido.

The growth of the remaining major ejidatarios has been based on the same land-leasing scheme in nearby ejidos. However, sharecropping has been another expansion mechanism. Through it, growers have been able to gain access to agricultural land and irrigation water from wells with a subsequent cost reduction for them. There is a range of similarities between sharecroppers (called *medieros*) and landowners (also commonly referred to as ejidatarios) that include the characteristics of whom they depend on for their economic needs. There are also differences: the latter contributes with land and water, and carries out land-preparation tasks, whereas the former contributes with sowing costs and weeding. All other expenses are shared between the two parties, including the money that has to be paid to the frozen firm (for seedlings, inputs and technical assistance). Profits are then divided equally. Once the land has been prepared, the mediero is responsible for the cultivation and harvesting activities and has a contractual responsibility to the firm, given that it is him who signs the contract. The landowner only has to ensure that irrigation water is always available.

Similar to most growers, the Santa Rita ejidatarios established two broccoli cycles per year. However, when frozen firms stopped supplying seedlings, due to an annual prohibition in the Bajío from April 15 to June 15, the ejidatarios switched to other vegetables, including pickles and pumpkins (also under contract with frozen firms). They also cultivate a little corn and beans for self-consumption and, occasionally, for trade in the market. Additionally, those owning livestock usually grow alfalfa on a portion of their land.

The capitalization and wealth improvement of both ejidatarios and the town where they live has become evident throughout this fieldwork. In this case there has not been any of the water-related issues already mentioned, given that most ejidatarios grow vegetables, and that the relationships between well partners, who are frequently relatives, have been good. The most important group of ejidatarios has been able to acquire its own machinery and transportation, thus expanding their production throughout the year. Additionally, they invested in land leasing and have been aided by those times when frozen firms hired small-scale producers. However, resources from extra-agricultural activities have constituted an important element of expansion, mostly in the case of income from family members who have migrated to the U.S.

The case of other ejidatarios hired by frozen firms in various municipalities of Guanajuato has a profile very similar to that of Santa Rita. For example, in the San Francisco Chihuindo ejido (Valle de Santiago municipality), Manuel, who owns eight hectares as an ejidatario, was progressively leasing larger pieces of land inside and outside his ejido until he grew 26 hectares of broccoli per cycle in 2001 (12 for Expor San Antonio and 14 for Marbran). He only cultivates 2 hectares of corn for self-consumption, because it is more profitable to devote land to vegetable growing. For this reason, during the broccoli prohibition period, he grew pickles for Marbran. For each of the agribusinesses he works for, this ejidatario constitutes one of many small-scale growers

working for large contractors. However, similar to most contract growers, he works for at least two different companies. Therefore, his profile as a producer is broader and more diversified than others. Like the Santa Rita ejidatarios, Manuel has become progressively capitalized over the last years, and he already owns two tractors, transportation and fumigation equipment, and has also invested in his household.

Contract Farming as Seen by Growers and Frozen Firms

Growers mention that the main advantages of being contracted by frozen firms include the fact that sales are guaranteed, they receive technical assistance, and have funding for the production process. They further cite sharing production risks with firms as a benefit (although only under specific circumstances that will be discussed later), a condition that does not exist when they grow vegetables for the fresh-produce market. In the latter situation, they may earn much more money in a given cycle or year than with contract farming for frozen firms, but the fresh-produce market constitutes a much more unstable market in which the saturation and subsequent plummeting prices may sink below production costs for those crops. Nevertheless, under a production contract, a grower's profits are ensured for the year unless they undergo a climatic catastrophe, pest infestation, or when firms themselves become saturated.

If growing vegetables for frozen firms has advantages compared to fresh-produce, this situation becomes even more accentuated when the former is compared with grain cultivation. At the beginning of 2001, several growers pointed out that broccoli represented profits of at least US$2,128 per hectare each year, whereas those derived from cultivating corn and wheat were US$745. As noted previously, because the vegetable cycle is shorter than for grains (3 versus 6 months), vegetable growers establish a third cultivation period per annum—generally another vegetable—resulting in additional important utilities. Finally, these farmers also mentioned the predictable payment from frozen firms as an advantage of growing vegetables. Whereas in the case of grains both intermediaries and firms with which they have signed contracts may fail to pay them or withhold payment for an excessive amount of time.

Profits from broccoli depend on both the yield and the percentage of production that can be sold to the firm at the price corresponding to the best quality product. For this reason, growers need a minimum combination of both factors to start obtaining profits (yields at or above 10 tons per hectare with 80 percent of production in the top quality category). However, yield and quality are variables that depend on, among other things, the weather. As a result, contract growers are not always able to obtain optimal results. In contracts, the agricultural firm does not assume any legal responsibility for sharing the risks of vegetable growing with producers. Consequently, in the case of a disaster, growers are left to the "good will" of firms. In practice it is common for contracting firms to absorb part of the losses, easing the producers' seedling debt. However, this situation has been changing over the past several years. Today, firms make sure that growers acquire crop insurance. One of them, in fact, pointed out that it is current policy to make the contract depend on insurance acquisition. Finally, firms typically provide insurance companies with the cost of the grower's insurance (or at least half of it), and then gradually decrease it as the grower delivers the product. For example, one such grower mentioned that in case of a disaster it is the firm that receives the insurance payment first so that it recovers its losses, and only later delivers any remainder to the grower. "In reality," he commented, "the firm gets insured with the grower's money." Now, if the crop suffers damages because of the grower's negligence or carelessness, he has to reimburse the firm for all pending payments plus interest, and of course, he is expunged from the firm's grower list.

Besides weather-related issues, growers are affected by two additional elements: pricing and quality standards. My fieldwork revealed that, even among their "financed" growers, agroindustrial firms offer different prices, benefiting to a greater extent the largest ones. For example, one of them grants a premium price for cultivating larger areas. Furthermore, despite the contract scheme that protects growers from price drops while the contract lasts, the increase in price levels over the last years has not been as high as increases in vegetable production costs. Consequently, profit margins for growers have become narrower with time. Between 1998 and 2000, for example, prices paid for top quality broccoli increased 19 percent while production costs increased more than 30 percent.

Growers clearly understand that they cannot influence prices paid by firms. According to one of them, "growers no longer fight for prices, but for better [quality] assessments." And, as already mentioned, this is because assessments define the income obtained by the grower. However, they are more flexible or strict depending on product requirements by the firm, that is, on the market situation. This fact is not exclusive to the vegetable-processing sector, but rather it constitutes a common practice in agribusinesses on a worldwide scale. Watts (1994:65) points out that quality

constitutes an area of abuse by firms, since they regulate offers through arbitrarily rising quality requirements.

According to several entrepreneurs, the best times in Guanajuato's frozen industry are over. Since the year 2000 it has been facing saturation problems, because the U.S. constitutes a "mature" market. That is, there is not any significant potential for expansion. This problem becomes aggravated by the presence of new competing countries in the global market (Central America). Given this situation, and as confirmed during my fieldwork, some firms have notified growers that they should look for an alternative option for the sale of the broccoli they produce. Due to this, a couple of these firms have been forced to throw the product away upon arrival at the plants. According to several growers, even under this situation, which began occurring in 2000 and 2001, such agroindustrial firms paid for their product. In fact, rather than resulting in an open lack of compliance with the contract, agribusinesses prefer to use more subtle mechanisms, such as raising quality standards and, hence, rejecting produce on that basis. According to growers, firms do this especially during the last product deliveries, when early payments or financing have already been reimbursed. However, there have been occasions when firms do not receive produce simply because they are saturated. For this reason, one farmer pointed out that it was much safer to be "financed" than not, since the latter faced a higher risk of their product not being received by the firm, because it would only lose the seedlings already delivered, whereas in the other case it would lose all early payments. As one grower observed, "there is a higher compromise from the firm with those growers that owe money to it."

Rejection represents an important issue for the grower. In some contracts it is established that he has to pick up the produce during the following 24 hours. Getting an alternative market at the last minute is not an easy task and options become reduced when he has to sell broccoli as fresh produce in the national market (for it no longer meets the required quality for export), or to a dehydration plant located in the neighbouring state of Querétaro. Due to this, many growers simply leave it at the processing plant.

For processing agroindustries, control of the production process under the contract-farming scheme allows them to dominate offers, to better respond to the changing market demands and consumers, and to achieve a greater expansion and diversification of their operations (USDA 1996:4). They can also reduce agricultural production risks and increase their geographic mobility (Raynolds 1997:125). However, the agribusinesses under analysis complained about growers using inputs and final products for purposes other than contract farming, such as selling part of the harvested product as fresh produce (when its price is higher) or to other frozen firms, since, as already mentioned, growers simultaneously work for several firms. Such product and input diversions (generally to subsistence crops) are common practices among contract growers in several countries around the world, and considered by Clapp (1994:91) as "resistance mechanisms" of growers towards being contracted, so that many agribusinesses prefer to establish links of confidence, patronage, and reciprocity with such agents.

Concluding Remarks

The characteristics of contract farming practiced by frozen firms in Guanajuato define it as a complete scheme in which agribusinesses provide the totality of chemical inputs as well as constant technical assistance. This is rare, for example, in contract relations between existing firms exporting fresh vegetables and their supply growers. It is equally rare that those relations are established between intermediaries (national and foreign) and growers in relation to these same products.

Today, small-scale growers are virtually excluded from participating in the contract-farming scheme, which is reserved for mid-sized and large producers, largely due to the existence of the so-called transaction costs. However, during those years in which frozen firms contracted small-scale growers, a group of them, like the ejidatarios mentioned above, grew and capitalized, shifting to another economical stage or level. Consequently, this gave rise to a social differentiation process within the ejidos to which they belonged.

At a global level, it is hard to generalize on the type of grower that is contracted by agribusinesses. Whereas some authors (Raynolds 1997; Glover and Kusterer 1990) have studied examples in Latin America in which smallholders prevail, Watts (1994:55-58) describes others in which most agreements are established with mid-sized and large growers, as in the case of transnational banana firms in Central America and Ecuador, as well as in relation to traditional products such as tea, sugar, palm oil, and tobacco in some parts of Africa. For this author, the peasant "content" of contracting cannot be taken for granted, since the smallholder may, in some cases, be little more than a rhetorical device to legitimate large-scale direct foreign investment. Agribusinesses, in any case, conclude contracts only after a careful selection and screening process that often privileges heavily capitalized growers and small-scale agricultural businesses, as detected in the frozen-vegetables sector studied in this research.

According to Perry and Banker (2000:50), contracting offers farm operators the advantages of reducing the risks of price swings for products, problems in seeking a market, and unknown income. Also, farmers can benefit from technical advice, managerial expertise and access to technological advances that may not otherwise be readily available. Although in general terms this holds true, in this article I have described the main disadvantages of such labor arrangements, a perspective that highlights growers' day-to-day reality. Under contract farming, they transfer the risk of price fluctuations to the contracting firm. In turn, however, farmers must shoulder those risks associated with agricultural production (changes in weather, plagues, etc.) and, frequently, market risks, as seen when agribusinesses become saturated. For this reason, this arrangement has advantages for the contracting party, allowing it to plan production in advance and establishing price, quality and quantity, exempting itself from weather and labor-related problems (Clapp 1994). Furthermore, Cook (1994:234) points out that behind the image of a dynamic partnership between the parties involved lies a mode of production in which contractors can obtain a continuous supply of high-quality produce by placing the risks of production almost entirely in the hands of growers and their families.

It is also clear that the contracted grower loses independence. For Watts (1994:64), while the grower may retain possession of land and nominally of domestic labor, the contractor provides other critical means of production and directs the application of labor. Hence, the contractor controls the pace and rhythm of work. However, in contrast with what happens in other cases, growers contracted by frozen firms consider that the product they grow is theirs and not the firm's. One farmer noted, for example, that "the broccoli is mine to such an extent that I can destroy it and pay back to the firm if I decide to."

For Clapp (1994:92), the contract, as a legal form, represents an attempt to naturalize an unequal social relationship and to represent that inequality as just. The reciprocity in the relationship is not an abstract reciprocity between autonomous individuals. On the contrary, it is a social relation of domination that confers legitimacy on the reproduction of the contract farmer's subordinate position. Furthermore, Little (1994:244) points out that the use of production and marketing contracts in a socially progressive fashion requires growers to have viable organizations to represent their interests vis-a-vis state and private firms. If they do not, the possibility of farmer exploitation under contracting schemes is especially high because of the exposed nature of the relationship between labor and capital, whether private or public. History tends to repeat itself, and enough lessons are available worldwide to warrant considerable caution in promoting contract agriculture.

Despite the disadvantages of such working arrangements for vegetable growers in Mexico, contracts, along with land leasing, sharecropping and migration, have been strategies used to face a progressively more adverse economic environment in the rural arena. Within certain limits, being contracted by frozen firms results in a greater stability and income level when compared to growing grains or other types of vegetables independently for the Mexican domestic market.

The factors that explain the expansion of contract farming involve both external aspects— increases in the demand for frozen vegetables by U.S. consumers ("convenience food") and, more generally, in terms of good quality—as well as internal aspects. Internal dimensions include the national agrarian policy, which has meant the elimination, or severe reduction, of support and subsidies that the government granted for production, trading, and services. This has resulted in the grower's increasing dependence on the food industry and contract farming. Specifically, the loss of profitability related to the production of basic grains has led many growers, not only in Guanajuato, to venture into contract vegetable production. Other factors have also contributed to the expansion of frozen food agribusinesses and, consequently, contract farming: low salaries, trade liberalization, a land tenure regime, and the lax regulation of environmental conservation.

Due to the market saturations that characterize the frozen-vegetables industry (some entrepreneurs find this to be an endemic situation without remedy), the firms in Guanajuato are no longer contracting more growers. Consequently, the expansion of this labor arrangement seems to have reached its limit, at least regarding frozen vegetables.

In closing, it is important to consider that, although the primary production field is currently being controlled or dominated by agroindustry, this case underscores the fact that the local vegetable industry is regulated by the specific requirements of the U.S. retail sector and consumers—Guanajuato's contract farmers operate as a function of the changing habits and requirements of these faraway agents.

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Notes

1. Ejidatarios are the members of the ejido. This is a system of land tenure wich grants rights of usufruct to agrarian reform communities, in wich there are individual and common land.

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