

**CONTRACT FARMING AND PRODUCER
PARTICIPATION IN THE AVOCADO INDUSTRY IN
MICHOACAN: THE CASE OF CALAVO DE MEXICO**

by

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B.Sc., Pontificia Universidad Javeriana, 1998

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Abstract

This thesis examines the extent to which contractual arrangements with *Calavo* have influenced participation of small-scale farmers in the avocado export market, as well as the Michoacán avocado industry in general. The case study makes extensive use of both primary and secondary sources. Qualitative information and data were collected through semi-structured interviews and informal conversations with avocado growers, *Calavo*'s personnel and representatives of local organizations. I find that coordination generally occurs through an informal type of verbal marketing contract in which trust and reputation are highly important. The multinational firm has adapted to local models of negotiation and supplier selection. I argue that government-imposed quality and phytosanitary regulations have shaped the relation between *Calavo* and producers, and increased socio-economic stratification. Alliances between state and wealthier producers have been critical for industry expansion. My findings illustrate that contract farming is not, on its own, sufficient to guarantee integration of smaller producers into international markets.

Keywords: Contract farming, avocado, phytosanitary regulations, Michoacán, México.

This thesis is dedicated to,
Martha Jamit de La Peña
for all her love and generosity

In remembrance of Raul Jamit

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List of Acronyms

AALPAUM	<i>Asociación Agrícola Local de Productores de Aguacate de Uruapan, Michoacán</i> Local Agricultural Association of Avocado Producers of Uruapan, Michoacán
APEAM	<i>Asociación de Productores y Empacadores Exportadores de Aguacate de Michoacán, A.C.</i> Michoacán Avocado Producers and Exporting Packers Association (Formerly ASEEAM)
APHIS	Animal and Plant Health Inspection Service
ASERCA	<i>Apoyos y Servicios a la Comercialización Agropecuaria</i> Support Services for Agricultural Marketing
BANRURAL	<i>Banco Nacional de Crédito Rural</i> National Bank of Rural Credit
CAC	California Avocado Commission
CESV	<i>Comité Estatal de Sanidad Vegetal</i> State Office of Plant Safety
CIESAS	<i>Centro de Investigaciones y Estudios Superiores en Antropología Social</i>
DGSV	<i>Dirección General de Sanidad Vegetal</i> Federal Office of Plant Safety
FDA	Food and Drug Administration
IFOAM	International Federation of Organic Agriculture Movements
INIFAP	<i>Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias</i> National Research Institute of Forestry, Agriculture and Livestock
JLSV	<i>Junta Local de Sanidad Vegetal</i> Plant Safety Municipal Boards

NAFTA	North America Free Trade Agreement
PROCAMPO	<i>Programa de Apoyos Directos al Campo</i> Program of Direct Payments to the Countryside
PROCEDE	<i>Programa de Certificación de Derechos Ejidales y Titulación de Solares</i> Program for Certification of <i>Ejidal</i> Rights and Titling of Urban Patios
PROMOAGRO	<i>Programa de Promoción Comercial y Fomento a las Exportaciones de Productos Agroalimentarios y Pesqueros Mexicanos</i> Program for the Commercial Promotion and Exports Advancement of Mexican Agri-food and Fishing Products
SAGARPA	<i>Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación</i> Secretariat for Agriculture, Ranching, Rural Development Fishing and Food (Formerly SAGAR)
USDA	United States Department of Agriculture

1. Introduction

Since the debt crisis in 1982, México has adopted the neoliberal model of economic development and therefore the strategy of export-led growth (Warnock, 1995). The government has implemented neoliberal policies designed to encourage the expansion of the agroindustrial sector, with special focus on non-traditional agricultural exports (NTAEs) such as tropical fruits and off-season vegetables. Many analysts contend these neoliberal policies concurrently undermine the viability of peasant agriculture (e.g. Marsh & Runsten, 1996; Murray, 2001). Authors such as Lois Stanford (2000) have mentioned that these new agrarian policies reveal an attempt to rid the countryside of inefficient small producers. In addition, this development strategy has involved the execution of structural adjustment programs (SAPs) imposed by the World Bank and the International Monetary Fund (IMF), resulting in market liberalization and the reduction of government support for the agricultural sector in general, and smallholders in particular. Macro-policy changes have accelerated a productive restructuring of the agricultural sector; these transformations have particularly encouraged the formation of vertical relationships between growers and agroindustrial firms (Warning & Key, 2002).

In most developing countries the shift from the traditional model of family-based agricultural production for local and national markets to a complex global agri-food system has been associated with the increase of contract farming (Gwynne, 1998; Reynolds, 2000; Murray, 2001). Moreover, it has been proposed that through contract farming, private firms can more efficiently provide credit, information, technology, inputs and services (Key & Runsten, 1999), which used to be inefficiently supplied by the government (World Bank, 2001). Still, the effects of contract farming on small/medium growers vary according to local specificities. Distinctive power relations between growers and contracting firms shape labour arrangements and the distribution of costs, profits and risks. A dynamic debate is being waged over whether small- and medium-

scale producers are benefiting from contracting or are simply being subjected to increased exploitation (Gwynne, 1998; Key & Runsten, 1999; Raynolds, 2000).

Despite scant empirical evidence supporting contract farming as part of a strategy to incorporate low-income growers into the export sector, the Mexican government has nonetheless drastically reduced its previously extensive role in agriculture, and increasingly relies on the *laissez-faire* principle to control pervasive rural problems such as poverty, including via market-led farming arrangements like contract farming (Marsh & Runsten, 1996). The presumption is that agroindustrial firms can better provide the means for small and medium growers to improve their productivity (i.e. via maximization of returns on labour, land, skills and inputs) and their competitiveness (e.g. via improved production processes to meet export-quality standards, communication between growers and firms to guarantee a well-timed supply of products). Therefore, the most efficient producers would succeed and reinvest their profits, resulting in the creation of more jobs, higher wages and incomes, and an increased tax base. In other words, it has been assumed that contract farming would significantly enhance economic growth and rural development, spreading benefits downward to efficient small and medium producers, and leaving the inefficient producers to gradually wither away (Key & Runsten, 1999).

Recent studies, however, have revealed that in practice contract farming has exacerbated poverty and social conflict in some regions of Africa and Latin America. It can be a tool for agribusinesses to exploit unequal power relationships with growers. Farmers may become excessively dependent on their contract crops and the firm, which may jeopardize their economy and lifestyle, and may harm food security (Singh, 2002). Producers may lose autonomy of the production process, and often of their own land. Additionally, since contract farming has been associated with the increase of temporal and unpaid family labour, it may aggravate exploitation of workers, women and children, and intensify tension within households. In addition, if firms choose to contract mainly with wealthier growers, small producers can be excluded from the potential benefits of contract farming. It can affect the way income is distributed within a rural community, and enlarge existing patterns of economic stratification (Warning & Key, 2002).

High degrees of diversity among types of firms, farmers, contracts, crops and within the overall socio-economic environment provide different contexts for an

examination of the contracting system. Such diversity lends itself to a research focus on specific cases, rather than attempts to generalize about the effects of contract farming as an institution. Through a case study of the contractual relations between *Calavo de México* and avocado producers in Michoacán, México, I examine the opportunities and challenges of contract farming as a mechanism to integrate small-scale producers into the international market. The study also explores the extent to which existing production-quality standards and government-imposed phytosanitary programs shape such contracts and the dynamics of different facets of contracting processes.

The avocado industry in Michoacán is a compelling choice for a case study, as relatively little information currently exists with respect to coordination arrangements and negotiation processes between producers and firms. *Calavo de Mexico*, a subsidiary of the California-based Calavo Growers Inc. is a leader on avocado exports; currently, the Mexican firm ships more than 30% of the avocado exported to the United States and a significant volume of fruit sold to other international markets. The effects of contract relations with *Calavo* on the participation of small-scale producers remain understudied and largely unknown. Moreover, examination of the influence of phytosanitary and quality regulations on contract relations in the Michoacán avocado industry provides another important and understudied focus for the research, especially because the industry's official norms were put in place before *Calavo* was established in the region.

1.1 Problem statement and research question

In an age of market liberalization, expansion of agribusinesses and sharp governmental withdrawal from the countryside, there is a danger that small-scale farmers will experience increasing difficulties in participating in the market economy. Both opponents and supporters of contract farming as part of a rural development strategy have indicated that the exclusion of small-scale producers may widen preexisting economic disparities and further concentrate the accumulation of capital and means of production among wealthier producers. However, the perception also exists that a successfully implemented contractual arrangement may increase small-scale farmers' participation and profitability. Consequently, my research focuses on the extent that contract farming

with *Calavo* has influenced the participation of small-scale farmers, and in what ways and directions this has taken place in the avocado industry in Michoacán?

1.1.1 Objectives:

In order to answer the main research question my study should accomplish five explicit objectives. I will describe them in a separate manner to facilitate a clear analytical lay out; nevertheless, their interconnection and interdependence should be acknowledged for future analysis and discussion.

I intend to achieve the following specific goals:

1. To determine *Calavo de México*'s local supply-chain elements and describe the mode in which they operate.
2. To describe the relationship or interaction process between *Calavo de México* and its supplier producers, and compare it with prevailing conventional-contract farming models.
3. To explore the role of the federal and state governments in the avocado industry, and determine how they have influenced the relationship between *Calavo de México* and avocado producers.
4. To elaborate a typology of producers who supply avocado to *Calavo de México*.
5. To examine in what ways and by what mechanisms international quality standards in avocado production, combined with the local phytosanitary campaign, have shaped relations between *Calavo* and the avocado growers.

1.2 Research Design

My research of contract farming in the Michoacán avocado industry primarily takes the form of a case study. Tellis (1997) and Yin (2003), note that a case study is ideal for a holistic and in-depth investigation in which causal links are analyzed, and is commonly used to explore a contemporary phenomenon within its real-life context. As contractual relations between agribusinesses and growers vary widely in the avocado industry, a detailed contextual analysis is required. A case study is the most accurate methodology to generate detailed empirical information and data that further an understanding of the effects of contract farming on a specific community and industry,

and the general theorization of this agricultural arrangement as a tool or method for rural development. The case study of *Calavo* and the Michoacán avocado industry provides specific information that can also be addressed by the theoretical positions of both advocates and critics of contract farming.

The principal methodology for my qualitative research was field-based participant observation. I attempted immersion, to the extent permitted, in order to understand the local social relations and reputation-building mechanisms in the industry. During my four-month stay in Michoacán I had the good fortune of living in the home of an avocado grower, who is also very active in the local producers' association of Uruapan. Additionally, I travelled around the region with *Calavo's* purchasing-department engineers and observed their activities, interaction with the producers and negotiation processes. I also visited producers in their orchards and homes, and attended some of the local meetings and festivities, including the celebration of the 2003-2004 U.S. export-season opening and a gathering in which the official price for that season was fixed. The methodological approach was particularly useful to get a better understanding of the criteria and process employed by *Calavo's* staff members to categorize and select avocado suppliers, as written information regarding these procedures does not exist. My research strategy also involved semi-structured and open-ended interviews, informal conversations and observation.

The analysis of the information had a descriptive-interpretive orientation. As mentioned by Patton (1990), this theoretical tradition attempts to elicit understanding and meaning through inductive analysis of findings that are richly descriptive. This methodology was appropriate for the study, as I aimed to describe and examine the complex relationships between *Calavo*, avocado growers and technicians from governmental institutions, and the effects of these interactions on the suppliers' selection process.

1.2.1 Methods

I carried out field research from June to September, 2003. During that time I collected primary and secondary information, and kept a field diary in which I recorded the chronology of events and the progress of the research, as well as ongoing analytical

ideas. The purpose of the observational data and field notes was to help me to describe the context, and critically examine the information collected through interviews.

Previous to my departure, I contacted Dr. Lois Stanford, a U.S.-based scholar who has conducted extensive research on the avocado industry in Michoacán. She provided me with direct contact with *Calavo's* managing director; communication was established with the firm as part of my pre-departure preparations. Similarly, the professor provided me with the names of key contacts in the region, such as the director of the avocado campaign at the State Office of Plant Safety (*Comité Estatal de Sanidad Vegetal – CESV*) and the agricultural engineer of the local avocado association (AALPAUM). This information proved to be very useful and time saving. Furthermore, early in my stay in the field I visited the *Colegio de Michoacán* and the *CIESAS Occidente* and spoke with a few professors working on topics related to my research. Both institutions provided me with a presentation letter that I used to introduce myself to potential interviewees. The support of these academic institutions was very important to gain credibility and access to information.

1.2.1.1 Field interviews

In order to answer my research question and address my objectives, I developed interview guides. The guidelines were correlated to the objectives of each interview and thus varied according to the kind of interviewee (e.g. producer, extension agent, organization representative). The guides were useful to insure that basically the same types of information were obtained from each person, as well as to ensure optimal use of limited interview time. Although such guides make interviewing multiple subjects more systematic and comprehensive, they were also modified during interviews to focus on areas of specific importance when they arose. If allowed, interviews were recorded on audiotapes and complementary notes based on personal observation were entered in the field diary. All interviews were transcribed into a computer program.

I conducted a semi-structured, open-ended interview with *Calavo's* managing director; this interview aimed to understand the firm's perspective about the industry regulations, the producers and its competitive strategy. I also carried out a group interview with *Calavo's* purchasing-department staff members. I focused on their

personal and professional background, current activities with *Calavo* and the mechanism for selecting producers. The group interview was useful for gathering information about the group of engineers as a whole, as well as relevant data on the individuals; however, due to the lack of fixed criteria to screen suppliers, it was not the best method to understand more fully the suppliers' selection process. In order to collect qualitative data that would help me to understand and describe the informal categories of producers involved in the process, I travelled around the avocado region with three of the purchasing engineers and observed negotiation processes, harvesting arrangements, etc. Informal conversations with the engineers, and direct observation of orchards and avocados, helped to define an avocado grower's typology and establish the main attributes of *Calavo*'s suppliers. Later in an interview with the purchasing department manager, I further checked the accuracy of the categorizations.

I conducted semi-structured interviews with 25 producers that usually or always supply avocado to *Calavo*, eight producers that only occasionally or rarely sell their fruit to *Calavo* and four who have not sold produce to the firm. The intention of the interviews was to gain knowledge about producers' perceptions of their bargaining position with the domestic and foreign avocado buyers. Although I aimed to obtain a representative sample from each producer category, I was more interested in the qualitative data obtained from the interviews. The interviews, particularly with producers who sell fruit to *Calavo* on a regular basis, were very useful to understand the producers' own perspective of their relations with the firm, and their main motivations to establish commercial arrangements with it. Several of the interviews and informal conversations with avocado producers also provided valuable information with respect to the producers' overall views on the development of the avocado industry and the international market, official quality and phytosanitary regulations, and the future of the industry in Michoacán.

In order to obtain detailed information regarding the phytosanitary campaign, certification process for the U.S. market and the degree of state involvement in the avocado industry, I interviewed the coordinator of the avocado campaign and the coordinator of the agro-food innocuity program at the CESV in Uruapan, as well as the presidents of the Plant Safety Municipal Boards (*Junta Local de Sanidad Vegetal – JLSV*) of Uruapan and Nuevo San Juan Parangaricutiro. The qualitative data and

information collected from these interviews greatly contributed to my understanding of the arrangement whereby a regional informal categorization of producers had been established, the processes to create free zones and orchards, and the challenges and benefits resultant from the implementation of the phytosanitary campaign. In Morelia I spoke with the head of the Michoacán plant-health program administered by the Secretariat for Agriculture, Ranching, Rural Development Fishing and Food (*Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación* – SAGARPA). These interviews provided critical information concerning the perspective of the national and state governments on the avocado industry, and current and future expectations for producers.

I also interviewed key people in various organizations and institutions in Michoacán. I conducted a semi-structured group interview with the vice-president and manager of the Michoacán Avocado Producers and Exporting Packers Association (*Asociación de Productores y Empacadores Exportadores de Aguacate de Michoacán, A.C.* – APEAM) and informally talked with the association president. The interviews mainly focus on the U.S.-program certification process of producers and packers, membership requirements to APEAM, APEAM coordination mechanisms with Mexican and U.S. plant-health authorities, and the association's cooperation strategies with governmental institutions and officials. The interviews allowed me to collect relevant information regarding the short- and long-term goals of avocado exporters. I also attended a meeting in which more than a thousand producer members of APEAM, as well as the executive directors, set the price of avocado to be exported to the United States in the 2003-2004 season. Direct observation of the negotiation process during the meeting, and informal conversations with a few attendees, gave me an insight of different types of producers' representation and participation. In addition, I interviewed one of APEAM's representatives in the United States, facilitating a better understanding of APEAM activities and reach in the international market.

I collected further information by interviewing key people from the following groups in Uruapan: Agribusiness *Azteca*, Michoacán Avocado Commission (*Comisión Michoacana del Aguacate* – COMA); National Research Institute of Forestry, Agriculture and Livestock (*Instituto Nacional de Investigaciones Forestales, Agrícolas y*

Pecuarias – INIFAP); Michoacán University San Nicolás de Hidalgo (*Universidad Michoacana de San Nicolás de Hidalgo*); President Juárez Agrobiology Faculty (*Facultad de Agrobiología Presidente Juárez*); and the Local Agricultural Association of Avocado Producers of Uruapan, Michoacán (*Asociación Agrícola Local de Productores de Aguacate de Uruapan, Michoacán - AALPAUM*). Similarly, I interviewed the owners or representatives of some packing houses that commercialize avocado for the national, international or both markets. The interviews allowed me to obtain a broader picture of the commercialization of avocado, as well as interactions between research and academic institutions, various arms of governments and commercial enterprises. The information gathered in the interviews was useful especially to learn about regional conceptions of phytosanitary and quality standards, producers' reputations and the overall role of multinationals in such processes.

The information collected in the interviews and informal conversations was abundant and in some cases delved into research areas other than those that were the focus for this research. In the case study section, I omit information that I considered less relevant for answering the specific study goals; however, the qualitative data proved to be very useful for the overall contextualization of the research, and my understanding of the many interrelationships among various elements and individuals within the avocado industry in Michoacán.

1.2.1.2 Selecting interviewees

The selection of my research participants was correlated to the study's main research goals. The study focuses on the relationship between *Calavo* and its avocado suppliers. Accordingly, I considered it necessary to first interview *Calavo*'s personnel and producers that sell fruit to the firm, regardless of their orchard size, its location and land-tenure system. A purposive sampling was conducted to target producers that sell fruit to *Calavo*. The purchasing-department engineers provided me with direct contact with producers who sell fruit to the firm on a regular or occasional basis. All producers sell fruit to buyers that supply the national market, and often to more than one exporting packer; yet, producers which, regardless of volume, regularly sell fruit to *Calavo* were still the key informants. Additionally, I performed a snowball sampling; I asked selected

regular or captive suppliers to refer me to additional producers that sell fruit to the firm. Interviews were conducted in the orchards or at producers' residences. Finally, I conducted interviews and held informal conversations with producers at *Calavo's* headquarters. It was very useful that producers' payments always occur on Fridays, and there is a small waiting area where a few producers can sit and wait while their payments are processed; producers wait an average of thirty minutes and engage easily in conversation. By simply entering the waiting area at that time, I could interview many of the producers who were selling to *Calavo*.

The producer I lived with during my stay, as well as the agricultural engineer from the AALPAUM and the CESV coordinator of the avocado campaign, further assisted me by supplying contact information of avocado producers. Interviewed producers belong to different categories: regular, occasional and rare suppliers of fruit to *Calavo*. I again conducted a snowball sampling with these producers, especially when they had additional distinctive characteristics such as being an *ejidatario*¹, or not being certified for the U.S. market. I also conducted a convenience sampling. While travelling in the region with the AALPAUM engineer delivering the *Aguacatero* Magazine, I spoke and interviewed producers that were available, accessible and willing to answer my questions. Despite some limitations in ensuring that such sampling is representative of a heterogeneous population such as the avocado producers, a convenience sampling was very useful, given the time restrictions as well as a the lack of a defined sampling frame (i.e. list of avocado producers) from which to extract the sample. Overall, non-probability sampling methods were useful to collect relevant qualitative information during field research.

1.2.1.3 Quantitative and secondary data collection

Local statistical, technical and academic data were gathered by consulting published and unpublished theses, official publications and informative documents at the President Juarez Agrobiology Faculty (*Facultad de Agrobiología Presidente Juárez*)

¹*Ejidatario* is a member of a Mexican *ejido*. *Ejidos* are collective landholding units first established following the Mexican Revolution when land was expropriated from large landholders and redistributed to the peasantry. *Ejido* land accounts for approximately half of total agricultural land in Mexico. [For the purposes of this paper, the terms 'ejidatario' and 'ejidatarios' refer to both male and female ejido members, unless explicitly stated otherwise.]

library, the Michoacán University San Nicolás de Hidalgo (*Universidad Michoacana de San Nicolás de Hidalgo*) library, National Institute of Statistics, Geography and Informatics at Morelia (*Instituto Nacional de Estadística, Geografía e Informática – INEGI*), etc. The gathered information was important to gain a broader understanding of the social, political and economic evolution of the avocado industry in Michoacán, as well as regional, national and international markets. Secondary data was also important to obtain detailed knowledge about regional issues and cultural patterns.

In order to obtain descriptive statistics and provide a quantitative description of avocado producers that supply fruit to *Calavo* I obtained two different lists:

1. *Calavo List*: This document is a paper list of farms that were harvested by *Calavo* from August 2002 to October 2003. The list is organized by date and each record is of a harvest at an individual farm. Multiple harvests from the same farm are listed multiple times. Likewise, a land owner who has multiple harvests or multiple pieces of land is listed multiple times. Each record includes a producer name, orchard name, district (orchard location), producer sequential number (a unique number that identifies each harvest/record) and district number. There are a total of 896 records (harvests). The document was provided to me by *Calavo's* administrative assistant on October 2003.
2. *CESV Lists*: These are computer file (Microsoft Excel) documents that list the farms that have been certified for export to the United States. The two documents were organized according to growing seasons (2002-2003 and 2003-2004); each Excel was composed of one spreadsheet per district (e.g. Uruapan, Tancítaro). If an owner had more than one farm, he was listed multiple times. Each record included producer name, orchard name, land size in hectares, orchard registration number at the CESV, and orchard registration number at SAGARPA. The files were provided to me by the coordinator of the avocado campaign at the CESV in Uruapan.

1.2.1.4 Quantitative data analysis

In order to aide comparison, the contents of the CESV spreadsheets were copied to a database file (Microsoft Access). A table was created that included all of the data

from the CESV spreadsheets, and several more fields were added in order to conduct a detailed comparison of the CESV lists with the *Calavo* List.

The following fields were added to the database table: Region/District, OnCalavoList, Number of Harvests and Season (see the Appendix for more information regarding the fields in the table).

An assistant and I then compared the paper *Calavo* list to the newly-created database. If an entry on the *Calavo* List could be exactly matched with an entry in the (Microsoft Access) database, then the OnCalavoList checkbox was checked (set to TRUE). If the checkbox for a particular farm was already selected, then the NumberofHarvests field was increased by one.

The final result was a database (from this point referred to as the Producers Database) that contained a count of all of the harvests performed by *Calavo* for the 2002-2003 season on farm land that was on the CESV list. This database was then placed on an Internet Information Server at the University of Victoria. An Active Server Page interface was developed which allowed me to work with a database administrator to easily and rapidly run Structured Query Language (SQL) queries on the database and extract accurate statistics from the Producers Database via the internet. For example, SQL allowed for a calculation of the average size of land harvested by *Calavo* that was on the CESV list. This and many other statistics were gathered and utilized in the thesis.

Thus, the thesis is the result of several interlocking research methods and sources of information, all of which contributed to a better understanding of the specific details of the Michoacán avocado industry, as well as facilitating an examination of the broader theoretical issues and more general dynamics of the industry at large.

1.3 Thesis organization

This thesis is divided into 6 chapters. Chapter 2 presents a review of the literature on arrangements for vertical coordination. The chapter is focused on the literature on contract farming, including general characteristics of contract growers and crops, state intervention and quality standardization. It also provides a summary of the theoretical interpretations of contract farming in order to situate the research within the overall

context of the agrarian question, the debate between the new institutional economics perspective versus the political economy perspective, and the study of global agri-food systems. In Chapter 3 I give a description of the development of Mexican agrarian policies, and highlight how these policies have increased socioeconomic polarization in the countryside. The chapter also provides examples of the main Mexican industries that have carried out contract schemes; in doing so, it also offers a general assessment of the performance of contract farming as part of a general rural development strategy. Chapter 4 presents a brief background of the avocado industry in Michoacán. In this chapter, I identify the principal actors and main factors that have transformed the industry. In Chapter 5 I describe the coordination arrangements used by *Calavo de México*, and provide a classification of avocado producers and *Calavo* suppliers. In this chapter I also analyse the influence of reputation mechanisms, phytosanitary and quality regulations in the suppliers' selection process, and the consequent exclusion of true smallholders from the export market. Additionally, the chapter discusses state intervention in the avocado industry and examines how state agricultural policies have further exacerbated the historical polarization between wealthy and poor producers. Finally, Chapter 6 contains conclusions, limitations of the study and recommendations for further research.

2. Vertical Coordination and Contract Farming

Over the last two decades, the enforcement of neoliberal socioeconomic policies around the world has advanced the internationalization of agriculture and the deregulation of domestic food markets. This global restructuring has resulted in a more integrated and capitalized agricultural production system, and has reshaped the relation between agro-industrial firms, governments and producers. The growing importance of exports to the agricultural sector requires effective coordination and/or integration of agribusiness firms and producers.

The relation between agribusinesses and producers is changing and it is occurring in varying manners and degrees in different industries. Such changes, however, tend towards closer vertical linkages between suppliers and buyers. In order to establish the context for a discussion on arrangements for coordination in the avocado industry in Michoacán-México, this chapter provides a review of the literature on arrangements for vertical coordination, the factors behind the adoption of schemes for vertical coordination and more specifically of contract farming. In this section I also address the main debate about whether small-scale producers are likely to benefit from contract relations or whether they might become subordinated by processing/purchasing firms.

2.1 Vertical coordination: open spot market, contract farming and vertical integration

Vertical coordination is defined as “the process by which supply and demand are adjusted toward each other with regard to product quantity, quality, location and time of delivery” Minot (1986, p. 5). The coordination takes place throughout the successive stages of the “vertical” chain: production, processing and marketing. The importance of vertical coordination is underscored by the current trend towards an export-oriented agricultural system, and the consequent need for the harmonization of information exchange and other forms of interaction between producers and buyers. Nevertheless,

coordination in the agricultural sector is complicated due to its inherent characteristics: increasing demand for quality, a large range in quality, seasonal fluctuations in supply, a delayed supply response, geographically-dispersed production centres and the perishability of products (Minot, 1986; Wolf, Hueth & Ligon, 2001).

Arrangements of vertical coordination can be classified on a continuum, based on the degree of control exerted by one firm over the production stages (Baumann, 2000; Runsten & Key, 1996) or as “the degree of integration across segments of the production process” (Wolf et al., 2001, p. 362). At one end of the spectrum, open spot-market transactions are the simplest mechanism of coordination. A firm procures its produce through spot-market purchases with little or no advance planning. It does not bind the producer and the firm in a long-lasting relation; there are no mutual obligations and the transaction is completed quickly. Price is the mechanism by which “coordination” between supply and demand is achieved (Minot, 1986). At the other end, vertical integration occurs when processing and marketing firms entirely organize and control production processes and distribution to the final consumer. Vertically-integrated industries are plantation-style ventures (Key & Runsten, 1999). The terms vertical integration and outgrower schemes are often used interchangeably (Baumann, 2000); however, Rehber (1998) explains that outgrower schemes generally connote a government system in which a public enterprise acquires the produce from the farmers on its own or as part of a joint venture with a private firm. Between these two extremes of coordination lies contract farming, which refers to the use of written or verbal contracts to coordinate the relation between the producer and the buyer firm. It is a form of “intermediate” vertical coordination arrangement (Minot, 1986). The producer is committed to provide an agricultural commodity of a particular quality at a pre-agreed time and price to a known buyer (Singh, 2002).

Producers and agribusinesses seek out the institutional arrangement that is most advantageous to accomplish their expectations. Agroindustrial firms pursue stable supplies, better quality control, improved flow scheduling and reductions in price risk (Preckel, Boehlje, Gray & Kim, 2004). Equally, producers aim for an assured market for their produce, improvements in production and an increase in income (Minot, 1986). The heterogeneity of agroindustrial firms’ processing and marketing requirements, the large

variation among producers and the changing socioeconomic and cultural context where the arrangements take place make it difficult to suggest that a single type of organizational strategy dominates. Nonetheless, most of the literature highlights the ongoing expansion of contract farming around the world.

Minot (1986) addresses the question of what conditions would give an advantage to one coordination arrangement over the other. He argues that the factors determining the coordination mechanism to be implemented are mainly due to product characteristics, technologies used in production and marketing, demand characteristics and the distribution of information. Echánove (2001) also mentions other important factors: types of growers, prior relations between a firm and these growers, internal firm policies, seasonality, land ownership and the political environment of the country where the arrangement takes place. The author adds that some agribusinesses in México simultaneously implement contract farming and vertical integration. In addition, some firms may, to a lesser extent, purchase their produce from other firms. A firm can carry out one or more sourcing mechanisms; the importance (i.e. as measured by volume and/or land) of each arrangement varies and may possibly change over time.

In order to explain the rationale of agribusinesses and producers for deciding on a particular coordination arrangement, Minot (1986) and Preckel et al. (2004) offer an analysis of the advantages and shortcomings for each of the three main arrangements: open spot markets, vertical integration and contract farming. I will describe the first two arrangements in a brief manner, followed by a more exhaustive examination of the literature on contract farming, which is the main focus of this study.

2.1.1 Open spot markets

The open spot market is the simplest coordination mechanism between buyers and sellers. Prices provide the information necessary for supply and demand to be harmonized; they also provide information about consumption and production patterns. Spot markets can be very efficient when the conditions allow perfect competition: there are a large number of small buyers and sellers, a relatively homogeneous product and readily available information regarding quality and market conditions for buyers and producers. Nevertheless, if any of these conditions are not achieved, the coordination

between supply and demand is not attained and the spot market becomes inefficient. Preckel et al. (2004) state that in open markets producers and packers may have different objectives in terms of volume and quality. Lack of coordination may result in inconsistencies between the product flow and the information flow from pricing signals, leading to an overall sub-optimization of profits.

Minot (1986) highlights the main causes of spot-market failure: imperfect marketing information, imperfect production information and imperfect input and credit markets. He first explains that spot markets do not facilitate the exchange of important marketing information such as product characteristics (e.g. quality, variety), time, location and admissible price. In terms of product quality, the buyer may require a product with very particular characteristics, but the spot market does not encourage communication with the producer/seller and thus may be an inefficient coordination arrangement. Moreover, the buyer cannot easily detect variation on the product and thus has to rely on the reputation of the seller. Low-quality producers can under-price others, reduce demand and affect the reputation of the whole industry to a point at which the product cannot participate in the markets anymore.

Timing is another difficulty with marketing information. An exporter may aspire to sell during a “market window”, a short period when the firm benefits from lower competition and higher prices overseas. Likewise, due to high fixed costs, food processing firms require sustained raw material inflows at a steady level close to plant capacity (Echánove, 2001). Secure supply of produce when the buyer needs it is imperative. However, open markets are not reliable; buyers have no guarantee that the produce will be supplied at the proper time. Producers often are uninformed or sceptical about the importance of that timing. The lack of timing, especially when the buyer’s needs are larger than the total supply, can be very troublesome.

Spot markets also endure market information complications concerning price. Buyers are often better informed about future market conditions; conversely, this information is more difficult to pass on to sellers/producers through spot markets. The supply response can be slow when the producers do not have up-to-date information in relation to the product characteristics required by the demand. The most affected agricultural commodities are the ones with a long production cycle (e.g. tree crops) and

the ones that are innovative in a region (e.g. specialty crops, non-traditional exports). Moreover, perishable products have an inelastic supply² at harvest, whereas buyers (processors and/or exporters) have an inelastic demand³; in competitive spot markets this often translates into large changes in supply/demand prices⁴ but smaller changes in actual quantities demanded/supplied.

Second, Minot (1986) underlines that spot markets may be ineffective due to a very limited exchange of information regarding production. Although buyers may have the technical knowledge necessary to produce crops with the desirable quality characteristics, this information is not easily transmitted throughout spot markets. Producers will rarely implement new practices, produce an unusual crop or change the characteristics (variety or quality) of a known crop without having confidence of the availability of a ready market.

And finally, if spot markets are imperfect for production inputs, credit and services, other coordination arrangements may be more desirable. In addition to the frequently pressing need for credit, producers face the complexity of assessing quality, and thus profitability, of inputs and agricultural services. Furthermore, suppliers of inputs and services need to assure their repayments, which often conflict with producers' prime expenses such as loans. Spot markets do not help to solve these imperfections. Therefore, spot markets are not typically the appropriate mechanism to promote the production of crops that require abundant specialized inputs and/or services with economies of scale.

In general terms, spot markets are more appropriate for "products that have little quality variation, are less perishable, have short production cycles, do not require precise timing of supply, and have stable and known markets" (Minot, 1986, p. 8). Spot markets are suitable when credit, input supply, marketing information and technical supervision are available or are not decisive for the production of a crop. Hence, products with low inputs requirements and for which production practices are well-known are most suitable for the open spot market. Rehber (2000) adds that spot markets will remain the

² Inelastic supply means that changes in the quantity supplied are not very responsive to changes in the supply price.

³ Inelastic demand means that changes in the quantity demanded are not very responsive to changes in the demand price.

⁴ Demand price is the maximum price that buyers would be willing and able to pay for a given quantity of a good. Supply price is the minimum price that sellers would be willing and able to accept for a given quantity of a good.

coordination scheme if a number of conditions apply: production takes place close to the site of final consumption, government or producer organizations regulate short-term prices and sales volumes, grading is not an imperative priority for the buyer and the government provides efficient agricultural extension and advisory services. The author suggests that grains, oilseeds and cotton are common examples of crops that may remain part of spot markets. Runsten & Key (1996) also explain that industries that process staples such as corn tortilla flour or balanced animal feeds tend to rely on spot markets for their produce supply.

2.1.2 Vertical integration

Vertical integration is the coordination arrangement in which a firm produces, processes, packs and markets its goods itself (Wolf et al., 2001). Rehber (2000) notes that under this arrangement, individual farms lose their separate identity and become company-owned farms. A firm owns or leases the land, buildings and equipment, and employs its own staff. Minot (1986) indicates that the advantages of this arrangement may be: technological complementarity between tasks, added control over existing and potential markets, and the elimination or minimization of costs and risks associated with spot-market transactions. Under particular conditions, controlling all the production and marketing stages may be the most efficient mechanism for firms to maximize economic rents.

In terms of technological complementarity, Armour & Teece (1980) point out that vertically integrated firms can synchronize all of their departments' goals. Internal harmonization between different but related production processes facilitates technological innovation. The authors' empirical analysis provides evidence that vertically-integrated firms typically have more productive research and development. Minot (1986) refers to this synchronization as "scale complementarity" and makes clear that vertical integration can be efficient when the scale of operation is roughly similar between two stages in an integrated firm. If a larger-scale stage (e.g. plant machinery) requires the direct supervision of many smaller-scale ones (e.g. efficiently-sized farms) it is very expensive and thus inefficient. The author explains that vertical integration of crop growing and

processing is rigorously restricted because many crops are most efficiently produced in small-scale units, while the consecutive stages in the chain are larger in scale.

Additionally, in respect to the technological aspect, Minot (1986) points out that vertical integration results from economies of establishing various functions in the same place. He explains that it is frequently cost effective to place more than one stage in the same plant; it can prevent produce losses caused by handling and transportation and/or reduce high expenses in transportation, especially for bulky, low-priced goods. The joint management of different stages may well be more conducive and economical. Still, given that many vertically-integrated firms disperse their operations in different places, this rationale cannot be generalized.

After explaining that the technological aspect is not sufficient to justify the motivations for vertical integration, Minot (1986) suggests that other authors have referred to the “enhancement of market control” as the principal incentive. An integrated firm would have control over the supply of inputs and/or the marketing of output, and could accordingly discriminate against other firms. The author, however, also mentions that other writers have argued that this type of market power has its origins in existing horizontal control, and that backwards integration does not guarantee control over supply, due to the potential for new lands to produce the same crop to compete in the market. Vertical integration would rarely be sought as a means to achieve market power; other factors should be analyzed as well.

Another probable reason for vertical integration concerns the costs and risks of market transactions (Moss & Shmitz, 2002). According to the transaction-cost theory of the firm developed by Coase in 1937 and extended by Williamson in 1979, and Grossman and Hart in 1986, the transaction is the unit of analysis for predicting organizational form (Minot, 1986). Coase (as cited in Minot, 1986) states that a market exchange involves search (buyer/seller) and negotiation costs; these transaction costs would determine the boundaries of the firm. Therefore, firms seek to reduce costs by vertically integrating diverse operations. Williamson (as cited in Minot, 1986) uses the transaction-cost reasoning along with two more incentives for vertical integration: the increased flow of information between vertical activities and greater market power through superior managerial control over personnel. Grossman and Hart broaden

Williamson's model by adding in relationship-specific investments, which by definition are "investments that cannot be used to produce output for sale to other buyers" (Moss & Shmitz, 2002, p. 52). The authors note that these factors reduce the potential for individually opportunistic behaviour. In addition, the exchange of information concerning produce quality and market conditions is facilitated under vertical integration; supply reliability may be secured and managerial problems and costs reduced. Vertical integration reconciles interests and encourages flexible decision processes to solve the many of the principal problems related to open spot-market transactions.

There is clearly more than one theory identifying potential motivations for vertical integration. From the literature on transaction cost to that on the technological complementarity, as long as it is assumed that vertical integration is theoretically "costless" (i.e. no internal organizational costs are incurred) and resolves market imperfections of spot markets, this arrangement should be chosen by firms. On the other hand, vertical integration has some limitations, such as the lack of scale complementarity. Many crops are produced more efficiently on a small scale and would not be smoothly integrated with large-scale processing or exporting activities. Minot (1986) indicates that vertical integration would be more viable for crops that have noteworthy quality differences, require precise supply timing, have long production cycles and entail abundant amounts of specialized inputs, but are not labour intensive. Runsten & Key (1996) provide some examples of vertically-integrated industries, such as banana plantations managed by United Brands, Castle and Cooke, or Del Monte in Central and South America. The authors also note out the case of frozen-vegetable processors in the Mexican Bajío that function in a fully-integrated manner by leasing an average of 3,000 has. of land per processor to primary producers. Echánove (2001) mentions that in Guanajuato frozen-vegetable processors jointly control over 13,450 has. of land in which the firms directly grow their produce.

2.2 Contract farming schemes and contracts

It is rather difficult to reach a specific definition or meaning for contract farming. A classical definition provided by Roy states that contract farming refers to "contractual

arrangements between farmers and other firms, whether oral or written, specifying one or more conditions of production and/or marketing of an agricultural product” (as cited in Rehber, 1998). Contract farming has also been defined as “a system where a central processing or exporting unit purchases the harvests of independent farmers and the terms of the purchase are arranged in advance through contracts” (Baumann, 2000, p. 7). The terms and nature of the contract vary widely, but the generalizable characteristic of contract farming remains: it commits household land and labour resources to the production of a commodity for a firm to process and/or commercialize (Raynolds, 2000). Contract farming, in effect, is a significant form of vertical coordination between growers and buyers around the world.

Diversity in the type of firms, farmers, crops, contracts and overall socioeconomic environments make it impractical to institutionalize contract farming. It is better to understand contracting as an interdependent relation between firms and individual farmers in which contracts and their outcomes vary according to the specific context (Singh, 2002). It is not possible to list the multiple types of contracts; though, it is feasible to distinguish three primary but not mutually exclusive contract categories (Baumann, 2000; Key & Runsten, 1999; Singh, 2002):

1. *Marketing contract* or *procurement contract* is a pre-harvest agreement in which only sale and purchase conditions are established. Usually quantity, timing and price of the product to be sold are specified. The farmer is autonomous regarding the production activities.
2. *Resource-providing contract* or *partial contract*, whereby the firm supplies some inputs and/or credits for crops, and prices are agreed in advance. Some production practices and quality of the product are stipulated; thus, the firm typically supplies some extension or technological packages.
3. *Production management contract* or *total contract*, under which the contracting firm directly regulates the production process. It provides and manages all inputs necessary for the production process. The farmer provides the land and labour, but has minimal involvement in the decision process.

The type of contract implies the ‘intensity’ of a firm’s participation in the production process. It may allow a firm to secure the supply of a particular product with little or no control over the production process. At the same time, the contract may allow the firm to exert relatively rigorous control over production without owning the land (Baumann, 2000; Key & Runsten, 1999). Consequently, the allocation of profits and risks between the producer and the firm critically depends on the type of contract arrangement (Raynolds, 2000). However authors such as Baumann (2000) and Singh (2002) have emphasized that, for the individual farmer, the contract is merely a representation of the relation established; for the producer, it is this relation that is important and that acts to institutionalize contract farming. These researchers also point out that the implementation of contracts occurs under specific social and political contexts, which may cause a divergence between the contract and the actual relation. Moreover, this divergence may be crucial in shaping the development of contract farming. In addition, Little and Watts (1994) have found that when enforcement of contracts and the assurance of growers’ loyalty are difficult, firms tend to rely instead on already-established relations of trust, patronage and traditional reciprocities.

2.3 Characterization of contract growers

Most authors agree that the impact of contract farming depends substantially on the kind of producers with which the agribusinesses select to contract. Warning and Key (2002) note that contract farming may alter the income distribution of a rural community, and thus broaden an existing economic stratification. If firms choose to contract with larger capitalized growers, the poorer producers will not benefit directly from contractual arrangements. The exclusion of smallholders can result in more concentrated land ownership, and consequent displacement of the rural poor (Key and Runsten, 1999). Singh (2002) argues that contract production promotes export-oriented and cash crops at the cost of basic food crops; this can lead to higher prices of food commodities and products, while non-contracting producers fail to achieve higher incomes. By favouring the large producers, firms may encourage a socially unwanted “dualistic” agricultural development.

Agribusinesses can choose to contract with both large and small growers. Key and Runsten (1999) mention that in the frozen-vegetable industry in México, firms usually engage in a simple marketing contract with the larger commercial producers and a full resource-providing contract with smaller *ejidatarios*. However, Echánove (2001) makes clear that these firms in Guanajuato define small- and medium- sized farmers based on the relative size of the largest producers. In this case, some firms declare that they have contracted with many smallholders, with plots of 10-25 has. produced by cycle. Actual small-scale producers, by most definition those cultivating up to 5 or 6 has. per cycle, are generally disqualified from contracting. The author also discusses that in Guanajuato firms avoid contracting with *ejidatarios* because they have restrictions on water usage.

The firms carefully choose contract growers according to the kind of contractual arrangement desired. Singh (2002) provides the example of Hindustan Lever Limited (HLL) in the Punjab of India, the largest tomato-paste plant in Asia. The firm contracts with about 400 producers. The arrangements focus on procurement and total contracts; the acreage cultivated, harvesting time and price of the produce (according to quality standards) is established in the contract, but the firm also supplies seedlings, technical advice and some equipment. The producers are selected on account of “ability of a farmer to adopt new technology, suitability of land, assured irrigation, financial position, and commitment and literacy level” (p. 1628). The area for tomato production is not usually less than 2.5 acres (1 hectare).

Echánove (2001) observes that the frozen-vegetable firms in Guanajuato usually provide funding to contract producers if the farmer commits to follow technical supervision provided by the firm. These producers typically have the desired infrastructure, knowledge and economic means. They must have a tractor and other farming equipment, transport vehicles to pick up fertilizers, seedlings and other inputs and to deliver the harvested produce, and the financial resources to cover costs not provided by the firm. Agribusinesses, then, characteristically deploy contracts that minimize the risk of investment loss, and only contract with producers that can meet the contract obligations.

On the other hand, Runsten and Key (1996) argue that firms may have an incentive to contract with small low-income producers who have only very limited access

to credit. These producers usually pay a relatively higher cost for credit, if they can get access to it at all. The firm can therefore usually earn higher returns on credit that it supplies to these producers. In addition, family labor is often underutilized in households with a small land area. Thus, firms may choose to contract smallholders with large families for labor-intensive crops. The authors also assert that a firm will choose a particular contractual arrangement, at least to some extent, to minimize expenses in the transactions. Transaction costs regarding items such as distributing inputs, technical supervision and financial services are largely fixed costs that do not depend on the size of the producer with whom the firm is contracting. The firm can reduce such transaction costs by decreasing the number of producers with whom it contracts, or equally, increasing the average size of the producers. Therefore, in order to minimize contract transaction costs, firms will frequently only negotiate with large-size growers. Small producers, however, can counteract this tendency by internalizing such transaction costs via collective organization and cooperation.

At a worldwide scale, it is difficult to generalize about the type of grower that is more commonly contracted by agribusinesses. According to some authors, smallholders usually prevail in Latin America, but medium- and large-sized growers are more often contracted by transnational banana firms in Central America and Ecuador. In the same way, larger producers are preferred for the contracting of traditional crops such as tea, sugar, palm oil, and tobacco in some regions in Africa (Echánove, 2001; Watts, 1994). Agribusinesses, overall, design a contract that only growers with specific characteristics can accept, or screen applicants and offer contracts only to the most advantageous prospects. This usually privileges heavily-capitalized producers. The choice of with whom to contract is also an important aspect of a firm's contract design (Echánove, 2001; Runsten & Key, 1996).

2.4 Crop characteristics and contract farming

An important issue in the literature on contract farming is whether contracting is commodity specific. The argument is that the technical characteristics of the contract crops are essential in determining production relations. It follows, therefore, that the

combination of crop characteristics and technological conditions may give rise to situations in which contract farming is the most feasible option.

A biological/agronomic view of contracting sees contract farming as an effective arrangement for very specific kinds of crops. Binswanger and Rosenzweig (as cited in Watts, 1994), state that contracting occurs in long-term perennial crops with high maintenance costs, as well as in crops for which economies of scale are related to coordination and processing requirements. Therefore contracting would occur for commodities such as coca, tea, oil palm and rubber; but, contract farming would not be feasible for food grains. Watts (1994) indicates that this is a very narrow description of contract farming; it fails to explain the ongoing contracting in the many other crops that are neither processed nor with a long growth cycle. He provides a list of contract crops in sub-Saharan Africa, including cotton, oilseeds, rice, bananas, cassava, spices and livestock. Watts clarifies that crops produced under contract are associated with rigorous “grade” and “quality” standards. Contracted crops tend to be labour intensive as a result of these high standards, among others factors.

The importance of the relation between the technology of production and organizational structure (coordination arrangement) is also pointed out by Goldthorpe (as cited in Baumann, 2000). He claims that the characteristics of tropical perennial tree crops promote production in arrangements that have a rigid and hierarchical organization, and a division of labour based on clearly-defined tasks and functions. The relevance of that orderliness increases with the newness of the crop, the greater the investment and the less integrated the producers are.

The physical characteristics of the crops themselves are an important factor influencing the viability of contract farming. Goldsmith (1985) explains that crop characteristics are an important factor for agribusiness decision makers in determining a coordination arrangement; he lists five properties that make some crops more suited for contract farming:

1. *Perishability*: A structured gathering system is essential for crops that have to be processed speedily. Less perishable crops (e.g. grain, tubers and other storable products) may be easily purchased in bulk on the spot market, and not justify the investment in a collective mechanism.

2. *Bulkiness*: Crops with a high value per unit of weight or volume, or which are relatively compact and easy to transport are desirable for contract farming. These include vegetables and fruits.
3. *Permanence*: Growers of permanent and semi-permanent crops cannot abandon production easily; they cannot break the relation with the buyer/processor abruptly.
4. *Need for processing*: Agribusinesses may prefer crops that require processing due to the high interdependence between producers and processors. Growers of crops that need rapid processing may have no alternative place to take their product. The fixed capital assets of processing plants represent an important percentage of the processing cost, so the profitability of the firm depends largely on the ability to operate close to plant capacity.
5. *Variation in quality*: Crops for which quality differences are normal and are crucial to processing are suitable for contract farming. These include many tree crops and kinds of fresh produce.

The importance of these factors is palpable but they do not determine, by themselves, the particular coordination arrangement that a firm will put in place (Goldsmith, 1985). In fact, crops that are “unsuitable” in some manner are often grown under contracts. According to Wells (as cited in Watts, 1994) crop attributes do affect the technologies, the division of labour and the productive organization that an industry will apply. Nonetheless, relations between agribusinesses and producers, and the labour arrangement adopted for a particular crop in a determined place, are always explained to some extent by the larger political and economic environment (Baumann, 2000; Goldsmith, 1985; Watts, 1994).

2.4.1 Perennial fruit crops and contracting

The technical and production characteristics of crops provide only limited explanations of the coordination arrangements preferred for agribusiness firms. Nevertheless, to study the effects and/or viability of various contracting schemes it is

revealing to further analyse some factors that can shape the negotiation between producers and buyers.

In the literature on contract farming, authors such as Baumann (2000), Eaton and Shepherd (2001), and Williamson (2002) have highlighted challenges and benefits of annual and perennial tree crops. Ruthenberg (as cited in Baumann, 2000) provides a list of advantages and disadvantages of agricultural systems with perennial crops:

Advantages:

- Individual land ownership established and investment in permanent improvements
- High productivity per hectare
- Labour often spread throughout the year and easier than arable farming
- Advantages of monoculture without as much reduction in soil fertility
- Often can use land not suitable for arable farming
- Fluctuations in yields smaller than arable farming
- Products can be transported and stored
- Considerable scope for intensification
- Cultivation can begin with only a few plants
- Mature trees have the potential to serve as a main form of collateral in the credit market

Disadvantages:

- High initial investment and yields do not reach capacity until after a few years
- Often important that processing should take place shortly after harvest
- Need processing plant, therefore high fixed costs
- Often need early skilled labour for good plant development
- Unlike arable farming, committed to one type of production for a long time
- Typically taxed very heavily
- Subject to price volatility in which periodic price peaks are followed by long, low- price depressions

Whether contracting for perennial crops is effective for firms and offers a better economic and social gain for growers also depends on national and international policy choices. In addition, it is indispensable to consider differences in households' endowments of labour, land and capital. Baumann (2000) mentions that tree contract farming is possibly more suitable for those smallholders whose main income depends on other activities. There is also a tendency for tree crops to benefit rich, often absentee farmers (Little, 1994).

2.4.2 Quality standards and global agro-food systems

Contracting is deeply connected with global agro-food restructuring and the adoption of international regulations. The industrial organization of agriculture accompanies the overall post-Fordist era of flexible specialization and the resultant need of firms to be more responsive to consumers' changing tastes. Correspondingly, quality is the key axis of competition; fresh fruit and vegetables are "designed" to meet niche markets. For the firms, production contracts play a vital role in the regulation and coordination of producers; it can be the strategy to make producers reactive to firms' needs to enhance their competitive advantage (Wolf et al., 2001).

Quality, consistency and standards are a major motivation for agroindustries to use contracts for fresh fruit and vegetable production. Quality from the consumer's perspective is an issue, but the international and global standardization of commodities, which are produced under heterogeneous conditions, is even more relevant. Increasing reliance upon a common measurement system has resulted in the formation of varied types of organizations (e.g. national, international, private, parastatal, associations, partnerships), schemes and certifications. For example, the Global Partnership for Safe and Sustainable Agriculture- EurepGAP has developed normative documents establishing standards and procedures for the global certification of Good Agricultural Practices (GAP). EurepGAP sets up the protocol and criteria for approved certification bodies to inspect and certify practices on the farm, as well as for food packing and processing, guaranteeing that the commodity chain is safe until it reaches the final consumer. EurepGAP accreditation is becoming a requisite for growers, packers and distributors that participate in the European market. Still, as explained by Stanford (2002), despite the

technical wherewithal to measure safety and phytosanitary conditions, acceptable standards remain in part a cultural and political issue. A universal agreement is unlikely.

The standardization of product quality and safety imposes a challenge for agribusinesses and producers. The firms have to compete and defend their markets; they have to demand from the growers enough volume of a product with the required characteristics. Producers have to restructure traditional production practices and redefine local perceptions of fruit quality (Stanford, 2002). Agribusinesses can attain quality-control contracting with individual growers, whereas producers engaged in contracts may become integrated into international agro-food markets. Yet, this participation compels producers to have a better understanding not only of agricultural practices and up-to-date price information but, ever more, of processing, marketing, importer and consumer requirements and changing international commercial systems. Producers have to cope with these extra burdens at the same time that they have to contend with reductions of government support in credit, agricultural extension, price regulations and other important areas as the result of structural adjustment programs. Many producers cannot take the risks or are not willing to assume the necessary changes in their production activities. Others do not have the means or resources for these changes, and eventually become unsuitable for the firms' needs. Many producers may abandon the industry and their land. Williamson (2002) reports that in Western Cape, South Africa 30% of farms could change hands if the owners fail to put in place the integrated pest management necessary to adhere to new quality specifications. Some more entrepreneurial producers will be eager to use the land in a more business-oriented manner. Thus, global quality standardization and contracting may impose serious challenges for producers, tending to increase local socio-economic stratification.

2.5 State intervention and contracting

The liberalization of agricultural markets accompanying structural adjustment programs and other neoliberal measures have led to a generalized withdrawal of the state from the sector. Reductions in public research, extension, rural infrastructure and credit provision have taken place around the world –especially in the South. Economic

liberalization relocates risk from the state onto the individual, and promotes the importance of direct dealings between producers and agribusinesses without state intervention. In that sense, contract farming appears as the perfect representation of the free market; it has been advertised as the ideal mechanism to invigorate the private sector, advance exports and relieve foreign-exchange shortages.

Although a change in government intervention is palpable, empirical evidence reveals that the assumed total disengagement of the government in the agricultural sector is a misconception. It is important for evaluating the dynamics of contract farming to identify former, current and potential roles of the government and its relation with the private sector and the producers. In Peter D. Little and Michael J. Watts's book, *Living Under Contract* (1994) the contributors point to the many ways in which the state promotes and facilitates agribusinesses' engagement in contract farming and the strong linkages between the private and the public sectors. The authors explain the significance of state involvement in joint ventures and other policies/programs such as regulating prices and providing market infrastructure and services to contracting firms. Little and Watts find that the state is a primary actor in the design and execution of contract farming in their areas of study in Africa, Mexico and Central America.

Governments may use contract farming to spur overall development and foreign-exchange earnings. Contract farming may increase revenues, food-crop production and rural employment generation, while avoiding foreign ownership of large pieces of land (Baumann, 2000). Many governments have promoted contract farming as an alternative to state-owned plantations, more in keeping with the neoliberal agenda. Outgrower schemes may also be attractive for governments that aim to keep central authority over smallholders, move farmers to new settlements, redistribute land and/or gain the political support of the middle peasantry. Contract farming and outgrower schemes may be very politically appealing for governments.

State support is usually a precondition for contract farming schemes to succeed (Eaton & Shepherd, 2001). In most countries there are no laws that explicitly regulate contract farming. In order to ensure the effectiveness of contract farming and ameliorate its possible negative effects, states may have an enabling, regulatory and developmental role. First, as a market regulator, the state may guarantee that agribusinesses do not abuse

their market power. A vigilant policy that penalises aggressive pricing in the sourcing of raw materials may increase prices received by farmers. This may reduce the exclusion of small farmers from contracts due to high relative costs, and restrain the monopsonistic⁵ power of a dominant firm that buys from a large number of small producers. Second, the state may provide support to smallholders to increase their suitability for contract selection, while encouraging agribusinesses to contract with smallholders. If the firms do not supply it, states may also offer technical and managerial training for the producers. These policies should decrease transaction costs for the firm and make smallholders more competitive (Simmons, 2003).

Young and Hobbs (2002) add that states may also have a function in reducing information asymmetry. States may support research and development of technologies that decrease quality-measurement costs for experience (detectable only after purchase and consumption) and credence (cannot be determined even after consumption) attributes. In addition, states may verify agribusinesses supply-chain inspections to assure credence attributes such as if the product is produced in an environmentally-friendly manner or is not genetically modified. The public sector may retain the responsibility of “establishing licensing procedures and industry standards for the provision of information and accreditation, and in facilitating the development of industry-wide quality assurance schemes” (Young & Hobbs, 2002, p. 436). Wolf et al. (2001) point out that when a third party such as a state agency or commodity association establishes and performs quality measurement, a certain perceived objectivity is introduced to the contract.

Eaton & Shepherd (2001) indicate other advisable state activities to enable contract farming. These include an arbitration or conflict resolution role. The authors provide examples such as the dispute-resolution guidelines and mediation services established by the Government of Malawi. Furthermore, the public sector may carry out research studies of the contracting product in association and consultation with the agribusinesses. These investigations should particularly benefit smallholders that lack capital and flexibility to change. Finally, state support in services such as quarantine

⁵ Monopsony is a state in which demand comes from one source. If there is only one customer for a certain good, that customer has a monopsony in the market for that good. It is analogous to monopoly, but on the demand side not the supply side. A common theoretical implication is that the price of the good is pushed down near the cost of production.

controls, plant pathology clinics and research stations is a precondition for the success of contract farming in high-value or organic products.

2.6 Theoretical orientations

Much of the contract-farming literature has focused on case studies in which the effects and/or implications of the system on a local economy and community are examined. The most common methodological approach has been interview surveys and semi-structured interviews. The studies have aimed to provide empirical evidence that addresses the debate between the two main theoretical interpretations of contract farming: that small-scale producers are likely to benefit from contract relations, or that contract farming often has negative repercussions for peasants.

The study of contract farming has intersected three broad bodies of literature: the classical debates on the agrarian question, the debate between the new institutional economics perspective versus the more traditional political economy perspective and the study of global agri-food systems. In this section I will examine these three main perspectives of contract-farming studies.

2.6.1 The agrarian question

The analysis of contract farming can be situated as part of the century old “agrarian question”, which attempts to understand the effects of capital’s penetration on agriculture, especially due to the internationalization of production. Contract-farming research interconnects the theories of capitalism’s uneven development in agriculture, and the debate in peasant studies on whether peasants, who rely on household labour, are destined to disappear in competition with larger capitalist farms. Such change would be associated with the rise of wage labour in agriculture, as argued initially by Lenin and Marx, or as stated by Chayanov, small farmers might become competitive and survive in the market place because of their capacity for “self-exploitation”. More over, as expressed by Kautsky, the peasantry’s persistence in a capitalized agriculture might not only be the result of the farmers’ willingness to self-exploit and hold on to their land, but also the convenience for large capitalist farms (and agribusinesses) to have available a cheap, part-time labour force. De Janvry (1981) has called this pattern in Latin American

agriculture “functional dualism”. The term “dualism” refers to the dichotomy between the advanced capitalist production of exports and luxury crops, and the more traditional peasant production of domestic food crops. The term “functional” makes reference to the nature of the relation between the main actors. Peasants, through the overexploitation of their own family labour, produce cheap crops for (mainly) domestic markets. Because their producer prices are often lower than their production costs, most families have at least one member engaged in waged work (for larger capitalist farms and/or agribusinesses); these workers make up the so-called semiproletariat. The author explains that in Latin America, functional dualism has created a large semiproletariat whose wages tend to be below subsistence levels, allowing the agroindustrial sector and capitalist farms to benefit from cheap labour. Similarly, Paré (as cited in Real, 2003) describes the process of proletarianization as one that results from the loss of rural costumes and capital accumulation, a process that she calls descampenization. In México the agricultural proletariat would be defined as day labourers (*jornaleros*), landless peasants as well as poor peasant landholders who occupy a determined place in the capitalist production system.

In his study on contracting of bananas in St Vincent, Grossman (1998) demonstrates that peasant persistence in export production is related less to the resilience of household economies than to the interests of the multinational firms that market peasant produce in the developed world. In addition, Kay (2000) claims that the emergence of a globalizing agriculture has not implied the disappearance of the peasantry in Latin America, but a new social composition. He describes that some peasants have evolved into “capitalized family farmers” or “capitalist peasant farmers”, while many have become “proletarians in disguise”, corresponding to Clapp’s (1994) and Lewontin’s (1998) descriptions of farmers who own a small holding but are completely dependent on agribusiness for their income, similar to rural wage labourers. Others have become “semi-proletarians”, whose principal source of income is derived from the sale of their labour rather than from their household plot. Finally, Kay notices that a significant proportion of peasants have been openly and fully proletarianized. This last group corresponds to those who have been “displaced from [agricultural] markets through shifting consumer tastes,

cheap and subsidized food imports, competition from agribusiness, and technological obsolescence among other factors” (Kay, 2000, p. 130).

2.6.2 The new institutional perspective vs. a political economy view

The agribusiness or modernization analysis articulated with the new institutional economics perspective claims that contract farming offers many benefits for small producers and ultimately their corresponding regions. Contracting may well allow small farmers to obtain technical assistance, specialized inputs and financial resources; and the adoption of international standards of product quality may permit peasants to access new (international) markets. Contract farming therefore may have the potential to increase incomes and promote rural development (Eaton & Shepherd, 2001; Key & Runsten, 1999). At the macroeconomic level, it can help to eliminate market imperfections in capital (credit), land, labour, information and insurance markets; lead to better coordination of local production activities; and reduce transaction costs (Singh, 2002). Firms can provide factors such as inputs, free training and extension, which may have been disrupted by structural adjustment measures; the private sector thus fills the void created by the closure of parastatal agencies (Eaton & Shepherd, 2001).

Contract farming is appealing for producers because it is a temporal arrangement that may allow them to obtain credit and technology otherwise outside their reach (Singh, 2002; World Bank, 2001). Reynolds (2000) provides an example of this with her research in the Dominican Republic, in which small-scale tomato growers engage in contracting to obtain production credit. The lack of access to credit from banks and overpriced interest from informal lenders make contracting a tempting mechanism to obtain capital. The firms pay for expected labor costs; therefore, growers can use these payments to purchase food and other needs, especially if they rely on their own family labour. Furthermore, Singh (2002) mentions that contracting is attractive for farmers seeking more secure markets and price certainty; it represents the opportunity to transfer part of the risk of price instability to the buyer, and as revealed by Baumann (2000), it is often the only mechanism that smallholders can adopt to access lucrative international markets.

Contracts may also guarantee agroindustrial firms a regular supply of quality raw materials, without having to invest in land, hire labour or large-scale farming (Singh,

2002). Key and Runsten (1999) and Raynolds (2000) analyse the legal restrictions of foreign firms on renting and owning land and accessing water rights in México and the Dominican Republic. They explain that, as a result, firms have to rely on contractors for product supply. The firm can usually choose the type of contract, as well as the group of growers with whom to contract; its main goal is quality product at below-market prices. Key and Runsten (1999) also mention that contracting firms tend to benefit from reduced costs for labor and labour supervision. The self-regulated labour on family-operated farms tends to increase labour efficiency and thus reduce production costs.

Furthermore, Baumann (2000), Eaton and Shepherd (2001) and Singh (2002) argue that a firm can project the image of working with local producers when contracting, for which it can receive incentives from governmental and international agencies for its activities (as development projects), while it presents a good image to the public. Raynolds (2000) mentions that the tomato industry in the Dominican Republic receives tax exemptions, low-interest loans and other subsidies from the government for contracting non-traditional agricultural products. Clapp (1994) provides another example of this kind; he traces the growth of United Fruit in Central and South America, observing that it gained access to cheap state credit through its alliance with local banana growers. He uses the cases of Costa Rica and the region of Urabá in Colombia, in which special loans and credits were available as a result of contracting. Contract farming presented as a smallholder-friendly scheme can thus be financially beneficial, as well as good for the public image of a firm.

In contrast, a political economy view argues that contract farming is one mode of capitalist penetration of agriculture, enabling increased capital accumulation via new methods of exploitation of the peasantry (Singh, 2002). Little (1994) also points out that a contract arrangement can be favourable for some of the participants, but may harm other actors and sectors of the regional economy, and often these uneven effects are simply ignored.

In some regions, contract farming has increased social polarization. Key and Runsten (1999) affirm that market conditions may influence a firm's decision about contracting with smallholders or with wealthier growers; where smallholders are excluded from contracting, contract farming may serve to exacerbate income and asset

inequalities. Watts (1994) points out that tea production in Malawi and Zimbabwe, as well as for palm oil in Cote d'Ivoire, requires heavy investment in industrial treatments; therefore, contractors are typically prosperous middle producers. This has increased rural inequalities and polarization within communities as poorer and indebted peasants are steadily displaced, fostering land accumulation and socio-economic differentiation.

Contract farming may also lead to a loss of autonomy and increased self-exploitation of the farmers. Clapp (1994) and Reynolds (2000) claim that despite the fact that contracts appear as an equal partnership, they are often a means of subordination of smallholders. As illustrated by Lewontin (1998), the contract farmer loses autonomy in the production process; s/he may own some of the means of production or hold the land title or sometimes manage the labour process, but this is an illusory control. The farmer may gain a more stable source of income, but at the price of becoming a proletarian on his own land. The essence of proletarianization is the loss of control over one's labour process and the alienation of the product of that labour. Clapp (1994) and Lewontin (1998) emphasize that the change in the farmer's position from an independent producer, selling to many buyers, into a proletarian without options tends to deskill the farmer and increases his/her dependency on the sole purchaser. Reynolds (2000) provides an example of the effects of this change on autonomy; she indicates that in the Dominican Republic, many growers find the challenge to their identity as independent producers as the most difficult part of contracting; they resent company depiction of themselves as "unskilled workers, as irrelevant landlords, or worst of all, as idle tourists" (p. 445).

The generalized increase of wage labour in agriculture has been associated with the growth of temporary and seasonal labour. In many Latin American countries, permanent wage labour has declined with the growth of agroindustries that export seasonal fruit, vegetables and flowers (Kay, 2000). Likewise, Singh (2002) comments that in the Indian state of Punjab, 25% of the total agricultural labour force corresponds to migrant labour. Temporary workers are paid on a piece-rate system, are not entitled to social-security benefits, and have no employment protection. In addition, the growth of seasonal wage labour increases the migration between rural and urban areas; rural residents often have to compete with urban labourers and vice versa. For Africa, Little (1994) declares that employment is frequently recognized as a major benefit of contract

farming, but in many countries contracting arrangements are for low-paid farm workers earning subsistence, or below subsistence, wages. Lewontin (1998) adds that in North Carolina, United States, temporary labour has hampered chicken farmers ability to organize associations and bargain collectively.

Moreover, contract farming has generally led to an increase in female labour. Agribusinesses that engage in production-management contracts largely employ women (Singh, 2002). Female workers are assumed to provide “quality labour” (they are more careful and efficient workers), “flexible labour” (more readily available for seasonal work and for lower wages) and “docile labour” (they are less organized than men, meaning politically trouble-free labour) (Kay, 2000; Singh, 2002). Watts (1994) highlights, that where the smallholder grower is paid for quality and quantity, and labour relies on family members, labour becomes more intensive (longer hours) and more extensive (using children and other unpaid household labour). Intra-household conflicts associated with contracting have been observed in many cases, especially in Africa. Moreover, Dolan (2001) in her study of gender relations for contracting of French beans, describes the critical gender conflict caused by contracting, in which women have sometimes responded to the erosion of their rights by conversion to Christianity or poisoning their husbands.

2.6.3 Dependency theory and global agri-food systems

Gwynne (1998) calls attention to the risks for developing economies of closer integration into global agri-food systems. He mentions that even though many governments see the growth of non-traditional agricultural exports as an opportunity for promoting economic growth, integration through contracting arrangements may increase the dependency and indebtedness of both the farmers and their regions. He also comments that due to the fact that most value added in agroindustry is generated at the highest stages of the commodity chain (i.e. marketing, distribution), and thus tends to be located in the advanced economies, there are many international spillovers from developing countries that engage in export-oriented agriculture. Gwynne affirms that contract farming has not been linked to a global agro-food system in which different parts of the network (e.g. production, packaging, processing) are located in different countries.

He states that most of the studies on contract farming are situated within the framework of modernization, but major benefits for developing countries of becoming integrated in this global agro-food system are not evident.

Furthermore, liberalization of markets and the trend towards a globalizing agriculture has generated the need to create official and internationally recognized quality standards (Kheralla & Kirsten 2001, Stanford, 2002). It has been assumed that contracting farmers adopt the technologies to produce consistently high-quality products as a result of contractual arrangements. Still, some producers may have difficulty gaining entry to closely-coordinated supply chains due to requirements for sophisticated production skills or the need for specialized equipment or capital.

2.7. Conclusion

As has been discussed above, reorganization of the agroindustrial sector has increased the need for coordination arrangements such as contract farming. The effects of these schemes on different groups of producers, a specific industry and a particular region vary widely depending on the political, socio-economic and cultural context; the characteristics of the crop; and the provisions that define the relationship between producers and firms. Agricultural economists and other development researchers renewed the interest in this subject area in the 1990's, and that interest remains strong as the trend towards closer coordination is expanding. The need for case studies that provide empirical evidence on the localized effects of contract farming has especially been emphasized. The following chapter explores the main political and economic transformations of Mexican agriculture, and the subsequent chapter further narrows the focus to coordination arrangements for the avocado industry in the Mexican state of Michoacán.

3. Contract Farming and Rural Development in México

The Mexican government has viewed the agricultural sector as both an engine and an obstacle for development. The general priority has been to design public policies that aim to develop the countryside to make it a more reliable source of livelihood. Toward that end, however, the strategy designed to bring about steady (economic) growth, has changed along with the needs of other sectors, the overall national economy and pressures from various international actors. National agricultural policies have had a profound effect at the levels of the state, municipality and individual productive unit. Furthermore, the ways in which the government has intervened directly in the agricultural sector have shaped the relation between all the actors: national and state governments, peasant and commercial producers/organizations; and private, often transnational, capitals.

In this chapter I will describe the development of Mexican agrarian policies with some of the latest repercussions for small-scale producers. I first present a brief sequential account of the political and economic rationale, economic strategies and agrarian policies of different administrations. This section especially addresses the increasing polarization between capitalized commercial producers and small-scale subsistence growers. Finally, I illustrate the main effects of contract farming in the Mexican countryside. I provide examples of the main industries that have carried out contractual schemes, focusing on the growers' selection process. These cases help to assess the general performance of contract farming as part of a rural development strategy in México. An examination of national and state agricultural policies, and the outcomes of contract farming, will later help to contextualize the avocado industry in Michoacán, and the coordination arrangements of *Calavo de México*.

3.1 The national political and economic context and México's new rurality

Policy reforms for Mexican agriculture have been carried out in the context of a worldwide reorganization of the agricultural sector that affects the state in general and the agricultural policies in particular. This reorganization is the result of the interplay between the circuits of national and international capital, increasing international stratification via the debt crisis, and the specifications of economic development strategies imposed by international financial institutions such as the World Bank (WB), the International Monetary Fund (IMF) and the World Trade Organization (WTO) (Raynolds, Myhre, McMichael, Carro-Figueroa & Buttel, 1993). The Mexican government has, more often than not, implemented agricultural strategies that aim to comply with the "recommendations" of these institutions, despite their evident bias against (small) rural producers and their communities. These development strategies, designed on the theories and experiences of the developed world theories and experiences, have been imposed in a top-bottom manner not only globally, but also locally, between the Mexican government and its citizens (Brohman, 1996).

Mexican agricultural policies have moved from a system of subsidized production, price controls and state protectionism to a more liberalized market and diminished state intervention. This abrupt restructuring of the agricultural sector has significantly changed its relation and interactions between the state, private agroindustries and agricultural producers, and has had a dramatic effect on the economy and welfare of rural dwellers. Such restructuring has reinforced México's dualistic agricultural sector, juxtaposing small-scale and subsistence producers to modern commercial producers.

Economic liberalization processes initiated in the mid-1980s, accompanied by governmental efforts to integrate Mexican agriculture into the global market, have benefited some entrepreneurial producers but have had a seriously negative effect on the agricultural sector in general, and the peasant sector in particular. Neoliberal policies have reinforced the urban-rural divide, and tendencies towards increasing inequalities and accumulation of capital and resources among rural elites. Old problems of rural credit, unemployment, out-migration and poverty remain, while mounting food dependency on the

United States threatens, more than ever before, Mexican independence and sovereignty. Peasants are being increasingly excluded from agriculture, evermore impoverished, and driven into bankruptcy (Bartra, 2004; Kelly, 2001; McDonald, 2001).

The deterioration of large parts of the Mexican countryside, and especially the precarious situation of the peasants, should be understood as the historical product of political and economic developments through the twentieth century. In the following pages I will provide an overview of the main state economic strategies and policies and their effects. This should illustrate how various governments' attempts to modernize, industrialize and internationalize the countryside have primarily benefited foreign agribusiness and local rural elites, while they have exploited and/or excluded peasants.

3.1.1 *Cardenismo* and land reform

The direction of Mexican agricultural policy changed decisively during the administration of Lázaro Cárdenas (1934-1940). The Cárdenas government implemented a model for rural development in which *ejido* communities and peasant agriculture were central. Redistribution of land for the *campesinos*⁶ was a central part of the reform. During his presidency, Cárdenas redistributed 18 million hectares of land, roughly 10% of México's national territory, to the benefit of some 800,000 *campesinos* (Thompson & Wilson, 1994). Cárdenas provided irrigated land of high quality to a large number of landless *campesinos*. Much of the land had been expropriated from *hacendados*⁷ and large-scale agricultural producers, who angrily fought against the land reform. In addition, the Cárdenas administration provided subsidized agricultural inputs such as fertilizer, hybrid seeds and irrigation, and increased the access of small-scale producers to credit. Many *ejidatarios* and other small-scale farmers were able to produce considerable surpluses and join the commercial agricultural sector. *Cardenismo*⁸ had a dualistic effect on the Mexican agricultural sector. On one hand, the implemented policies allowed, for the first time, a viable small-scale agricultural sector and improved the livelihood of countless *campesinos*; on the other hand, the policies created a heavy rural dependence

⁶ *Campesino* refers to a farmer or farm worker that survives mainly from subsistence farming.

⁷ In Mexico, the owner of a large land-holding was generally called the *hacendado*.

⁸ *Cardenismo* refers to the assortment of practices and beliefs that developed from Lázaro Cardenas presidential reforms and then ramified into many social spaces, from the elite halls of policy formation and political campaigning to the quotidian reproduction of peasant modes of livelihood.

on the state. This dependence would be used by administrations that followed to exert political control over the peasantry and their organizations.

3.1.2 Economic nationalism and the ISI model

The administrations that followed Cárdenas shifted away radically from *Cardenismo*. This was especially true during the administration of Miguel Alemán (1946-1952), which basically brought agrarian reform to a complete standstill and introduced the import-substitution industrialization (ISI) model. Key goals of the ISI development model were to increase production of food staples, achieve national food self-sufficiency and boost industrialization. The ISI model involved heavy state intervention; subsidies and protectionism for domestic businesses and industries; and inducements for foreign investment. Businesses and industries benefited and grew rapidly, stimulated by very low taxes on corporate profits, high personal incomes and returns on investment. Foreign direct investments into the Mexican agroindustrial sector grew from US\$173.8 million in 1960 to US\$917.3 million in 1979 (Valtonen, 2001).

The Alemán administration exploited the dualistic nature of the agricultural sector. The commercial sector was export-oriented, with an emphasis on fruits and vegetables for the U.S. market, and generating the foreign capital needed to finance industrialization. The peasant sector provided inexpensive food for the nation's rapidly growing urban population, allowing low wages to be maintained. Heavy public investment in agricultural infrastructure, irrigation and pricing policies supported large-scale production (Warnock, 1995). Production and marketing of basic foods were subsidized; price controls on basic food items kept returns to peasant farmers low (Gates, 1996). The large-scale commercial export sector was viewed as fundamental for rural development, whereas the peasant sector was increasingly neglected.

By the early 1960's México had become food self-sufficient and had achieved nutritional levels higher than in the previous two decades. However, over the next twenty years Mexican agriculture shifted to the production of more processed and relatively more expensive products in response to the demands of industrialized countries, especially the United States. This resulted in a new international division of labor: the United States became evermore specialized in the production of basic foodstuffs, whereas

México focused on the production of luxury foods. The irrigated districts still grew an important amount of wheat, but grains were steadily replaced by crops for processing, exports and cattle feed (Barkin, 1987). State incentives and gains from the Green Revolution were disproportionate; undoubtedly the state supported the modernization and internationalization of the agricultural sector at the expense of the traditional food complex (Raynolds et al., 1993; Valtonen, 2001; Warnock, 1995). By 1980 México had become a net food importer, and has been one ever since (Appendini & Liverman, 1994).

Lack of capital and state support restricted the peasant sector to the production of low-value basic crops intended for the national market, whereas the subsidized and modern commercial sector produced high-value crops generally destined for the export market. Many small-scale farmers became labourers in commercial farms, while many others became impoverished. Unemployment, underemployment, hunger and resentment increased, accompanied by the suppressing of the working class and the peasantry by authoritarian governments. Tendencies in agricultural production toward increased processing and export induced a larger concentration of land and capital, and the marginalization and proletarianization of peasant producers (Sanderson, 1983).

3.1.3 The economic liberalization

The ISI strategy was abandoned after the economic crisis in 1982 when government officials blamed protectionism for exacerbating the inefficiency, corruption and obsolescence of agriculture. Since the second half of the 1980s, particularly under president Miguel de la Madrid (1982-1988), México emphasized the export-oriented model of economic development. The strategy aimed to encourage manufactured and agricultural exports to generate enough foreign currency to cover increasing imports and repay a foreign debt that approached US\$150 billion (Basave, 2001). It attempted to integrate Mexican agriculture into the international markets, and transform peasants and other farmers into competitive, efficient producers. The new strategy also involved the promotion of foreign investment and the privatization of public corporations. The constitutional decree that banned foreign corporations from owning more than 49% of a Mexican business was eliminated. Transnational agribusinesses such as Green Giant,

Birdseye/General Foods, Del Monte, Gerber, Safeway and Campbell expanded rapidly (Warnock, 1995).

President Carlos Salinas de Gortari (1988-1994) continued México's economic liberalization strategy, which he himself authored as Minister of Budget and Planning during the previous de la Madrid administration. Salinas' National Program for Modernization of the Countryside called for privatization of state-owned enterprises in agriculture, promoted private investment in infrastructure in rural areas, reduced price supports for basic food crops, ended national marketing boards such as the National Basic Foods Company (*Compañía Nacional de Subsistencias Populares* – CONASUPO), and contracted public credit and insurance programs. State subsidies were cut and interest rates increased, putting new pressures on farmers. Research institutes and technical support programs were abolished. Land redistribution and programs for nutritional assistance to the poor were abandoned (Warnock, 1995). The administration directed its efforts toward commercial agriculture, with an emphasis on exports to the United States. The dream of restoring self-sufficiency vanished; imports of basic foods rose from 8.5 million tons in 1981 to 10 million tons in 1988, and the population grew by some 7 million (Gates, 1996).

The national program also advocated "alliances for production" or associations between *ejidatarios* and the private sector. The Salinas administration was devoted to converting the agricultural lands of the *ejidos* into commercially productive lands, especially via change to Article 27 of the Mexican constitution. This was announced in November 1991 and quickly ratified, to prevent massive opposition, in January 1992. The new regulations and its Program for Certification of Ejidal Rights and Titling of Urban Patios (*Programa de Certificación de Derechos Ejidales y Titulación de Solares* – PROCEDE), made it possible for *ejidatarios* to sell or mortgage their land. Furthermore, *ejidatarios* could more easily engage in commercial contracts with businesses and financial organizations. In the past, *ejidatarios* had only usufruct rights of land use and inheritance; they were neither allowed to hire labour nor engage in sale, rental or sharecropping contracts. The new Agrarian Law of January 1992 announced the withdrawal of land redistribution programs for the landless and peasants, and radically changed the nature of *ejidal* plots (Johnson, 2001). The Salinas administration hoped that

by allowing less-competitive *ejidatarios* to sell or rent their land, larger more-entrepreneurial producers would make better use of these plots and modernize the agricultural sector.

3.1.4 The North American free trade agreement - NAFTA

The political and economic reforms of the administrations of de la Madrid and Salinas claimed the neoliberal framework would prepare México for the NAFTA integration (Johnson, 2001). The NAFTA agreement, implemented since 1994, is the first free trade agreement between an advanced industrialized nation and a developing nation that includes agricultural trade (Bonnis & Legg 1997). The agreement promotes the production and trade of Mexican fruits, vegetables and other intensive agricultural products via lowered trade barriers into the U.S. and Canadian markets, lowered cost of imported agricultural inputs, and facilitating the establishment of foreign service industries in México (Runsten & Key, 1996). It was expected that NAFTA trade between the United States and México would proceed smoothly, guided by the two countries' comparative advantages. Mexican producers would respond to market signals to redirect their activities from the uneconomical production of basic foods (mainly maize) to more profitable, labour-intensive exports such as vegetables, fruits and nuts, in addition to non-competitive crops such as coffee and tropical fruits (de Janvry, Sadoulet & Davis, 1997). Accordingly, México would increase imports of land- and capital-intensive goods such as grains, oilseeds and meat products. The Mexican government expected that a free trade agreement with the United States would boost private-sector investment in the Mexican economy and increase capital inflows required for economic recovery and sustained growth. It would also ensure future access to the U.S. market and demonstrate México's commitment to an open-economy development strategy.

The results of NAFTA have been very controversial. The combination of many severe oversights and unrealistic expectations has widened the polarization of national income distribution, as well as a regional gap between the North, Centre and South of the country. NAFTA has also accelerated the collapse of small-scale production and the dislocation of millions of Mexican peasants. In their 1997 assessment, de Janvry, Sadoulet and Davis note that NAFTA has not altered the traditional dualistic kind of

agriculture in México; small producers continue to cultivate basic grains, mostly for internal consumption, owing to their lack of access to credit and other required inputs needed to diversify their production. Large-scale producers are the main recipients of private capital and they benefit from the dissemination of better information and price competition. Neoliberal economic restructuring has increased unemployment, poverty and social polarization; the undemocratic and repressive actions of the state have fuelled uprisings by national and international social organizations, rooted in the growing discontent of large parts of the Mexican society (Otero, 1996; Warnock, 1995; Williams, 2001).

3.1.5 Transitional measures to a liberalized economy: PROCAMPO and *Alianza para el Campo*

The administration of Ernesto Zedillo (1994-2000) moved away from the extreme neoliberal free-market position of Salinas toward a more moderate one, albeit still clearly neoliberal (McDonald, 2001). Between 1992 and 1996 the government developed new agricultural programs to facilitate producers' adjustment to a market economy. *Ejidatarios*, in particular, who by the early 1990's accounted for almost half of México's farmland and three quarters of the nation's producers, were distressed by the contraction of government extensionism, input and output subsidies, and government marketing channels. At the same time, the Program of Direct Payments to the Countryside (*Programa de Apoyos Directos al Campo* – PROCAMPO) and the Alliance for the Countryside (*Alianza para el Campo*) aimed to increase investment and productivity in the agricultural sector (Cord & Wodon, 2001).

PROCAMPO is an income-support program for agricultural producers initiated during the 1993/1994 agricultural year and projected to last 15 years. The program supplies producers who have legal usufruct over the land with a preset payment per hectare. Because payments are not linked to current output levels, they are supposedly less distorting than price supports. The affected hectares per producer are determined by the number of hectares that were planted in one of the nine PROCAMPO crops⁹ in one of the three agricultural cycles prior to August 1993. Payments are made per hectare for

⁹ The PROCAMPO crops are maize, beans, wheat, cotton, soybeans, sorghum, rice, barley, safflower and barley

each crop season and are the same across the country (Cord & Wodon, 2001). De Janvry et al. (1997) and Harris (2001) note that even though larger farmers will obtain the greatest payments, subsistence producers who did not benefit previously from price supports due to the non-commercial nature of their production, could now access the PROCAMPO supports.

In 1995, 88% of the PROCAMPO recipients owned less than 5 has. of land and they accumulated about half of the total payments. Subsistence farmers, cultivating less than two hectares and having low yields, consisted of 65% of entitled beneficiaries and they collected around a quarter of the total payments (Harris, 2001). Many authors agree that PROCAMPO has been successful in the goal of reducing poverty in the *ejido* sector. PROCAMPO resources “provide about 8 percent of *ejidatario* household income across all income deciles, but the program's contribution represents up to 40 percent of the income in the poorest decile” (Cord & Wodon, 2001, Program Description section, para. 6). Moreover, according to SAGARPA (2002a) the PROCAMPO payments represented in 2002 a quarter of the income obtained per area harvested for 35.6% of the beneficiaries, and half of income for 24.1% of all recipients.

In 1996 the Alliance for the Countryside, another national program to promote agricultural and rural development was launched. The Alliance program aims to address identified farmers' problems such as low productivity and technological levels. It promotes agricultural productivity through productive investments and the sponsoring of support services¹⁰. Under the Alliance program, all the Mexican states annually sign an agreement with the federal government allocating funds to support technological changes aimed at increasing yields. The program has already established some sub-programs for that purpose (i.e. ferti-irrigation, mechanization, rural equipment, pasture improvement and kilo for kilo¹¹); yet, each state selects the Alliance sub-programs it would prefer to invest according to its defined needs and priorities. The Alliance for the Countryside operates under a matching-grants scheme; the contribution of funds by the federal government is tied to the level of funds provided by state governments and producer

¹⁰ Support services include research, extension, information, and training.

¹¹ Kilo per Kilo subsidizes the price of improved seed of major crops like corn, bean and wheat. For example, cost of one Kilogram of improved wheat seed would be same as the market price for wheat grain.

associations. It gives the state government more autonomy and encourages increased organization within the productive chains (Cord & Wodon, 2001).

3.1.6 The Vicente Fox administration

The Vicente Fox administration (2000-2006) has given continuity to the PROCEDE, PROCAMPO and the *Alianza para el Campo* programs. Fox's policies have reinforced the state's commitment to the internationalization of the Mexican agriculture and the unwavering support of commercial producers. In 2002, *Alianza para el Campo* was transformed into *Alianza Contigo*, and has been redirected towards the promotion of agricultural exports. Additionally, in 2003 the Program for the Commercial Promotion and Exports Advancement of Mexican Agri-food and Fishing Products (*Programa de Promoción Comercial y Fomento a las Exportaciones de Productos Agroalimentarios y Pesqueros Mexicanos* - PROMOAGRO) was launched. PROMOAGRO became the strategy to encourage producers and the private sector to become more competitive and increase presence of Mexican products in the national and international markets.

PROMOAGRO is a subsidy program for producer organizations engaged in the promotion, marketing and quality improvement of agricultural products. The subsidies augment producers' investments by up to 50 to 70%. Funds are allocated through the Support Services for Agricultural Marketing (*Apoyos y Servicios a la Comercialización Agropecuaria* - ASERCA) according to two primary criteria: projects that strengthen and consolidate supply, and projects that promote commercialization and consumption. The subsidies have included the promotion of both "*Tipo Inspección Federal*" and "*México Calidad Selecta*" brands at the national and international level. These brands have consolidated the state's interest in achieving international quality recognition for Mexican products, especially non-traditional exports (PROCAMPO, 2003). PROMOAGRO subsidies have especially served the capitalized, organized producers and packers of the grape, avocado, lemon and mango productive chains.

The deterioration of the countryside under the NAFTA, particularly of the more disadvantaged producers and *campesinos*, compelled peasant organizations to demand policy reforms. The Peasants National Confederation (*Confederación Nacional Campesina* - CNC), the Permanent Agrarian Congress (*Congreso Agrario Permanente*

(CAP), *El Barzón* Movement, The Countryside Cannot Stand it Anymore (*El Campo No Aguanta más*), and the federal government agreed on the creation of the National Accord for the Countryside (*Acuerdo Nacional para el Campo* - ANC). The ANC, signed on April 28, 2003, aims to guarantee food security and sovereignty, and promote sustainable rural development. The ANC intends to emulate the U.S Farm Bill. It attempts to keep Mexican agriculture competitive by increasing phytosanitary, food safety and sanitary inspections and imposing quality standards. It includes a plan for an income safety net for the producers of basic grains and oilseeds on a multi-year basis, energy subsidies for the costs of electricity and diesel, and more access to credit at lower interest rates for Mexican farmers. The ANC accentuates the importance of sustainable rural development, self-sufficiency and food security, and most importantly, acknowledges the significance of differentiated support policies for various types of rural producers (Taylor, Yunez-Naude, Barceinas and Dyer, 2005).

The ANC encourages agricultural producers to diversify their production and engage in contract farming. According to points 53, 151 and 220 of the accord, it is assumed that contract farming would reduce the harmful dependency on imports, promote the regional commercialization of products that compete with imports, and increase the efficiency and fair distribution of profits along the productive chain (Secretaria de Economía, 2003). Contract farming is seen as an important mechanism to incorporate producers into international markets, increase organization within productive chains, and ensure the commercialization of crops that face marketing difficulties. Undoubtedly, Vicente Fox and Javier Usabiaga Arroyo, the head of the federal Agriculture Ministry, will give continuity to policies and programs that promote privatization and the internationalization of agriculture, for which coordination arrangements between (transnational) agribusinesses and producers are fundamental.

Despite the positive intentions of the accord, the National Agricultural Council (*Consejo Nacional Agropecuario* - CAN) and other organizations have criticized the Fox administration for failing to meet the commitments made to agricultural producers under the ANC. The organizations also argue that if developed nations fail to remove unfair subsidies, the Mexican government must not curtail its support for the rural sector. Any attempt to improve the conditions of poorer Mexican producers will be pointless in the

absence of a serious commitment of the United States, the European Union and Japan to abolish unfair trade practices. A serious commitment of the Mexican government is required to mend the asymmetric competition between Mexican producers and their international counterparts.

As seen in this section, the models and strategies recently implemented by Mexican administrations to promote economic growth and modernization of the countryside have also increased the subordination of the peasant sector. Governmental policies that have had a direct effect on the agrarian sector or changed its external conditions, combined with the expansion and internationalization of Mexican agroindustry, have not only affected the productive process of peasants but also their opportunities and options for the commercialization of their produce. The future of the peasantry in México is uncertain and, for the most part, pessimistic. The restructuring and liberalization of agriculture has increased the number of rural inhabitants in extreme poverty and of those who have been expelled from the countryside; large numbers of Mexican indigenous and *mestizo* peasants continually swell the ranks of illegal immigrants and urban poor (Bartra, 2004). The neoliberal economic strategy of development has further impoverished the poor, while threatening the survival of the remaining vestiges of México's cultural legacy.

3.2 Contract farming in México

Agricultural contracting has been encouraged by the Mexican government and has been used by domestic and foreign agribusinesses regularly. The expansion of contract farming in México, as in the rest of the world, has been directly associated with the internationalization and industrialization of agriculture, and most recently with the execution of neoliberal policies and the global trend towards integration and liberalization of markets (Echánove and Steffen, 2001). Runsten and Key (1996) explain that reduced government support and involvement in agriculture, including decline of input subsidies (e.g. water, fertilizers and chemicals), credit and agricultural research and extension, previously provided and/or regulated by the state, has compelled Mexican growers to seek funding in the private sector and thus participate in contract farming. The

Mexican government has concurred with the World Bank and FAO concept that contract farming is one of the ways in which peasants can access essential inputs and market their products; private contractual initiatives, often from large food and agribusiness companies, are expected to help to overcome the exclusionary nature of neoliberal reform (Eaton & Shepherd, 2001; World Bank, 2001).

In a similar way, contractual arrangements have been the preferred strategy, sometimes the only feasible one, for agribusinesses to guarantee a steady supply of quality produce. The above-mentioned legal restriction that prevented foreigners from owning land effectively blocked, for many years, any attempt by foreign investors to implement vertical integration in México (Key and Runsten, 1999; Mares, 1987). Therefore, contract farming and joint ventures with governmental and private domestic corporations appeared as the best solution for production. After the 1980s, with the state restructuring and the opening of the economy, the relationship between the private and public sectors was unlocked. The Mexican state has minimized its direct control in agricultural production and marketing; currently, public institutions are more commonly involved as regulatory entities and occasionally as providers of credit and extension. The Mexican export-oriented strategy has increasingly relied upon private capital. Nowadays, foreign agribusinesses can purchase and lease land, but they prefer to produce under contracts rather than face the public criticism that plantation-kind of production may generate. In addition, not owning or directly controlling land allows agribusinesses to move to a new region or even country without major disruption in their operations or legal penalties to the company. Contract farming has been an effective mechanism for foreign and domestic agribusinesses to take advantage of highly diversified, low-cost Mexican agricultural production.

In México, sugar and tobacco are mainly grown under contract. Contract farming is also employed for fruit, vegetable and seed production, as well as for chicken and hog breeding. It is used to a lesser extent for grains such as barley and some varieties of wheat. The Mexican government has also contracted particularly for sorghum and soy production. Pillsbury, Campbell Soup Company, General Foods, and other U.S. transnationals have engaged in contracting for crops such as strawberries, tobacco, tomatoes, cocoa, carrots, asparagus and corn (Echánove, 2001; Watts, 1994). Contract

farming is more frequently used for vegetable processing than for final sales as fresh produce; similarly, contractual arrangements are more commonly implemented for export sectors, in which product quality specifications are more demanding (Echánove, 2001).

3.2.1 The internationalization of Mexican agriculture

The exact origins and relative importance of contract farming in México are very difficult to establish due to the lack of statistical data. However, contract farming is generally regarded as characteristic of the internationalization process and the global corporate model of agriculture (Nigh, 1999; Valtonen, 2001). Mares (1987) explains that contract farming first developed as the fresh fruit and vegetable export system originated around 1906. The first exporters, mostly immigrants from the Greek-American and Japanese-American communities with ties to U.S. produce distributors, grew vegetables for export in northwest México. As a result of their success, a number of U.S. entrepreneurs began funding Mexican growers to plant these crops. Mexican entrepreneurs who had the capital to invest in the industry saw it as a risky and expensive business. The industry became reliant on capital inflows coming U.S. distributors.

During the period between 1906 and the mid-1960s the U.S - Mexican winter vegetable market was dominated by U.S. distributors. In addition, the industry was on both the American and the Mexican ends, controlled by immigrants such as Greeks, Japanese, Germans, Italians and French. Familial ties were common in the business; distributors and growers were often relatives. The family nature of the industry has also been observed for agribusiness corporations. This character of the business increased ownership concentration; in the mid-1970s seven companies controlled over 50% of the produce moving through Nogales (Mares, 1987).

Mexican agrarian internationalization has had a pronounced tendency towards vertical coordination and horizontal integration, and the massive entry and investment of transnational corporations (TNCs) into México. Contract farming, vertical integration and the expansion of multinationals, either by forming conglomerates with or acquiring large national enterprises, have been extensively observed. This integration allows such companies to dominate several sectors and lines of production of related or unrelated products. Foreign capital also gains control over a large percentage of productive inputs,

especially seeds, agrochemicals and machinery. By the early 1980s 130 foreign firms, with over 300 plants, dominated some of the most important agro-food sectors in México; 33 out of these 130 firms are positioned within the 100 largest agroindustrial conglomerates in the world. In the same way, the largest Mexican agro-food conglomerates such as Grupo Industrial Bimbo S.A. (GIBSA), La Moderna o Gruma have grown in the sector through mergers and acquisitions, and due to their transformation into TNCs (Valtonen, 2001).

Since the 1990s fruits and vegetables have generally been the most prosperous crop types in internationalized Mexican agriculture. Valtonen notes that between 1991 and 1995 the exports of vegetables and fresh garden products, except tomatoes, grew from US\$489 to US\$929 million. Tomato exports escalated from US\$395 million in 1993 to US\$586 million in 1995. Mares (1987) and Valtonen (2001) emphasize the importance of Mexican fresh vegetable supply for the U.S. winter vegetable season; it is during this period (November-March) that most of Mexican products enter the U.S. market. México produces about 96% of U.S. tomato imports and 80-90% of U.S. cucumber, onion, bell pepper and squash imports. Fresh vegetables are the foremost agricultural export to the United States, increasing nearly 120% since the early 1970s and currently accounting for 40% of the total value of all Mexican agricultural exports (Málaga, Williams & Fuller, 2001). At the same time, foreign capital has been very active in the fresh vegetable and fruit industry; in the early 1990s 50 companies, mainly TNCs and a few nationals controlled most exports (Valtonen, 2001).

The existing pattern of internationalized agriculture has been promoted as the best vehicle to capture foreign exchange through agricultural exports. Nevertheless, the overall result for the Mexican economy has generally not been positive; through the 1990s the earnings from agricultural exports have been counterbalanced by the added costs of food imports. At the same time, this trend strengthens the role of large agribusinesses (essentially TNCs) in the Mexican economy, and undermines (domestic) medium and small-size companies. In the same way, the internationalization of the fruit and vegetable sector has reinforced the historical division and polarization between domestic and export agriculture, and has increasingly separated the export branch itself into many small producers and a few really big “players”. Both small and large (export)

producers depend on foreign-controlled productive inputs and marketing channels; international agribusinesses are at the forefront and control the sector. From this perspective, the successful integration of producers into the international agricultural complex essentially relies on institutional arrangements including service cooperatives, joint ventures with other producers or processors, and contract farming (Valtonen, 2001).

3.2.2 The effects of contractual relations in México

The effects of contract farming in the Mexican countryside have been highly contentious. The debate has been polarized between those who envision contract farming as a mechanism by which small producers may access technology and increase their incomes (Williams & Karen, 1985), those who view it as a system by which multinational agro-industrial firms can exploit an uneven power relationship with the growers; and from a less explored standpoint, those who argue that contracting may eventually entirely exclude peasants from agricultural production whatsoever (Echánove, 2001). Overall, most authors would agree that the effects of contract farming must be assessed in terms of the participation of small-scale producers in contractual schemes, the benefits that the producers receive as a result of their participation, and the consequent distribution of income and socio-economic stratification among growers. The scale of the growers with which a firm chooses to contract will ultimately determine the major effects of contract farming in the context of agricultural development.

In their 1996 analysis of contract farming in developing countries, David Runsten and Nigel Key contend that initial studies of México such as that of Ernest Feder (1977) of the strawberry industry and that of Ruth Rama and Raul Vigorito (1978) of the fruit and vegetable processing industry, were biased against transnationals; their stress on the ill effects of foreign capital on the Mexican countryside hindered their objective assessment of agricultural contracting. By contrast, those who have presupposed beneficial results for smallholders have taken a pro-business perspective that often failed to measure the actual extent, in both economic and social terms, of contractual arrangements. Most claims by these studies in which the outcome of contract farming in México has been portrayed as entirely positive or negative are based on simplistic or weighted arguments.

Runsten and Key (1996) explain that numerous experiences indicate that “there are crops and situations appropriate to smallholder participation [in contracting], and that there are crops and situations that are almost certainly doomed to fail” (p. 3). The authors provide concrete examples to highlight the need to evaluate the diverse economic motivations that agroindustries may have in contracting with specific types of producers, the producers’ incentives to participate in these arrangement and the myriad of difficulties that can arise during the venture. The following section draws mostly on Runsten and Key’s investigation.

3.2.2.1 Frozen vegetables

In the Mexican frozen-vegetable industry the three main types of coordination arrangements between firms and growers are all present. However, contract farming and vertical integration are more common, the former being the most frequently implemented. The industry has been almost completely oriented toward the export market, mainly responding to growing U.S. demand: from 1985 to 2000 the per-capita intake of frozen vegetables in the United States increased by 21%. Since its origin, the frozen-vegetables industry has been based in the Bajío¹², mainly in Guanajuato, a region where smallholders control over half the irrigated land. The growers involved in the industry are a very heterogeneous group; there are large commercial undertakings of several hundred hectares and also small-individually owned one-hectare *ejido* plots. Two out of the 18 frozen firms are U.S. transnationals (Green Giant and Birds Eye), three are joint ventures between national and foreign capital, and the other 13 are national companies. The two transnationals obtain their produce through contracts or purchases from other firms; they are not vertically integrated. All of the other firms employ both contracting and vertical integration to varying degrees. Approximately 18,350 has. are cultivated under contract farming in Guanajuato, involving 584 producers (Echánove, 2001). The terms of the contracts vary widely generally with simple procurement contracts with the larger commercial growers, and resource-providing and production

¹² The Bajío is the region comprised of extreme north-eastern Michoacán, Guanajuato and Querétaro characterized by large-scale commercial, export oriented production. The Bajío area is the most important agricultural region in the country and is considered the breadbasket of the republic.

management contracts being adopted with smaller producers and *ejidatarios* (Key & Runsten, 1999).

The frozen-vegetable industry in México was introduced by the U.S. firm, Birds Eye, in 1967. There was essentially no spot market in the area and, before the 1992 constitutional amendment, foreign firms were banned from owning or renting land themselves; therefore, a firms' only available supply was through contracts with local growers. Initially Birds Eye contracted with some of the largest growers in the region to reduce transaction costs. First, vegetable production was perceived as risky; harvest loss is not unusual due to weather conditions and plagues. Additionally, some of the crops (e.g. broccoli) were newly introduced in the region. Guanajuato was and remains principally a grain producer. It was attractive for the firms to contract with large producers who could manage the risk of crop loss, and had experience producing vegetables. Second, the agribusinesses were aware that a legal dispute between a foreign firm and small farmers might harm their reputation; in order to minimize the possibility of noncompliance with the terms of the contract, Birds Eye put into practice an initial screening of potential producers. The firm would not take legal action against producers that failed to respect the contracts; instead, the company would not contract with them again. Third, large growers saw an opportunity to contract with U.S. firms. Growers would enter the international market, benefit from better prices and learn the technologies required to run their own freezing plants and other operations.

By contrast, smaller producers require more services from the firm, which would entail additional costs. These farmers generally want loans for production as well as crop inputs, need more technical assistance and capital to use specialized technologies, and have larger communication costs as they often have no phones. Moreover, small producers make more numerous deliveries of smaller volumes than larger producers and require more monitoring for chemical violations. Finally, the Mexican agrarian bourgeoisie, especially those occupying managerial positions in the U.S. firms, often have a deep-seated hostility and contempt towards small producers and *ejidatarios*.

Green Giant adopted a less restrictive strategy for their plant in Irapuato, Guanajuato. The firm wanted to assure a larger group of suppliers that those contracting with other companies. Additionally, the firm wanted to avoid potential problems of price

manipulation by a few large suppliers of the produce. This was the main reason it built its plant in Irapuato in 1983, a new region for the industry, and to contract with *ejidatarios*. However, around 1986, the firm had complications finding enough growers from whom to obtain produce. In 1987 the diminishing profitability of grains encouraged growers (large and small) to produce vegetables for the frozen-vegetable plants; suppliers became evermore widely available. The firm therefore became more selective and contracted less with small producers; the goal was to obtain the most from each producer and reduce transaction costs.

Similarly, Birds Eye contracted with *ejidatarios* in Aguascalientes during the 1980s. The firm encouraged producers to contract as a group, but this plan did not succeed. The arrival of new plants in Aguascalientes, and the elevated cost of transporting the produce of many independent small producers, caused Birds Eye to contract with larger producers in new areas in the north of Guanajuato. Likewise, Campbell contracted at first with small-scale *ejidatarios* for pickled cucumbers in the Valle de Santiago, Guanajuato; the numerous *ejidatarios* were more than enough to satisfy the labour requirements of cucumber picking on a continuing basis. By 1990 the market crashed and Campbell withdrew from the frozen-vegetable industry in México. Green Giant, Birds Eye and Campbell initially contracted with small producers to secure enough volume of produce, but also because of the lack of other possibilities. Once larger producers became the firms' main suppliers, independent small producers became relatively more costly and consequently unnecessary. By reducing the number of growers (i.e. maximizing the scale of the growers with whom they contract) agribusinesses could minimize costs.

Campbell was the only one of these firms that implemented diverse kinds of contracts to maximize plant productivity. The firm offered seven different types of contracts that allowed producers to choose according to their individual requirements, and the firm to pay different prices to the various categories of contractees. In the case of broccoli, contracts varied from one providing full services¹³ with a base price of 6.5 cents per pound to one for purchases at the plant door for 13.5 cents per pound (Runsten &

¹³ "Including all operating capital, use of specialized machinery, seedlings, inputs, regular technical assistance, and some risk-sharing in the event of crop loss" (Runsten and Key, 1996, p. 32).

Key, 1996). This strategy was intended to compensate for the higher costs associated with small producers. Yet, despite the seven contracts, Campbell was not able to recover all of its higher transaction costs involved with the *ejidatarios* to pay a price high enough to attract non-service growers.

Runsten and Key (1996) remark that the correlation between the producer price received and the size of the producer is often the result of buyer's attempts to calculate its transaction costs. The authors note that although the price may be the result of the bargaining power of the producers, it also reflects the real costs of the transaction. Echánove (2001) emphasizes that the travel expenses of technicians or supervisors are regarded by the frozen-vegetable firms as very expensive; this cost decreases when they only supervise a few growers within a fairly reduced geographical area in contrast to visiting many small-scale growers widely dispersed in a region. The approach favouring diverse contracts may be considered as a strategy to recover the differential costs of dealing with each category of producers. The success and viability of contracting with small producers also depends on the contractor's understanding of the needs of the growers, and the firm's disposition to provide an appropriate transfer of technology. But the inclusion of *ejidatarios* and small producers in the industry critically depends on the firms' ability and efforts to deal with the transaction costs.

Frigorizados La Huerta is a successful case of contracting with smallholders. *La Huerta* is a family-owned frozen-vegetable firm located to the north of the city of Aguascalientes. The family ranches supply most of the plant's produce, but the firm also contracts with about 10 private producers and 70 *ejidatarios* in the states of Aguascalientes and Zacatecas. *La Huerta* has contracted with *ejidatarios* for over 12 years, providing credit, seedlings, fertilizers, chemicals and supervision to *ejidatarios* contractees who grow broccoli and cauliflower. The firm began contracting with the *ejidatarios* bordering its home ranch, many of whom were already working for the ranch. The initial successes of *ejidal* production encouraged the firm to contract with more *ejidatarios* and expand in the region.

La Huerta has efficiently reduced transaction costs, even while contracting with many small-scale producers. The firm has designed contracts that suit both the producers and the business. Contracting *ejidatarios* and their children (who work for the firm in

other activities) reduces screening costs and increases contractual enforcement; producers do not want to jeopardize the job security of family members working for the firm. Additionally, the firm has reduced the costs of site visits by restricting the number and location of *ejidatarios*, and choosing only those whose lands are located along the main highway. It is feasible for the firm's agronomist to visit all the farms once a week. Moreover, the producers have to pick up the seedlings and fertilizer from the firm and deliver their harvest to the firm. In terms of the land market, it is cheaper for the firm to contract with the *ejidatarios* rather than to rent land from non-*ejidatarios* producers; the initial ban on *ejido* land rentals forced the company to choose contracting. According to *La Huerta's* own assessment, *ejidatarios* achieved considerably higher average yields than the firm's own ranches; it is possible that this is the result of "self-monitored" labour and the ability to catch disease and pest problems sooner in a small plot. Contracts with *La Huerta* are appealing for *ejidatarios* because of the access to agricultural inputs and especially because, unlike the banks, the firm provides credit without collateral. Thus, contractual arrangements have been beneficial and profitable for both *La Huerta* and the *ejidatarios*.

In his 2001 study of the frozen-vegetable firms in Guanajuato, Echánove expounds two cases in which a group of *ejidatarios* were, similar to the *La Huerta* case, successfully integrated into the contracting process. In the Santa Rita *ejido* a group of six or seven *ejidatarios* cultivated broccoli for the Marbran and/or Expor San Antonio firms under total contracts. Similar to the San Francisco Chihuindo *ejido*, the producers were able to cultivate twice or three times their portion of *ejidal* surface (5-8 has. on average) by sharecropping and/or renting land inside or nearby their own *ejido*. The capital to lease land came from the remittances of family migrants to the United States, extra-agricultural activities and from contracts by frozen-vegetable firms with the small producers. These *ejidatarios* have been able to capitalize and improve their wealth; they have acquired their own machinery and transportation and fumigation equipment; and also invested in their households. To the agribusinesses, these producers are small-scale growers, but in reality this group of *ejidatarios* benefited from contracting with the firms, capitalized and expand, and moved to another socio-economic stage or level. True small-scale growers are being excluded from the contract farming schemes in the frozen-

vegetable industry. The firms' shift of rationale regarding the scale of suppliers, the growing prevalence of larger producers as contractees, and the market saturation that has blocked contracting with new producers, have all increased social differentiation within the *ejidos*.

3.2.2.2 Processing tomatoes

The tomato processing industry in México began in the early 1960s for the domestic market. The industry initially developed with capital from foreign investors such as U.S.-based H.J. Heinz and Spanish-Mexican *Elias Pando*. Later in the 1960s, Mexican firms *Tomex* and FESSA started operations in central Sinaloa. In the early 1970s, Mexican investment companies PRINSA and PAISA, as well as *Sinaloapasta* and *Alimentos Mexicanos Selectos* (subsidiaries of Campbell Soup and Del Monte, respectively), began exporting processed tomato products to the United States. During the 1980s and 1990s large plants, including paste plants, were built in the states of Sonora and Sinaloa. The processing plants were established to take advantage of the surplus fresh tomatoes produced in the region; most of these plants have almost always operated under contractual arrangements.

In 1990 and 1991 a study by Moulton (as cited in Runsten and Key, 1996) estimated that the 10 plants in Sinaloa and Sonora were functioning a little over 50% of installed capacity. The underutilization of the plants was the result of poor coordination of planting schedules and the consequential irregular flow of tomatoes to the plants. Lack of legal enforcement of contracts made it difficult for the processors to monitor yields; growers sporadically sold contracted tomatoes on the open spot market or part of their harvests to the fresh market, and claimed they had low productivity. Industrial tomatoes were channelled to the fresh market when prices were advantageous, forcing the processors to raise their prices; inversely, when there was oversupply and the price in the fresh market dropped, fresh market tomatoes were sold to the processing plants at lower prices. Processors thus had difficulties obtaining a continuous supply of tomatoes, which increased operating costs.

Processors have responded in several ways to this uncertainty of produce supply. First, the majority of the plants have been sold to large tomato growers who would

employ a more vertically-integrated arrangement, thereby controlling supply more efficiently. Second, firms have contracted with producers who do not have direct access to fresh tomato markets, often *ejidatarios* in Sonora. *Ejidatarios* have become the most appealing contractees for the firms; yet, as a result of negative past experiences, firms are reluctant to provide credit or supply extensive technical assistance. In addition, tomato production in smallholdings is often problematic; lack of land rotation increases the chances of virus and plague problems in the soil and diminishes productivity. Finally, a number of firms have opted for diversification; processing of chiles, garbanzos or sweet corn makes the frequently elevated prices of raw tomatoes more controllable. However, in general the lack of effective coordination between firms and growers has decimated, to a large extent, the potential of the tomato processing industry.

3.2.2.3 Strawberry

Strawberries were produced in Irapuato, Guanajuato as early as 1888. Production of frozen and fresh strawberries for the U.S. market grew rapidly during the late 1940s and 1950s thanks to large investments by U.S. brokers. The industry expanded to Zamora and Jacona, Michoacán during the 1960s; producers, largely from Irapuato, rented *ejidatarios'* irrigated land and started cultivation. During the 1960s and 1970s a substantial number of packing plants, mostly owned by American investors, opened; by 1966 there were 17 plants with a capacity of over 100 million pounds per year, by 1972 capacity had expanded to some 250 million pounds, and by 1974 there were 33 freezers (Runsten & Key, 1996; Mummert, 2000). The strawberry industry became very appealing, first for private landowners and shortly thereafter for *ejidatarios*; processors financed many of the new growers and the government even constructed a plant in Zamora for the *ejidatarios*. Rapid growth of the industry resulted in an overproduction crisis in 1970 and 1974. The U.S. and Mexican governments agreed to establish quotas to limit the total frozen-strawberry exports. Control over production, primarily via acreage limitations, was given to the producers through the National Union of Vegetables Producers (*Unión Nacional de Productores de Hortalizas* - UNPH), later renamed the Confederation (Confederación - CNPH). Facing this loss of control, foreign investors and large producers were dissuaded from participation; production was left mostly to groups

of *ejidatarios*. These strawberry growers focused their attention on production of fresh produce for the national market, while frozen production diminished.

During the last decade, as part of the neoliberal agenda, the government has encouraged independent producers to take control of the strawberry industry. Quotas on acreage were removed and producers who are not members of the CNPH have been able to receive certificates of origin and phytosanitary standards, and ship their produce without following the CNPH guidelines (Runsten & Key, 1996). In 1990, the *Del Rio* packing house, a subsidiary of a major transnational firm, shifted from buying the produce of small producers to a vertical-integration arrangement in which the company started growing their own strawberry for processing in their plant. The company rented land near the plant and in other nearby areas, and hired hundreds of workers during the year. The ranch became a major source of jobs for the locals, and developed a research center with the latest technologies (Mummert, 2000). In contrast, the industry as a whole only weakly developed; during the twenty years of the CNPH control, little was done to improve production or design a strategy that would increase competitiveness. Moreover, the government did nothing to strengthen the industry. U.S. brokers still control the export industry and México imports strawberry plants from California (despite the differing climatic needs of these plants). Furthermore, with the elimination of strawberry duties due to the NAFTA, Mexican producers risk being swept out of the international market, and eventually of the domestic market as well. Smaller producers now sell their strawberries on daily spot markets, and due to their low technology and lack of capital, are unlikely to become linked with multinational processors. The future of the strawberry industry appears to be one dominated by arrangements such as vertical integration and contract farming oriented towards medium to large producers, controlled by transnational capital and foreign packing houses (Runsten & Key, 1996).

3.2.2.4 Melon

Similar to tomatoes, melon production has greatly depended on American capital. During the 1960s U.S. companies were the sole buyer of the fruit; the amount produced, as well as packaging and quality standards, were all set to satisfy the American market (Durán & Reséndiz, 1989). Since then, and with enormous government support, melon

producers became organized in associations; but in contrast to most traditional organizations, they achieved some autonomy and local/regional political strength. Governmental development projects and accessibility to exportation credits allowed the associations to buy their own packaging systems and to negotiate advantageously with American buyers (Stanford, 1996). McDonald (2001) makes clear that once producers' associations gained control of the industry in the 1960s, U.S buyers searched persistently for other regions of production. From 1970 to 1988, export production was developed in the states of Colima and Guerrero, dominated by large-scale commercial producers in contrast to the large associations of peasant producers in Michoacán. U.S. buyers claimed they obtained higher yields and lower costs in these other states. However, competition increased and more growers joined the associations, even in Michoacán.

In 1980 with the beginning of SAPs, the National Bank of Rural Credit (*Banco Nacional de Credito Rural - Banrural*) removed financial support for agricultural exports. Melon producers fell under the control of foreign companies, which already had some resentment against the producers (Gates, 1996). These companies financed production, and were thus able to fix contract conditions, promote overproduction and change purchasing prices at will. Moreover, they cut credit to melon associations in 1988, leaving producers virtually absent from the international market (Stanford, 1996). Despite the associations' efforts to control planting, the overproduction encouraged by the American companies became rampant. The cumulative impact of years of overproduction manifested itself especially in 1987-1988, when a saturated market caused prices to fall sharply and left almost 4,000 has. of melons unharvested. The farmers ignored their contracts and sold their melons to anyone who would pay cash. As a result, some local associations could not repay crop advances to U.S. buyers, so these buyers stopped financing peasant associations. McDonald (2001) emphasizes that the removal of governmental institutions in the agricultural system resulted in buyers choosing to only work with large commercial farmers, leading to a consequent marginalization of small producers.

As the evidence from these cases suggests, agribusinesses choose to contract with smaller growers only when other alternatives are not available. Firms select contract producers carefully and, more often than not, choose producers with lower needs for

information, technical supervision and capital. The major disincentive for firms to contract with small producers is higher transaction costs; the productivity and quality of the products of small producers has not been a major issue. The ability of the firms (by implementing strategies like that of *La Huerta*) and the producers (by organizing themselves and negotiating as groups or cooperatives) to reduce these costs make it viable for firms to contract with smaller producers. However, firms are often reluctant to negotiate with producer organizations due to accompanying demands for better contracts (e.g. social security); instead, firms may seek to contract with independent, often larger, producers or relocate to another region or country. Governmental policies that regulate or influence contractual relations may balance the bargaining power of firms (national and multinational) and producers. To date, investments in agribusiness production and marketing channels are not reaching the smallest producers; peasants are being excluded from contracting schemes. Contracting has aggravated income and asset inequalities; it has concentrated wealth among medium and large producers who are becoming integrated into international markets and benefiting, at least to some extent, from liberalized agricultural markets.

3.3 Conclusion

Mexican economic development strategies and agricultural policies have aggravated the dualistic nature of the rural sector. ISI and neoliberalism are economic paradigms that have not solved the poverty problems of México or its rural sector. The state has generally favoured the capitalist, commercial sub-sector of agriculture, while sacrificing the needs of peasants; yet, despite the increase in agricultural trade, the nation is experiencing agricultural trade deficits and a mounting food dependency. The smallest producers are being increasingly displaced from agriculture and will not benefit from liberalized agricultural markets. Contract farming, as a strategy to reverse the exclusion of peasants from industrialized and liberalized agriculture has not been effective. The government assumption that the adoption of contract farming will be straightforward and successful has overlooked the heterogeneity of the Mexican countryside and the complexity of relationships among producers, private agro-industrial capital and labour

markets. At the same time, promoters of contract farming have failed to recognize the enormous and often conflicting motivations, needs and expectations of both corporate agriculture and smallholder farming. The Mexican government should not neglect its responsibility to the wellbeing of the agricultural sector, and particularly to the peasantry.

4. The Avocado Industry in Michoacán

The avocado industry in Michoacán, México has rapidly evolved from a small domestic sector towards an industrialized, heavily regulated system that exports internationally. A brief background of the avocado industry in México is provided in this chapter. It begins with a general characterization of the industry and continues with a chronological account of its establishment, domestic growth and expansion beyond national borders. The chapter points out the role of producers, packers and government agencies in the transformation of the industry, and highlights the occasional alliances between actors. The chapter ends with a concise description of the distribution system for both the domestic and the export markets.

4.1 Basic avocado industry characteristics

México is the world leader in avocado production, consumption and exports. In the 2003/2004 Mexican marketing year (August/July), México produced 902,332 tons of avocados. The country produced 105,000 tons (11.6% of the total production) of fresh fruit for export, 772,332 tons for domestic consumption and 25,000 tons for processing (Foreign Agricultural Service, 2005). In 2003 México exported US\$195 million of avocados, including US\$98 million for the United States. The rest of the fruit was shipped mainly to Europe, Japan, Canada and El Salvador (Kype, 2004). The fruit sold nationally is largely distributed through the main domestic markets such as México City, Guadalajara and Monterey.

Michoacán is the principal avocado-growing region in México. In 2004 85,709.32 has. were planted with avocado; of those hectares, approximately 52% have irrigation throughout the year and the other 48% are rainfed. Michoacán grows 84% of national production (797,000 tons approx.) in 25 municipalities; however, as shown in Figure 4.1 and Table 4.1, 90% of the total surface planted with avocado is concentrated in a

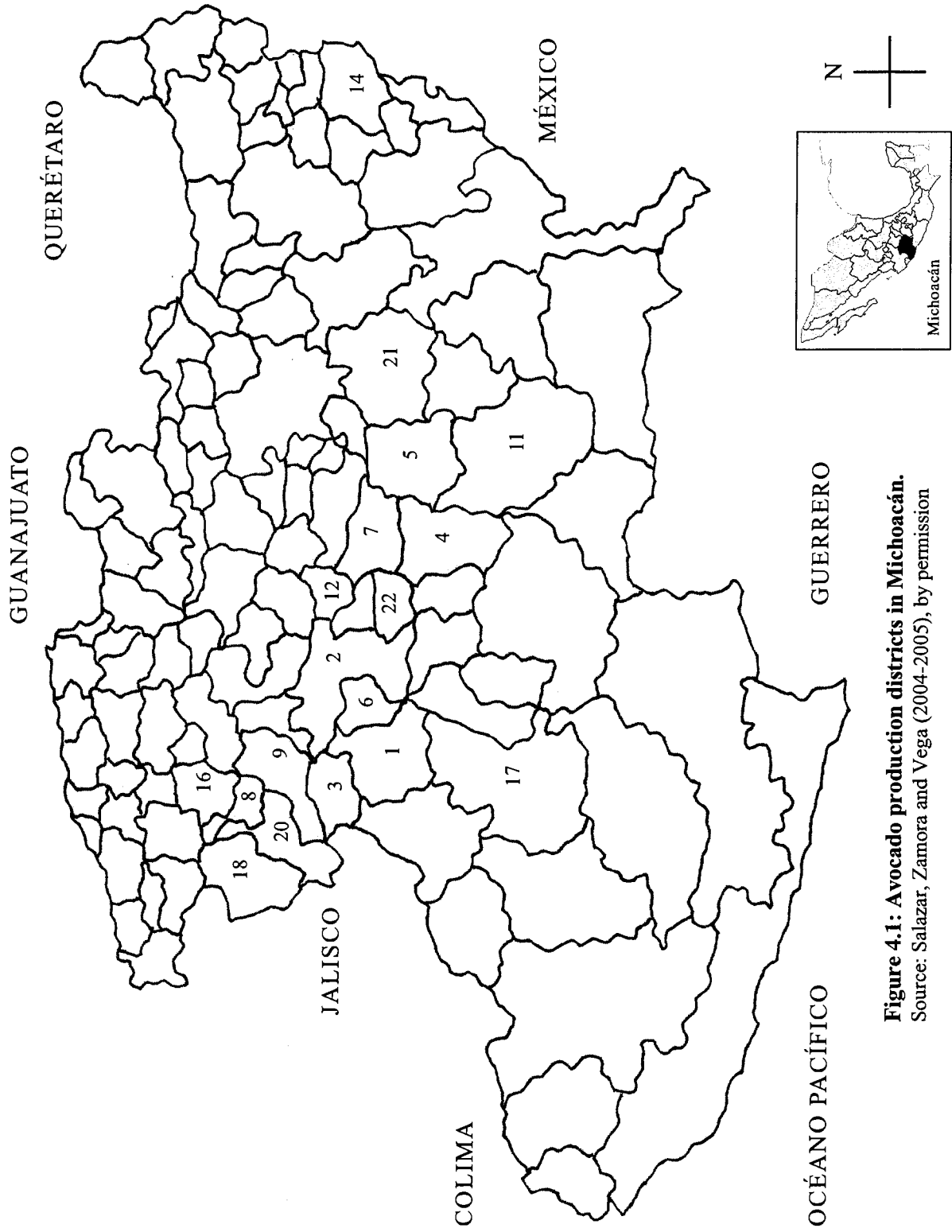


Figure 4.1: Avocado production districts in Michoacán.
 Source: Salazar, Zamora and Vega (2004-2005), by permission

Table 4.1: Avocado region districts in Michoacán, as shown in Figure 4.1, by cultivated area and percent of total.

District number in Figure 4.1	District	Avocado cultivated area in hectares	% from total
1	Tancítaro	15,177.00	17.7
2	Uruapan	14,878.00	17.4
3	Periban de Ramos	12,839.00	15.0
4	Ario de Rosales	8,000.00	9.3
5	Tacámbaro	7,401.50	8.6
6	Nuevo Parangaricutiro	5,688.00	6.6
7	Salvador Escalante	5,291.00	6.2
8	Tingüindín	3,684.00	4.3
9	Los Reyes	2,849.00	3.3
10	Nuevo Zirosto *	1,720.00	2.0
11	Turicato	1,455.00	1.7
12	Tingambato	1,415.00	1.7
13	Ziracuaretiro	1,120.00	1.3
14	Zitácuaro	995.00	1.2
15	Acuitzio	690.00	0.8
16	Tangamandapio	575.00	0.7
17	Apatzingán	448.82	0.5
18	Cotija	410.00	0.4
19	San Andrés Corú *	318.00	0.4
20	Tocumbo	285.00	0.3
21	Villa Madero	262.00	0.3
22	Taretan de Michoacán	208.00	0.2
	TOTAL	85,709.32	100

* Not shown in Figure 4.1 as they are included in Uruapan and Ziracuaretiro respectively.

Source: Salazar, Zamora and Vega (2004-2005), by permission

few municipalities, including Uruapan, Tancítaro, Peribán, Tacámbaro, Ario, Los Reyes, Tingüindín, Nuevo Parangaricutiro and Salvador Escalante (INEGI, 2002; SAGARPA, 2000; Salazar, Zamora & Vega, 2004-2005). Avocado is produced in areas with an elevation between 1,400 and 2,500 m, in which the daily temperature ranges from 16 to 17.4 °C during the coldest months and from 21 to 22.5 °C during the warmest ones. The length of time from bloom to harvest is 8 to 14 months, depending on the altitudinal location of an orchard; harvest in the lower lands occurs faster. There are four blooming seasons (*Normal, Marceña, Loca, Avanzada*) throughout the year, which results in the overlapping of fruit and flowers of different ages in a tree and/or different regions. In the areas above 2,000 m producers can leave the fruit on the trees for over 6 months after it

has achieved minimum eating ripeness (22.5% of oil content and dry matter) without damage to the fruit because the ripening process only speeds up significantly after the avocados are picked. The main harvest occurs in the period from October to April, which also corresponds to the time when the largest volumes are exported. The climatic and ecological characteristics of Michoacán allow avocado production and commercialization almost all year round (Bárcenas, 2002b).

In México and Michoacán several varieties of avocado are grown. The adoption of propagation techniques such as grafting has given origin to varieties such as Fuerte, Bacon, Rincon, Zutano and Hass. The Mexican *criollo* (native variety) and Californian Hass are the most common varieties in the region. Hass scion is grafted into the rootstock of the *criollo*; the latter being more resistant to plagues and climatic hazards (Bárcenas, 2002a). Since the 1960s Hass avocado orchards have expanded rapidly in Michoacán: from 1,000 has. in 1960 to 28,614 has. in 1980 to 57,490 has. in 1990 (Stanford, 1998) to almost 80,000 has. currently planted. At present more than 90% of the trees belong to the Hass variety; it has a superior quality, high yields and a long shelf-life that is preferred for the national and international markets (Bárcenas, 2002a).

Avocado trees usually begin producing fruit within 3 to 4 years of planting and may produce for up to 50 years. The average yield in Michoacán is 10 tons per hectare; however, mature orchards can have yields of 15 tons or more. Avocado is consumed as fresh fruit or as guacamole; it is also processed for the extraction of its oil, increasingly used for the cosmetic and dog-food industries and as cooking oil. Avocado production is reported to employ 47,000 people year-round in Michoacán, with about 70,000 additional workers during the harvest (Ochoa & Ortega, 2002; *Aguacate Michoacano al mundo*, 2003). The Alliance for the Countryside program reported in 2001 a total of 9,629 avocado producers in Michoacán, out of which 6,719 were *ejidatarios*, 850 *comuneros*¹⁴ and 2,060 small private owners (*pequeños propietarios*); the average size of the land is 4-6 has. (M.A. Garcia, personal interview, September 24, 2003). The “avocado campaign” run by the State Office of Plant Safety (*Comite Estatal de Sanidad Vegetal – CESV*) has issued a phytosanitary registration card (*cartilla fitosanitaria*) to 14,512 orchards and

¹⁴ *Comuneros* are individual members of a rural community, with rights on the lands allocated as communal lands. There are two forms of communally-held property: the *ejido* and the *comunero* community-held property. The latter is a type of land registered by the Mexican government to identify ownership of lands in the indigenous settlements.

11,595 producers. This registration has meant the regulation and periodic assessment of 60,365.09 has. cultivated in avocado; however, there is still 24.66% of the total area that has not entered the campaign and thus is not regulated by CESV technicians (M.A. Garcia, personal interview, September 24, 2003).

4.2 The Michoacán avocado industry background

4.2.1 Industry establishment and land distribution

The avocado industry in Michoacán was begun in around 1957 by entrepreneurial producers from Nuevo León. Despite the initial scepticism of a large majority of the region's inhabitants, these pioneers began the grafting and cultivation of the Fuerte and Hass varieties brought from Puebla. Local producers expected grafted plants to die before they could achieve full production; however, the Fuerte and Hass trees successfully adapted to the regional climatic conditions, achieved high yields with low capital investment and mechanization, and the fruit was quickly absorbed by the national market. Moreover, plagues and pests were not observed. Soon it became evident, at least for wealthier producers, that the Fuerte and Hass avocado represented a very important commercial opportunity for the region. In addition, in an effort to improve the price of coffee, the most important commercial crop in Uruapan at the time, the Michoacán Coffee Institute (*Instituto Michoacano del Café*) promoted the new avocado varieties as part of its crop diversification program (Bárceñas, 2002a; Stanford, 1998).

During the 1970s the avocado industry transformed the economy and the social structure of Uruapan and the surrounding region, the principal area of production in Michoacán. A growing national demand for Michoacán avocados spurred development of the industry, encouraging many new entrepreneurs to become avocado producers. The "avocado fever" accelerated the transformation of pine and Encino oak forests, as well as corn and sugar-cane plots, into avocado orchards. The same entrepreneurs who initiated Hass production began buying forested land, clearing it and selling it for avocado orchards. They also built the first greenhouse for which grafted plants and scions were sold. Doctors, agronomists, accountants, merchants and other professionals who had investment capital became avocado producers. In the same way, outside investors became

attracted by the potential of the industry and well-watered, fertile land in the area; wealthier producers from the Apatzingán Valley in Michoacán saw in the avocado an alternative to the dropping prices they were facing for melons and cotton (G. Morán, personal interview, September 2, 2003; Stanford, 1998). Many subsistence and basic-food producers, who sold their land, emigrated or became labourers on their former land (Bárceñas, 2002a).

The accumulation of land among wealthier producers, understood as a process of *neolatifundism*¹⁵, has been linked with the shift towards production of commercial, exportable crops in Michoacán; for example, this was widely observed in the Apatzingán Valley for the cotton industry from 1958 to 1965. Small producers and *ejidatarios* did not have the economic means to adopt crops such as cotton due to the high capital investment required; land rental contracts with wealthier producers, usually verbal agreements, became very common despite the legal prohibition on *ejidatarios* renting their land. Moreover, the administrative authorities of Tierra Caliente, the heart of cotton and melon production, excused land-rental activities, which were rewarded as a mechanism to improve the plots, direct capital to *ejidatarios*, and familiarize them with modern technified production of exportable crops (Durán & Reséndiz, 1989; Mummert, 2000). Similarly, in the avocado region, small peasants and *ejidatarios* could not wait the 3 or 4 years that avocado trees require to achieve full production; state subsidies for basic-food production also discouraged small producers from diversification. Capitalized producers and investors who had the knowledge and the machinery to produce exportable crops also enjoyed growing access to credit, whereas small producers depended more and more on their new tenants and/or the state.

The avocado or “green gold” industry accelerated the transformation of the agrarian social structure and class relations in Michoacán. Most land renters, usually educated or at least literate, had investments in other commercial activities, often in diverse regions. These entrepreneurs were often involved in activities such as agricultural-machinery rentals, transportation, construction, commercialization of agricultural inputs and other commerce. Therefore, groups of actors with access to land,

¹⁵ From *latifundia*. *Latifundia* is a large land-holding system usually linked to the rural-bourgeoisie. The term *neolatifundismo* expresses the perceived inability of agrarian reform to fight the domination of large private estates.

and who dominated decision making over agricultural practices, overlapped with clusters of commercial intermediaries and service providers. Production of commercial and exportable crops requires year-round labour, for which contacts with intermediaries are vital; in contrast, unskilled labour has become more seasonal and progressively less necessary. Despite yield increases and successful expansion of cash crops such as avocado, mechanization has dramatically decreased the number of labour-hours per hectare. Unemployment, proletarianization and migration processes have accelerated rapidly as a result of the steady industrialization of agriculture in Michoacán, especially in the period from the late 1950s to the 1970s (Durán & Reséndiz, 1989).

4.2.2 The avocado industry beyond national borders

Shifts in national policy begun during the 1980s profoundly affected agricultural producers in Michoacán. The BANRURAL stopped allocating credit among grain producers, causing many farmers to withdraw completely from agriculture. At the same time, falling purchasing power throughout México decreased the demand for avocado, which was already suffering price declines due to the oversupply. Many farmers abandoned production entirely, joining the ranks of the informal sector in centres such as Uruapan, or migrating to the United States. Some small/medium producers sold their orchards to larger producers, whereas others managed to retain their orchards by reducing costs to a bare minimum necessary to maintain production. Some of the largest producers had previously built packing houses allowing them to increase efficiencies via vertical integration, but the difficulties in the national market also forced them to seek new markets. Mexican neoliberal reforms acted to relocate risk from the state towards individual producers (McDonald, 1999). Avocado producers had to develop new skills, strategies and aptitudes to cope with the myriad of socioeconomic transformations introduced by the free-market system.

The phytosanitary ban that prevented Mexican avocado imports into the United States, forced producers to search for new international markets. In 1982 a small group of large producers sent the first avocado shipments to France. These entrepreneurs had neither the knowledge nor the technology to participate successfully in the international market. Long distances and post-harvest handling decreased the quality of the fruit,

lessening its competitiveness compared to well-established rivals from South Africa and Israel (Bárceñas, 2002a; Stanford, 2002). The European market worked on a commission basis, allocating most price risks to the Mexican exporters; European importers sold the fruit according to market conditions and quality characteristics, and discounted an 8-10% commission, as well as costs for transport, inspections, tariffs and taxes. The Mexican exporters then received payment several weeks after final sales. Some dishonest importers abused the trust of the Mexican neophytes, leading to growing resentment and suspicion of the European operators (Stanford, 2002). Lack of state financial and technical support compelled producers to obtain bank loans using their packing houses and orchards as collateral. The first exporters struggled to gain a foothold in the international market; only a few very large producers with the financial strength to handle the riskiness of the European and Japanese markets were able to participate and profit. These entrepreneurs' success in the international market also strengthened their relative power and control over the Mexican avocado industry (Stanford, 1998).

Beginning in 1987 Michoacán avocado exporters have attempted to organize all the local producers, standardize quality and phytosanitary characteristics, and limit volume to control prices. These efforts were aimed primarily at reversing the 1914 phytosanitary ban preventing exports of Mexican avocados to the United States. A major step toward this goal came with the consolidation of the Association of Avocado Exporters and Packers of Michoacán (ASEEAM). The association's aims were to establish a set of quality standards that all producers would follow to export their fruit, promote Michoacán avocados around the world and coordinate the work of the local exporters (Paz, 1989). ASEEAM supported the 1991 governmental program that established regional sanitary norms and quality standards. Furthermore, ASEEAM proposed the creation of a marketing board that mirrored the one in California; the board would enforce mandatory quotas, request membership in producer organizations and standardize quality characteristics. State representatives further encouraged organization that could increase the control over and eradication of phytosanitary problems (Stanford, 2002).

4.2.3 The phytosanitary campaign

In 1990 avocado growers, representatives from the main producing municipalities and CESV technicians met to establish the procedures for a regional campaign that would address the phytosanitary and technical concerns of the United States Department of Agriculture (USDA) and its Animal and Plant Health Inspection Services (APHIS) agency (Stanford, 2000; 2002). Plant Health Municipal Boards or *Juntas Locales de Sanidad Vegetal* (JLSV) were established and a protocol to be submitted to the USDA-APHIS was agreed on (Stanford, 2002). A combined effort between the (wealthier) producers, technicians from the JLSV, the CESV and state representatives resulted in a very effective plan; agricultural engineers from each JLSV carried out technical surveys of 90% of the avocado production zone (approximately 90,000 has.), collected pest samples in orchards in the seven municipalities and mounted a pest-eradication campaign in the four municipalities where it was necessary. By June 1992 APHIS had accepted the campaign as a feasible strategy to possibly change the quarantine decree; however, California growers alleged that the protocol lacked scientific proof demonstrating that the orchards were free of fruit flies. The Mexican growers continued the pest-eradication campaign, but it was not until June 1994 that a scientific protocol was established.

An important goal of the phytosanitary campaign was to obtain a directory of producers. All avocado producers were asked to register their orchards at their respective JLSV. Each producer was required to pay an established quota per hectare to support the campaign; this payment would entitle a grower to get his plot sampled and, if pests were found, to receive technical supervision. Smaller producers viewed the campaign as an alliance between the federal/state governments and wealthier producers. The campaign set the industry parameters at the regional level for achieving quality and sanitary requirements for the international market; it would only benefit the very few, larger producers that were exporting their fruit. At the time, 97% of México's avocados were marketed in the national market (Stanford, 2000). Smaller producers who did not have the capital to improve their technology did not see the need to comply with norms and fruit characteristics that were not demanded by national consumers. Most producers resented the land and wealth accumulation among the larger producers and the support

they received from the Federal Office of Plant Safety (*Dirección General de Sanidad Vegetal – DGSV*) (Stanford, 2002).

For many small growers there was no need to complicate an already profitable business. Despite price fluctuations in the national market, avocado is an advantageous business; after 5 or 6 years of establishment, an orchard is self-sustainable and continuing low investments still result in a gain. Most local producers and packers have self-financed their activities and take pride in the fast expansion of production and marketing with very little state support. Such producers do not see the need to organize or regulate the industry and its marketing channels. Producers prefer to retain autonomy over their activities and often mistrust governmental agendas (Stanford, 2000). Nonetheless, for the wealthier producers, organization and regulation of the industry accompanied by increased cooperation with the state government and federal agencies were essential elements to access the American market.

4.2.4 NAFTA negotiations and the entry into the United States market

Mexican avocado growers generally supported the NAFTA negotiations, expecting that the agreement would help to remove the phytosanitary ban that for over 83 years had kept them out of the American market (Stanford, 2004). Michoacán producers had been fighting to reverse the prohibition since 1972 (Powell, 1997) and argued that it was a political maneuver designed by U.S. avocado producers, primarily in California, to protect their market (Stanford, 2000). California growers asserted that Mexican avocado orchards were plagued with avocado seed and stem borers, and Mexican avocados were host to some varieties of Mexican fruit fly (Stanford, 2002). Yet, since 1990 U.S. companies such as Dole and Mission began shipping Mexican avocado to Europe and Japan. The firms would export the Mexican fruit in closed containers from U.S. ports for the international markets, mostly on a commission basis (Stanford, 2000). For the Mexican producers this was evidence that the quality of their fruit was satisfactory.

Prompted by NAFTA negotiations in 1994, México petitioned the U.S to allow Michoacán avocados to be imported into some states, as long as they would be sold far from the groves of California and Florida. In July 1995, after conducting a commodity pest-risk assessment, APHIS proposed to allow entry under certain conditions and

established a period of public comment on the new rule until October. In March 1996, public debate was revived as the California Avocado Commission (CAC) insisted that the APHIS pest-risk assessments were speculative, and that cheap Mexican avocados would have negative economic and phytosanitary consequences for American growers¹⁶. México contended that, although not all insect pests of quarantine significance had been proven to be absent from the production region, pests affecting avocado groves had been fully eliminated from the export-production municipalities, and the population of fruit flies, a citrus pest, were low in these areas (Powell, 1997; Stanford, 2002).

To demonstrate that the allegations of the Californian growers' were unfounded, Mexican technicians and federal agencies published on August 26, 1996 the official norm (NOM-066-FITO-1995) in which the requirements and phytosanitary specifications for the management and transportation of export and national avocado were established. The norm involved a high-standard protocol for controlling the population of avocado pests and fruit flies during pre-harvest, harvest, packing, transport and shipping (Orden, 2004; SAGARPA, 1996; Stanford, 2002). Mexican growers stated that the phytosanitary norms substantially reduced the risk of pest introduction. Michoacán avocado exporters requested permission to distribute their fruit to at least the Midwestern and Northeastern U.S. states, where avocado and citrus plantations are absent and any pest risk rendered inconsequential. Failing to permit the import of Mexican avocados from areas of low pest prevalence, would have made the United States vulnerable to challenges of non-compliance with NAFTA and WTO trade agreements (Powell, 1997).

In February 1997, despite the political influence of the California Avocado Commission, the USDA-APHIS partially lifted the 1914 phytosanitary ban. The new ruling allowed limited importation of Hass avocados from Michoacán into 19 Northeastern U.S. states and the District of Columbia from November to February, starting in 1997 (Bredahl, 2001; Stanford, 2004). However, the USDA also mandated that Mexican avocados could enter the American market only if APHIS field inspectors certified that fruit shipments met all safeguards. All growers interested in export to the U.S. market had to registered their orchard in the JLSV, obtain certification from the phytosanitary program, and market their produce at one of the registered packing houses. Only

¹⁶ For a more detailed analysis of the price effects of Mexican avocado imports in the U.S. see Orden (2004)

avocados from orchards located within the municipalities recognized according to the official norm (NOM-069-FITO-1995) as “pest-free zones” (*zonas libres*) were allowed to enter the U.S. market. The pest-free municipalities would be sampled annually by JLSV technicians, and formally assessed by the CESV and USDA field technicians. The system deployed by the Mexican exporters and packers had an annual cost of approximately US\$100,000, and the Michoacán state government provided loans to producers to fund the initial costs of the program (Bredahl, 2001). The opening of the American market was the result of successful organization and cooperation among producers, the Mexican federal and state governments, and the USDA. Moreover, for the Michoacán growers it was a long and hard-fought battle finally won against California growers.

However, the success of the Michoacán growers also increased tensions among local producers. During the first season of the agreement (1997-1998) only 4 municipalities, with 61 orchards (1,499 has.), were approved to export their avocado to the United States. The rest, around 6,000 producers, many of whom had invested large amounts of capital to restructure their production according to the regional program, did not obtain export certification even if their orchards were located in a pest-free zone. Moreover, in order to comply with the USDA requirements and guarantee optimal conditions in a municipality, all the orchards in a proposed pest-free zone, including those with wild or backyard avocado trees, had to register at the JLSV, pay a fee and meet the terms of the pest-control program. This increased resentment among the poorer producers who were forced to, at the minimum, allow entrance into their plots for technicians of the JLSV and let their trees be treated for pests and plagues or be destroyed. The JLSV technicians are authorized to make use of public force whenever such force is necessary in order to ensure enforcement of the phytosanitary regulations (M.A. García, personal interview, September 24, 2003). The wealthier producers often viewed the *traspatio* (wild) trees as a risk, and would even subsidize fumigation and treatment to eradicate plagues in these plots. For the majority of producers, though, the export program was not beneficial; while some recognized the advantages of the pest program, increased regulation and organization, others saw it simply as the usual manipulation of state policies to help the rich.

4.2.5 The avocado Hass export program to the United States

The Mexican avocado export program has expanded rapidly since the first season (See Table 4.2). Many more orchards and municipalities have been declared free of pests and accepted into the export program. The Michoacán avocado producer and exporting packer association - APEAM, A.C. has been critical for the development of the export program. APEAM was created in June 1997 as the result of the USDA demand to deal with a unique representative body of Michoacán avocado exporters (R. Salgado, personal interview, October, 2003). APEAM encompasses the 2,004 producers and 21 packers of avocado that are certified to enter the United States export program (APEAM, n.d.). Each producer pays 5 US cents per kilogram harvested for the American market and the packing houses also pay a fee to the association. The gathered capital is then provided for the payment of the USDA field inspectors' expenses such as salaries and vehicles, the salaries of 3 APEAM market observers and a negotiator in the United States. The cooperation and synchronization between APEAM, the CESV and the USDA has been crucial for the Michoacán avocado exporters.

Table 4.2: Development of the Michoacán avocado export program to the US 1997-2004.

	SEASON						
	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Free Zones	4	4	4	5	5	7	7
Producers	59	201	388	578	715	1,033	1,385
Orchards	61	252	497	794	995	1,466	2,027
Area (has.)	1,499	4,285	6,757	9,861	11,897	16,430	21,597
Packing Houses	5	14	12	10	10	14	18
Volume (Tons)	6,031	9,768	11,729	10,221	24,477	29,912	42,607

Source: Adapted from SAGARPA and APEAM data.

APEAM aims to coordinate avocado exports for the American market and promote Mexican avocados around the world. The association has put together an agreement between producers and packing houses regarding selling prices and volume of

produce (number of shipments) to be exported to the United States each season. Shortly before each export season begins, the CESV publishes a list of the orchards accepted to the program by the USDA, and sets a calendar of harvesting dates for all orchards according to their altitudinal location (highlands/lowlands) and thus ripening times for the fruit. Before the list is released to the packing houses, representatives of the municipal boards (JLSV), APEAM and packing houses gather and agree on a harvesting limit (1.5–2 tons per hectare) and the price per kilogram that packing houses will pay. Maintaining a steady price during the whole season guarantees equal revenue for all producers, and reduces the possibility of over-saturation of the market. APEAM has also allocated funds to promotional campaigns around the world, including advertising in cooking magazines, television and websites. Moreover ASERCA has directed PROEXPORTA resources to avocado producers through APEAM; in 2002, for example, the funds supported projects promoting the Mexican avocados in the United States, and regulated the use of the “México Calidad Selecta” official trademark (Infoaserca, 2002).

APEAM has also supported new adjustments to the phytosanitary norms. In 2002 the *Norma Oficial Mexicana* NOM-066-FITO-2002 replaced the NOM-066-FITO-1995, responding to the new USDA requirements (SAGARPA, 2002b). The phytosanitary program has been very successful; the quality and sanitary conditions of Mexican avocado have earned the respect of importers and wholesalers in the United States, as well as USDA officials. In 2001 the USDA increased the number of states where Mexican avocados are allowed to enter, and expanded the marketing window by 2 months to a total of 6 months (Stanford, 2004). Despite the California growers’ opposition, since November 1, 2001 Mexican avocados can be marketed to 31 states, from October 15 through April 15. In parallel, California producers have been requesting access to the Mexican avocado market and have successfully opened the Tijuana and Mexicali markets; and Mexican plant-health officials from the CESV are conducting a pest-risk assessment for the importation of U.S. avocados (SAGARPA, 2004). The Californian and Mexican avocado industries have become more integrated.

On November 30, 2004 the USDA published a final regulation allowing Mexican avocados to be imported into the United States through all months of the year and to be distributed to all the states except California, Florida and Hawaii. After 2 years from this

date the Mexican fruit will be allowed in all the U.S. states (APHIS, 2004). This endless season allows exports of avocado from the currently 11 municipalities and one agroecological zone certified for the U.S. market.¹⁷ The number of orchards and producers in the export program has also increased rapidly; however, many producers whose orchards have not been certified for the American market or are located in a non-pest-free municipality, view the difficulty to obtain export permission as a tactic of the wealthier producers to restrict other growers from participating in the profitable American market. In the same way, some producers and agronomists have grown concerned about soil depletion and forest degradation due to the expansion of avocado orchards and monocropping; APEAM is suggesting that the government design new legislation that would impede forest replacement for orchards, as well as more severe controls over the use of chemicals (A. Alvarez, personal interview, October, 2003). Nonetheless, for many other growers, environmental concerns are also perceived as a strategy to reduce competition to few wealthier producers who have pioneered the U.S. export program (J. Sahagún, personal interview, August 28, 2003).

The alliance between the federal/state governments and the Michoacán avocado exporters supports the continual expansion of the industry internationally. It has become clear for producers and government officials that the American market is crucial due to factors such as its geographical closeness and currency exchange benefits; however, in order to prevent the saturation of this market and take advantage of achieved quality standards, the strengthening of other markets is also important. In February 13, 2005 the Global Partnership for Safe and Sustainable Agriculture (EurepGAP) and SAGARPA officials met in Berlin to begin a harmonization process between the “*México Calidad Selecta*” official trademark and the EurepGAP protocols. If approved, avocado, grape and tomato producers would obtain a certification for their products under a local scheme (at a lower cost) that guarantees standards equivalent to the EurepGAP ones. This would guarantee that international consumers receive reliable products of excellent quality. In addition, certifications like the Good Agricultural Practices (*Buenas practicas agrícolas*) currently verified by the Health and Innocuity Agrofood National System (*Sistema*

¹⁷ Uruapan, Salvador Escalante, Peribán de Ramos, Tancítaro, Nuevo Parangaricutiro, Taretán, Ario de Rosales, Los Reyes, Apatzingán, Tacámbaro, Acuitzio and the agroecological zone of Tingüindín.

Nacional de Sanidad e Inocuidad Agroalimentaria - SENASICA), are being evaluated for the possibility of also being recognized by EurepGAP. The EurepGAP certification of Michoacán orchards and avocados would undoubtedly fortify the presence of the Mexican avocado in the global market.

4.3 Marketing channels for Michoacán avocado growers

The removal of the U.S. phytosanitary ban that prevented exports of Mexican avocados for 83 years is so far the most important accomplishment of an avocado organization in Michoacán¹⁸. However, in general terms, organization and cooperation among avocado producers has been a major challenge for the industry. This has been particularly true for the marketing of the fruit in both the national and the international markets; despite some producers' interest in the formation of cooperatives, collective marketing has not been achieved (Stanford, 2000).

4.3.1 Selling to the national market

Since the Hass avocado planting boom in the 1970's, the majority of Michoacán avocado has been sold to regional and national markets. The main distribution centres are located in México (*Central de abastos de Iztapalapa*), Guadalajara and Monterrey, followed by the ones in Juarez, Torreón, Coahuila, San Luis Potosí, Aguas Calientes and Nuevo Laredo (Aguilar, 2003). Cavaletto (1998) describes the distribution system for the domestic market as one that used to be "unsophisticated but impressive". The author explains that it was "unsophisticated because it consisted of a large number of small shippers sending fruit to different markets with no knowledge of production levels, harvest rates, or industry inventories" (Cavaletto, 1998, p. 1). Most of the fruit would go to the distribution centres to be dispersed to small independent vendors; consumers could then buy the fruit from a farmer's market or swap meet. Cavaletto regards the distribution system as impressive because, despite the lack of refrigeration and insufficient infrastructure, it commercialized over one billion pounds of avocado annually, allowing 80 million people to purchase unspoiled fruit and producers to receive a profit. The

¹⁸ For a detailed study on agricultural organizations in the avocado industry, see Stanford, 2000.

national distribution system has been effective in supplying fruit to Mexican consumers who on average consume 10Kg per capita per year, the largest consumption in the world.

The national market is regulated by the national norm, NOM-066-FITO-2002. The norm aims to regulate the movement of fruit from an orchard to a packing house and to a distribution centre. All orchards must be registered to a JLSV and have a phytosanitary registration card, on which technical evaluations are recorded periodically. Eight check points have been installed on the main roads in Michoacán, and CESV officials stop all trucks to confirm that the fruit complies with all the required documentation including the JLSV monthly fee. The CESV also has 3 trucks that travel around observing the movement of the fruit. Although most of the larger packing houses that distribute avocado to the national market meet the terms established by the norm, a large number of buyers and middlemen do not pay attention to the legal requirements and commercialize fruit that has no traceability. A black market that distributes illegal and often stolen fruit is well established; even in the city of Uruapan, the Michoacán street is known for having many unlicensed stores that trade in fruit. Enforcement of the regulations is still a major challenge for technicians of the CESV.

Five distribution channels have been identified for the national market: local middlemen, 64%; middlemen from other cities, 15%; local packing houses, 15%; commission agents, 3%; and open market, 3% (Aguilar, 2003). Negotiations between producers and buyers, as well as between wholesalers and retailers, are predominantly informal, characterized by verbal arrangements and trust relations. Packers and middlemen negotiate with orchard owners aiming to achieve a personal, long-lasting relationship. The fruit is habitually bought *en pie* also known as *al paral* which means that the fruit is still in the tree. If this is the case, the buyer assesses the volume and quality of the fruit and makes an assessment with the producer regarding the harvesting-date limit and final price; such negotiation is done several months before the harvest. At the time of the agreement, the buyer pays 50% of the fixed price and the other 50% one or two months later. After the producer has received the first payment, he reduces his involvement in the orchard; sporadically, the buyer performs some fumigation and general maintenance in addition to providing security (R. Valencia, personal interview, September 22, 2003). The buyer usually harvests *a pela palo* which means all sizes and

diverse ripening stages, including exportable avocado. Producers benefit from assuring a market for their fruit and receiving payments while their produce is still in the tree.

The national market is still the most reliable and familiar one for producers. All the avocado producers heavily depend on their sales to domestic consumers. The phytosanitary campaign and the development of the export market have generated changes in the national market; nevertheless, these are mostly reflected in harvest and post-harvest handling practices rather than in the distribution systems. Local packers and commission agents acknowledge that the increasing volume of avocado shipped to international markets decreases the supply for the national market, thereby raising prices. However, national consumers have also benefited from the improved quality of the fruit and sanitary conditions. The Michoacán Avocado Packers and Sellers Union (*Unión de Empacadores y Comercializadores de Aguacate de Michoacán, A.C.*) has established a clear categorization of avocado according to size, measured in grams (*Super extra, Extra, Primera, Mediano, Comercial* and *Canica*) and quality, especially concerning percentage of skin damage (*Calidad Suprema, Calidad I* and *Calidad II*). R. Valencia (personal interview, September 22, 2003) mentions that all the distribution centres deal with fruit of all sizes and qualities. All the fruit that is legally commercialized should be packed in clean boxes made of wood, cardboard or plastic, and must be clearly labelled specifying packing date, fruit quality and size information, packer name and contact information. The domestic market has become more regulated and controlled, following the trend of the export market and international standards.

Michoacán producers and packers recognize the importance of the national market. Despite a growing export market, the Michoacán avocado industry relies on Mexican consumers and the hundreds of packers and middlemen that distribute fruit throughout the nation. It is improbable that another market will ever surpass the national demand, and thus Mexican consumers deserve good quality and wide availability. APEAM members are designing a far-reaching organization for the national market, which aims to regulate and standardize the industry and promote avocado consumption in México, with a special focus on the southern states where per capita intake is lower. The proposed civil association will be evenly composed of packers and producer's representatives, and be financed by member fees and state support (A. Alvarez and R.

Salgado, personal interview, October, 2003). The attempt to organize an association that coordinates the national avocado market may benefit consumers and packers, but it particularly may benefit producers who sell their fruit in the orchard; quality systematization would protect the producer from price fluctuations by reducing the buyer's subjective categorization. However, proponents of the new association are seen by many producers and researchers as "a small group of elite growers allied with the state" (Stanford, 2002, p. 305), who aim to control the national and export markets, and further their own interests rather than those of the majority. Most of the smaller producers are still trying to adapt to the new production and commercialization processes that the phytosanitary campaign has imposed; yet, many have not received direct financial benefits (Stanford, 2002).

4.3.2 Selling to packers for international markets

As mentioned earlier, the first international market for Michoacán avocados was France. ASEEAM efforts to organize a cooperative to ship avocado to the European market failed, and the export market became dominated by independent handlers, mainly family-owned operations run by larger growers (Cavaletto, 1998). The exports were seasonal and shipped on consignment; the initial experiences left the producers wary of exporting their fruit in such a manner. The exports expanded in the late 1980s when Californian packing houses starting shipping Mexican avocado to Japan, Europe and Canada. Even though, it was still seasonal (only when the volume of Californian avocado was low) and on a small scale, the trade brought foreign capital to the producers and packers affiliated with the American companies, and put an upward pressure on prices. Until the mid-1990s France continued to be the main importer of Michoacán avocado. A very limited number of large producers were involved in the exports, and the avocado industry remained oriented largely to the national market. From 1995-1997 export volumes and the number of exporters rose quickly; the Japanese and Central American markets became more important, but the falling prices in the European market more than offset diversification and left many local shippers facing bankruptcy. Several packing houses shut down without paying their debts to the producers, many of whom became disenchanted with the export market.

Given their experience in the European market, the first exporters to the United States quickly realized the need to enter this market in a more cautious manner. They were also aware that their shipments would be heavily monitored, and the success of their work plan would depend on very tight management. The continuation of the alliance between packers and producers that had successfully achieved the lifting of the phytosanitary ban on Mexican avocados appeared as part of a thoughtful strategy for the marketing of the fruit. The producers identified two main difficulties for the new market: cash purchases in the field and too many shippers. In order to deal with these problems, 45 growers with orchards certified for the U.S. market established the company, *Aguacateros de Michoacán México S.A de C.V.* – AMIMEX. The company successfully handled 83% of the exported fruit during the first season (Cavaletto, 1998; Stanford, 2002). The group offered a minimum guaranteed price instead of paying a fixed price at the time of the harvest, and paid an extra amount according to the balance of the final sales. AMIMEX established two brands for the American market and implemented a small promotion campaign in the Northeast. A return of US\$0.67 per pound ensured grower support for the AMIMEX scheme; moreover, the value of orchards increased from MXN\$4500 per acre in 1995 (during the peso devaluation), to over MXN\$10,000 for orchards certified to ship fruit to the United States. Local optimism was boosted as the first U.S. export season was very lucrative for the few exporters (Cavaletto, 1998).

However, despite the general success of AMIMEX, some of the producers were dissatisfied with the results. Whereas the fruit exported in November, at the beginning of the season, was paid at approximately MXN\$45 per box, by March it was sold at around MXN\$26. AMIMEX then averaged growers' returns, benefiting those who sold later in the season but making the others feel like they had lost money. Before the beginning of the second season AMIMEX lost growers support and slowly disappeared. Despite the organizational capacity demonstrated by the growers when negotiating the opening of the American market, their commitment to market the fruit through a sole distribution channel failed dramatically. This failure heightened the power of transnational, mainly American, packing houses, which found an accessible niche in the industry. The foreign companies did not directly participate in the first export season; some handled fruit through local packers and others simply observed and evaluated the performance of the

producers and the market. After the second U.S. export season, the bi-national integration of the avocado industry was accelerated by the rapid movement of American packing houses into Michoacán; at present, a third of the exporting companies are owned by American capital. The total number of packing houses that export avocado to the United States also expanded to 21 in 2005.

The majority of the larger avocado producers run a vertically integrated system in which their own orchards supply their packing houses. The local exporters have established their own contacts in the United States, and have gained much positive recognition in the North American market. Nonetheless, the volume that the local packers ship as a group to the United States does not match the volume of even one of the Californian companies, including *Calavo de México*, *Mission de México* or *Fresh Directions*, which jointly export more than 70% of the fruit. In the same way, these companies control most of the European and Japanese markets for fresh and processed (as *guacamole*) avocado. Others companies, such as *Comercializadora de Fruta Acapulco, S.A. de C.V.*, a French investment firm lacking a permit to export to the United States, also handles a large portion of the fruit for the French market, as well as some for Canada and Japan, and *maquila* fruit that is shipped to the United States through local packing houses such as *Agrifrut*. These foreign companies have established Mexican packing houses, but depend directly on the capital and marketing/distribution systems of their parent companies. They do not participate in the national market, but are regulated by the phytosanitary norms established by the CESV and the USDA for fruit for the U.S. market. These companies also belong to APEAM, and have agreed on a fixed price for the length of the U.S. export season, and limited shipments to avoid market saturation. The very lucrative business of avocado exports has attracted many multinationals, which have displaced the Mexican packers, and have benefited from the federal/state financial and political support.

Local packers and organizations have warned producers about the growing power of the transnational packers. Foreign companies have played an enormous role in the expansion of the Mexican avocado industry; these companies have a large capacity to expand existent market niches, access new markets and run strong promotion campaigns. Nonetheless, allowing foreign packers to entirely run the distribution of Michoacán

avocados to the international markets may increase growers' dependence on TNCs and lead ultimately to declining profitability. Declining participation by local producers and packers in the distribution system might undermine the efforts of the pioneer exporters to manage and exert control over the avocado productive and marketing chain. The fixed prices and their relatively recent entry into the industry have not been major obstacles for foreign packing houses to position themselves as the main exporters. However, the various coordination arrangements that foreign companies employ to obtain a steady supply of quality avocados has not been well studied. Particularly, the types of producers that sell their fruit to the transnational packing houses have not been well explored.

4.4 Conclusion

This chapter has provided a description of the development of the avocado industry in Michoacán. It has covered the industry's background, its major characteristics and the regulations that have played an important role in its recent transformation. The analysis highlights the tight control exerted by a small group of larger producers over the industry, which has resulted in the establishment of one of the most profitable agro-industries in México, but has also brought about the relative decline of many poorer producers. The chapter has also pointed out the increasing number of multinational packing houses that have become involved in the Michoacán avocado industry and their growing dominance of the export market. A case study that analyzes the coordination arrangements of *Calavo de México, S.A. de C.V.*, the U.S.-based packing house that ships the largest volume of avocado to the United States will extend this analysis, and is provided in the next chapter.

5. Contractual Arrangements in the Avocado Industry in Michoacán: the Case of *Calavo de México*

Calavo de México is the largest exporter of Mexican avocado to the United States and an important shipper to Asia and Europe. The selection process for fruit suppliers of *Calavo* has serious implications for distribution of wealth, sharing of information and provision of services among avocado producers. Official phytosanitary and quality regulations within the industry have aimed to unify fruit characteristics and set a benchmark for all the producers, regardless of their land size or tenure system. Small-scale avocado producers are often assumed in the literature to be able to increase their competitiveness and take advantage of the commercialization channels provided by firms such as *Calavo*. However, the extent to which small-scale producers participate in the export market depends on a contrasting assortment of opportunities and challenges; especially important are relations between producers and packinghouses, and producers and the state; and between the state and packinghouses and local associations.

In this chapter the coordination arrangements used by *Calavo* to secure a steady supply of high quality avocados are described. The chapter includes a detailed characterization of the producers that supply fruit to *Calavo*. First, a brief background of *Calavo*'s operations in Michoacán is given. Second, a description of the type of contracts used by *Calavo* is provided, and the firm's competitive strategy to position itself as the main exporter is explained. Third, a detailed classification of avocado producers and *Calavo* suppliers is presented. This includes empirical evidence regarding the characteristics of the producers that sell fruit to *Calavo*, and highlights the exclusion of true small-scale avocado growers. The importance of phytosanitary certifications is emphasized. Next, the performance of the contractual arrangements, particularly as they relate to producers' participation, power relations and the distribution of risks, is addressed. Then, a concise account of local environmental debates is offered. The final part of the chapter discusses state intervention in the avocado industry, and the exclusionary nature of its policies and regulations. An analysis of further exacerbation of

a historical polarization between rich exporters and small producers is featured in this chapter.

5.1 Company background

Calavo de México S.A de C.V. exports fresh and processed Hass avocado (into *guacamole*) to Asia, Europe, Canada and the United States. The primary markets for *Calavo de México* are the United States, Japan, Hong Kong, France and England and to a lesser extent, Scandinavia, Germany, the Netherlands and Canada. *Calavo*, a California-based company has been exporting Mexican avocado for over 18 years, but has been established in México (as *Calavo de México, S.A de C.V.*) since only the mid-1990s. Before this time, *Calavo* ran *maquila* operations; the firm placed orders with local packinghouses, which packed the fruit and labelled it with *Calavo*'s tags. It was not until 1994, when the company opened a *guacamole* processing plant in Mexicali, and later in 1998, when it constructed a packing facility in Uruapan, that *Calavo de México* became a well-known brand-name in the Michoacán avocado industry. *Calavo de México, S.A de C.V* is currently the leading exporter of avocado to the Unites States and an important shipper of the fruit to the Asian and European markets.

Calavo de México is a subsidiary of Calavo Growers Inc. All the sales and distribution networks are controlled by the corporate headquarters located in Santa Paula¹⁹, California. The Mexican division purchases fruit locally, packages it and ships fresh avocado to different marketplaces according to the orders received from the centre of operations. *Calavo the México* often supplies direct sales to the Asian market. Mexican avocados supplement Californian production and international imports (e.g. from Chile and the Dominican Republic). The rising integration of the Mexican and U.S. avocado industries has accompanied the increasing significance of *Calavo*'s Mexican operations; Calavo's Santa Paula and Mexicali processing products facilities were closed in February 2003 and August 2004, respectively, and relocated to a new Uruapan processing facility which was inaugurated in February 2004. The restructuring of the firm's processing

¹⁹ In March 2005 the Santa Ana corporate headquarter building was sold and offices were relocated to Santa Paula, California.

aimed to reduce costs, primarily via the elimination of duplicative overhead structures and the lowering of overall costs such as labour and services. The new Uruapan facility uses an ultra high-pressure processing technology that allows production of guacamole without preservatives or artificial additives, and an extended shelf-life; sales of this high-pressure product reached approximately US\$1.8 million during the second quarter of fiscal 2005. *Calavo* has gradually increased its dependence on its Mexican operations.

5.2 *Calavo's* local sourcing mechanisms

Calavo is not vertically integrated; the firm has not purchased or leased land for the production of avocado, nor does it buy fruit on the open market. Even though the open market is quite efficient, containing a large number of avocado producers and packers, and a relatively homogenous product (if the official norm specifications are observed), it does not fulfill all of *Calavo's* needs. There is no guarantee that the volume and quality of the required fruit is continually provided by the open market. *Calavo* requires total assurance in their produce-supply mechanism to be able to respond in a timely manner to its international orders. In addition, since all of *Calavo's* fruit goes overseas, harvest and post-harvest management is of great importance; physical damage inflicted on the fruit during harvest and transportation may only become visible some weeks later when the fruit is delivered to the final retailer. Physical damage may also increase fungal attacks and reduce the fruit's shelf-life. The open market cannot guarantee that the avocado has had adequate harvest and post-harvest handling. The open spot market has been proficient for the regional and national markets, but is highly inadequate for the exporter packers.

Vertical integration has neither been necessary for *Calavo* to ensure a high-quality avocado supply, nor to reduce transaction costs. In the Michoacán avocado industry there is sufficient exchange of information concerning produce quality and market conditions among producers and packers; APEAM and the CESV have, to a large extent, successfully coordinated the interests of all local parties. In addition, the transaction costs involved in the search for producers have been minimized by hiring local engineers that are familiar with a large number of growers and the quality of their orchards. This

relationship between producers and *Calavo*'s procurement personnel is a key element for understanding the firms' sourcing strategies; it will be explained in more detail later in the chapter. Finally, it is possible to infer that *Calavo* is not vertically integrated also because the firm is a latecomer to the local industry, and many of the producers who export fruit already had enough capital to run their orchards prior to *Calavo*'s arrival. The establishment of the orchards is costly and requires high investment, but at the time that *Calavo* started packing fruit in its own facilities, there were already a large number of self-sustainable orchards and prosperous producers who did not require much additional capital, and who were running their operations on their own. *Calavo* had to adapt to these local conditions of fruit production and purchasing.

Calavo de México acquires avocado from a large number of independent farmers and a few commercial entities. In general, there are no written contracts or legally binding documents between *Calavo* and its fruit suppliers; most of the producers do not want a formal, long-term tie with any firm. Vertical coordination mostly occurs through verbal marketing contracts; for example, the price per kilogram, fruit characteristics (in terms of the blooms and a specified size) and harvesting time are agreed upon via negotiations between one of *Calavo*'s procurement representatives and a producer. Occasionally, producers request a written contract for the sales of fruit shipped to the U.S. market. The written document is the proof that the transaction meets the volume quota and price established by APEAM. It also helps APEAM and the CESV to keep records of harvest dates and location and volumes, and thus ensures that the fruit shipped complies with all the legal norms. Likewise, very few producers demand a written document from *Calavo* for fruit destined to other markets; the terms of the contract are the same as with a verbal agreement. Overall, most producers who supply fruit to *Calavo* do not request any legally-binding document; all of the producers I interviewed indicated that *Calavo* strictly obeys all applicable terms agreed on via a verbal or written agreement. Most avocado growers perceived the firm as an honest and respectful business partner.

Moreover, *Calavo* does not intervene in the production process. The firm depends on the quality standards, qualifications and characteristics established by the official norm NOM-066-FITO-2002 and enforced by the CESV. The official standards

established for the export market are sufficient for *Calavo* to obtain high-quality fruit in a consistent manner to supply all of its different markets. *Calavo* relies and benefits from the collective reputation of the Mexican avocado; the firm shares a common reputation based on the overall group's (i.e. producers and packers) aggregate quality. The official norm demands that all Michoacán packinghouses place a label showing the company name and country of origin on each avocado. The traceability of quality to specific firms increases the incentives for firms to comply with quality stipulations. In the same way, *Calavo*, as other firms, profits from the international recognition of Michoacán avocado, specifically the “*México Calidad Suprema*”, and “*México Calidad Selecta*” trademarks, and the GAP (Good Agricultural Practices) certificate. Fruit quality assurance is usually the primary reason for contract farming. However, since the official norm establishes fruit quality assurance, thereby negating the need for the firm to establish its own fruit quality standards, *Calavo* does not participate in production management contracts with the producers.

5.2.1 Early payments and loans: the failed strategy

Calavo's initial strategy in Michoacán was to employ a resource-providing contract. *Calavo* granted free-interest loans as a mechanism to assure fruit supply. *Calavo* offered production loans to small, medium and large producers of high quality avocado, regardless of their land-tenure system and without requesting collateral. As stipulated in the accord, the firm provided capital to the various producers based on a previously-agreed price, and the producer would guarantee *Calavo* a supply of the contracted fruit. However, despite this arrangement, and receipt of an early payment, some producers sold their fruit to buyers for the national market. At the time when the fruit had achieved an ideal stage for harvest, the price in the national market was higher than that which *Calavo* and the growers had previously agreed upon; the growers requested extra money to maintain the deal with *Calavo*. However, the firm was not often able to raise its purchasing price and stay competitive in the international markets. In short, *Calavo*'s attempt to secure fruit by financing production failed dramatically (D. Ortiz, personal interview, August 7, 2003).

To comply with their part of the deal, some producers arranged a later harvesting date with *Calavo*, but others reneged on their contracts. The former gained a good reputation with *Calavo*, and some of them have maintained an informal but beneficial commercial relationship with the firm ever since. *Calavo* buys their fruit at the highest price they can offer at the time whereas the producers receive technical advice from *Calavo*'s agronomists and have a guaranteed market for their fruit. Nevertheless, *Calavo* found the strategy of deploying resource-providing contracts unsustainable; only in extremely exceptional cases does the firm continue to subsidize such production (D. Ortiz, personal interview, August 7, 2003).

The failure of this strategy by *Calavo* may in large part be explained in terms of the regional advantages that Michoacán avocado growers have. These growers have broad opportunities to commercialize their fruit. Large demand for avocado in both the domestic and export market, and a great number of buyers, enables most of the producers to sell to the highest bidder. The possibility of arranging different kinds of harvests is also positive for producers; they can sell all sizes and several ripening stages at the same time (*a pela palo*) to one or more buyers, or sell in a more selective manner. The ability to leave the fruit on the tree for several months even after maturity is additionally advantageous to the producer. The climatic conditions of Michoacán, large market demand and high prices make the avocado industry very profitable; there is enormous potential for producers to pick and choose among buyers and harvesting possibilities, and thus enhance their income.

5.2.2 Resource providing contracts

There are two specific cases in which *Calavo* is currently engaged in resource-providing contracts. As explained earlier, these are very rare cases for the firm, and quite possibly for the whole industry. In the first case, *Calavo* and an organic-avocado family-business signed a six-year contract in 2000. The family business had been a pioneer in the production of organic avocado; in the early 1980s the family initiated biological-control activities, and in 1995 started organic farming. The landowner had previous experience in biocontrol for cotton. In 1999 and 2000 most of the fruit had a skin disorder which caused the avocado to be rejected by consumers. The skin disorder did not affect the flesh

quality or the flavour of the fruit, but the cosmetic damage cost the growers a large amount of money. High production costs threatened the business; organic-avocado production is approximately 50% more expensive than conventional production, and the average yield per hectare is 5 tons, significantly lower than non-organic avocado. Fruit losses due to the skin disorder brought the business close to bankruptcy (M.A. Audiffred, personal interview, October 1, 2003).

Lack of access to credit with private or public financial institutions compelled the organic business to seek funding from a private commercial enterprise. *Calavo* provided the capital for the 34-year-old grove to maintain operations. The land encompasses 360 has., 60% of which is planted with Hass avocado; and the business now sells 98 – 100% of its produce to *Calavo*. *Calavo* provides monthly visits and technical supervision, but the grower is responsible for obtaining organic certification and remains very autonomous in the production process. The family business is still recovering from its past economic difficulties; a steady market for the fruit has yielded the capital required to reinvest in the grove. *Calavo* pays the price established by the market; the contractee views such payments as fair, and most importantly, very punctual. The organic business plans to continue selling its fruit to *Calavo*, even after its current written contract is finalized. The contractual relationship between the organic family-business and *Calavo* is viewed by the two parties as being mutually beneficial. It has allowed the contractee to overcome financial constraints and secure a prominent position in organic production. *Calavo*, at the same time, has been able to guarantee a stable supply of high-quality organic avocado, a product increasingly in demand.

In addition, *Calavo* has engaged in a resource-providing contract with the owner of several other orchards (a total of approximately 200 has.) and a packinghouse that supplies fruit to the national market. The orchards are located at different altitudes and in different municipalities, including two in Uruapan, one in Tancítaro and one in Peribán. Over the years, the producer, originally from Guadalajara, has established a tight relationship with *Calavo*'s managing director and personnel in the purchasing department. Initially, the agreements were written, but as the trust among the parties has grown, the formality has decreased to the point that agreements are currently done on the phone. All of the producer's orchards are part of the U.S. export program; the grower is

able to export a total of 400 tons per season. *Calavo* partially pays in advance for 200 or more tons, and the grower guarantees *Calavo* all his exportable fruit for the U.S. market; the rest of the payment is done after harvesting. *Calavo* neither involves itself in the production process nor does it demand its provided capital be reinvested in the grove. The producer has autonomy over his production operations and views *Calavo* as a secure marketing channel for his exportable fruit.

The contractee benefits from an early partial payment for a large volume of fruit, which allows him to pay the suppliers of his packinghouse faster and thus, be more competitive in the national market. The initial “loan” is free of interest. At the same time, *Calavo* can reduce its transaction costs by securing a relatively large volume of high-quality fruit from one producer, and there is less need for its procurement engineers to spend time negotiating with other producers and assessing fruit quality. The producer sells his fruit to *Calavo* due to its fast, reliable payments and long-term relations of trust established over the years. The producer explained that *Banorte*, one of México’s largest financial institutions, has offered him loans, but that he declined the offer. He obtains financial support from *Calavo* because he views his relation with the firm as more reciprocal and mutually beneficial than one he might make with the bank.

Last year and this year, *Banorte* has come to offer us financing but we have not really needed it, and in addition when we have any trouble we get it with *Calavo*. At the end, we have what they need, the fruit; with the bank it is different, there is interest and other things. (F. Orozco, personal communication, September 25, 2003)

The producer perceives the availability of loans from *Calavo* as a form of preferential treatment. He acknowledges his responsibility to comply with his part of the deal, i.e. offer better quality avocado than other producers, and he keeps his pledge to sell to *Calavo* all his volume of export avocado for the United States. The grower mentioned that occasionally other packinghouses offer to pay US\$10 more per kilogram, yet he still chooses *Calavo* over them because of the transaction and payment security. The producer is pleased with the effective win-win relationship he has achieved with *Calavo* and plans on maintaining it for the future.

As observed in these two cases, *Calavo*’s strategy to engage in resource-providing contracts tends to be limited to larger producers and/or those who offer a more

specialized product such as organic avocado. In an environment where supply is high and fruit-quality characteristics are officially standardized, resource-providing contracts do not seem to be the most appealing or advantageous arrangement for the firm. Financing production does not guarantee *Calavo* a better quality of fruit; however, securing a substantial volume of fruit which can be exported to the United States, and which is located in dispersed locations at diverse altitudes, is an important motivation for the firm. In the same way, financing production of organic Hass avocado, a rather recent product addition to the region, allows *Calavo* to secure a niche of increasing demand in the international markets. The relationship between the firm and these producers is formalized through written contracts, but also strives to build and maintain a long-lasting trust. A long-term, reliable business partnership allows buyer and producer to decrease transaction costs and increase coordination. However, *Calavo* would rarely benefit from financing production via similar arrangements with small avocado growers.

The majority of the interviewed avocado producers do not perceive access to capital for production as a major constraint. The majority of avocado growers view themselves as relatively wealthy agricultural producers, and recognize that the limited governmental subsidies and financial aid available to agriculture is mainly allocated to poorer basic-food producers. Although access to capital is a difficulty for some producers, most of them would opt for a loan from relatives or friends rather than a financial institution or a packer. Past negative experiences with bank loans, including the rocketing interest rates that inspired the creation of *El Barzón*²⁰ movement in 1994, have left many avocado growers distrustful of the banking system (P. Guillen, personal interview, October, 2003). At the same time, obtaining funding from a packinghouse is not always desirable. Producers view a debt with a packer as a binding obligation that may hamper their flexibility to sell strategically, and thus possibly reduce their profits. Familial ties, including pseudo kinship relations such as *compadrazgos* (god-parents) are an important financial network in the avocado industry, as in other sectors in México.

²⁰ *El Barzón* began in 1993 as a peaceful grassroots farm movement opposed to high interest rates on loans. Membership mushroomed after the peso's December 1994 devaluation plunged México into recession, threw more than 1 million people out of work and led to skyrocketing interest rates and double-digit inflation that walloped the middle class. *El Barzón* refers to the massive social movement where elements of the traditionally quiet middle class rose up and refused to pay the monstrous sums of money that were expected of them by lending institutions.

5.2.3 *Calavo's* competitive strategy

Calavo has positioned itself as the main exporter of Michoacán avocado. Even though the firm entered the industry later than other Californian subsidiaries such as *Mission Produce* and *West Pak*, *Calavo* exports the largest volume of avocado to the United States, Europe and Asia. Its packinghouse is constantly at full capacity. The fixed price and volume restrictions established by APEAM for the U.S. market make it difficult for *Calavo* to compete with other packers for fruit suppliers, yet the firm has been very successful in attracting several of the largest producers, as well as many small and medium-size growers. When I asked those producers that regularly sell their fruit to *Calavo*, they gave me three primary reasons for doing so: (1) they receive a quick and reliable payment, (2) they feel that *Calavo* provides them a service, a feeling enhanced via personal communications with its purchasing-department personnel, and (3) the efficient and careful harvesting done by the contractor, *Azteca*, which is employed by *Calavo*.

Calavo has gained a reputation as a dependable buyer. The firm always pays the producer the Friday after the fruit has been harvested. These timely payments have been *Calavo's* innovation in the Michoacán avocado industry, and have been viewed by producers as a major benefit (D. Ortiz, personal interview, August 7, 2003). Some of the interviewed producers explained that most packinghouses pay with checks that are cashable only after a minimum of 15 days; since most packinghouses must sell the fruit to be able to pay the producers, such payments may take 30 or 60 days. Past negative experiences have left producers wary about packinghouses; a few businesses, mainly small domestic ones, have closed or moved out of the area without paying their debts to producers. *Calavo's* ability to pay quickly has been an important factor for the firm to build trust among producers.

Calavo has also gained the trust of the avocado producers due to its efforts to deal with them in a very personal manner. *Calavo's* managing director, as well as its field and office employees are all Mexican, mostly from Uruapan and its environs. The purchasing-department engineers are familiar to and highly regarded among avocado growers; they have worked in other packinghouses and/or other crops, and have provided technical assistance to many producers. In the field the engineers represent *Calavo*, yet many people identify them not only as representatives of the firm but also at a more

personal level. Many producers view their commercial transactions as a deal between two people rather than with a large multinational. As one producer relates, “I sell all my exportable fruit to Eng. Enrique Negrete; I have regarded him as a friend for many years. He is working with *Calavo* and so I sell my fruit to *Calavo*; we have a good team work” (A. Teitud, personal interview, August, 2003). Numerous avocado growers mentioned similar sentiments that shape their decision to whom they sell their fruit.

All of the procurement-department staff are male, from 35 to 45 years of age, and from Michoacán. They all obtained bachelor degrees in agricultural engineering from the Agro-biology Faculty of the San Nicolas de Hidalgo University in Uruapan, Michoacán. Even though they attended school during different years, some may have had overlapping programs and there is no more than 10 to 15 years difference between the times the baccalaureates were awarded to each engineer. All of the engineers have experienced a comparable curriculum and were taught by many of the same professors; therefore, they all use similar concepts to evaluate orchard efficiency, producers’ management skills and fruit-quality characteristics. Moreover, the majority of agricultural engineers involved in the Michoacán avocado industry, including the CESV staff members, are alumni of the same faculty and share specific professional characteristics linked to their educational background. The agricultural engineers have had a substantial impact in the Michoacán avocado industry; they are largely responsible for the agricultural practices and technical decisions of most producers. Furthermore, the engineers’ conceptualization of producers’ skills and performance has fostered an informally-recognized classification of avocado producers, which will be explained later in this chapter. Thus, the *Calavo* engineers are a group of specialized local professionals that share a heterogeneous information pool and assessment system, which has proven beneficial to the industry as a whole.

The staff members of *Calavo*’s purchasing department are aware of the importance of their personal relationship with the producers. Each of them expressed the importance of treating all producers equally and with respect. *Calavo* does not formally train the engineers, but all agree on the importance of their social network and the effects it has both for *Calavo*’s reputation and in ensuring a steady fruit supply. The engineers view all growers as important and vital to obtain sufficient volume of high-quality fruit. Whereas large producers (with more than 20 has.) can supply 10-12 tons of fruit per

week, the remaining 50 or 60 tons required to normally fill orders are supplied by a large number of small producers. The engineers stated that 80% of the producers that sell fruit to *Calavo* own plots of less than 20 has., and a significant number of growers own orchards smaller than the regional average of 6 has. The engineers noted that there is no clear fruit-quality distinction between *ejidatarios* or private owners; they often do not know who is an *ejidatario* or not. *Calavo* buys fruit from any grower whose fruit has achieved the necessary quality requirements.

The purchasing-department personnel are the bridge between *Calavo* and the avocado producers. The department manager and five engineers visit orchards, assess fruit-quality characteristics and ripening stages, and negotiate commercial agreements with producers. Each engineer visits orchards located in two of the main production districts: Peribán, Uruapan, Tancítaro, Tingambato, Nuevo San Juan, Los Reyes, Salvador Escalante, Tacámbaro, Ario de Rosales and Ziracuaretiro (see Figure 4.1). The engineers visit the orchards and try to establish continuous personal communications with the producers. They know the producers by name and are aware of the progress of the fruit in the some 200 plots that each monitors. Maintaining a relationship of trust and friendship with the growers eventually translates into commercial transactions:

The mechanism for follow up is a direct daily interaction with them [the producers]...sometimes without even speaking about avocado because they do not have fruit ready at the time, but you go there [to the orchard], say hello and mention how good the avocado is looking. You pamper the grower. In this way, later they seek you; they call you. In addition they know the company is very serious and respects any agreement done in the field. This is very important; it is this direct, daily communication with the producers throughout the year, which guarantees the fruit supply especially from small producers. (Eng. F. Gutierrez, personal interview, October, 2003)

For many of those who have seen the growth of *Calavo* in the area, the firm's key asset has been its engineers from the purchasing department. All of the engineers are locals, have had previous experience in the avocado industry, have a good knowledge of the region and the land, and are regarded as friendly, respectful and approachable. As stated by one interviewee, "when *Calavo* opened its packinghouse they hired the best people in the region." Hiring local people who could easily communicate and relate with the avocado growers has been an effective approach for *Calavo* to expand in the

Michoacán avocado industry. Even though the producers recognize that *Calavo* is a large American transnational, they feel as though they are dealing with a local company.

Finally, *Calavo* practices responsible management of harvesting and post-harvesting activities. Harvesting and post-harvesting practices substantially influence the quality of the fruit and the health of trees. Inappropriate harvest management increases mechanical injuries (e.g. bruises, skin breaks, discoloration), producing downgrading at the packinghouse, decay during shipping and economic loss for the producers and the packer. Optimum fruit harvesting and handling guarantee a high-quality produce that satisfies the consumer and reinforces the positive reputation of both Mexican and *Calavo* avocado. In the same way, careful management of the trees during harvest prevents limb breakage and other physical damages that affect tree vigour and reduce productivity. *Calavo* aims to assure the producers an optimum harvest strategy.

Calavo establishes an annual contract with *Agribusiness Azteca*, a local contractor that provides services of picking, gathering and transportation of avocado to the packinghouse. *Azteca* is the first Mexican company that has earned a “Good Harvesting Practices” certification awarded by Davis Fresh Technologies. The certification endorses *Azteca*’s compliance with the guidelines that the FDA and USDA have designed to minimize microbial food-safety hazards for fresh fruits and vegetables. *Azteca* is also a certified organic handler through *Bioagricert* and *Ifoam*, two international Guaranteed Organic Certification Agencies. *Azteca* follows strictly controlled harvesting and avocado handling activities. The fruit pickers, drivers and other personnel are well trained and continuously supervised. During the harvest, there is constant communication between the producer, the pickers’ foreman and *Calavo*’s purchasing department. *Azteca*’s team is responsible for the quality of the harvested fruit, maintaining the health of the orchard and the trees, and all documentation for the fruit, according to the official norms.

Azteca has become a well-known contractor in the avocado industry. The harvesting company initiated operations in 1991 as part of a family business that processed avocado into guacamole. Later the company became an exporter of fresh fruit to Europe, but economic losses forced its packing activities to close. In 1999, taking

advantage of the some 20 trained *cuadrillas*²¹, the company became a harvesting-service provider for the newly arriving companies such as *Calavo* and *Mission*. Currently *Azteca* harvests approximately 60% of the avocado exported to the United States and more than 45,000 tons of the fruit for the European, Japanese and Canadian markets each year. Some twelve Mexican and foreign packinghouses contract *Azteca*'s harvesting services. In addition, many producers acknowledge that the harvesting activities of *Azteca* are excellent; they care for the trees and handle the fruit carefully. *Azteca*'s reputation backs up *Calavo*'s promise to give its producers superior treatment.

5.3 A typology of *Calavo*'s local avocado suppliers

The more than 600 producers that sell their fruit to *Calavo* each year are a very heterogeneous group. According to the information provided by the *Calavo* purchasing engineers during interviews, factors such as land size, tenure system, location and occupation are unimportant when selecting the producers that supply fruit to *Calavo*. However, by examining the information and data in a more detailed manner, it is evident that *Calavo* acquires fruit mostly from large, medium and small producers who are commercially oriented and have enough financial resources to afford high levels of inputs and technology for the production process. The reputation of an avocado producer is of great importance when selecting fruit suppliers. The majority of true small producers are being excluded from the export market, and thus from any commercial agreement with *Calavo*. In order to understand the selection process, it is essential to first understand the producer categorizations used in the industry, as well as define those factors most important to determine the reputation of a producer. Local informal classifications of producers and orchards profoundly determine the criteria used by the *Calavo* purchasing staff members to select fruit suppliers.

5.3.1 Growers' self-differentiation

The avocado producers in Michoacán are a very diverse group. There are people of varied ages, occupations, and socio-economic backgrounds. Nonetheless, the growers

²¹ A *cuadrilla* refers to a picking group composed of 10-12 pickers, a foreman and a truck driver.

themselves, as well as others involved in the industry, generally recognize two types of producers: nylon and experienced (*con experiencia*). Nylon producers are those whose background is not in agriculture. They include many professionals whose principal occupation is something other than avocado production; their avocado orchards are simply an investment and their income does not depend exclusively on it. Most of them are private small owners (*pequeña propiedad*) and their land size fluctuates from only two hectares to hundreds of hectares. Nylon producers usually live in the main cities such as Uruapan, Tancítaro and Peribán and hire a guard who lives in the orchard with his family.

The second group of producers is made up of so called experienced producers. These are avocado growers whose main occupation has been commercial and subsistence farming. Many of them were previously involved in maize, cotton, watermelon, mango and/or peach production. Their living depends mostly on their agricultural activities and for many, solely on their avocado grove. Many have been involved in the avocado industry long enough that their orchards have become self-sustainable and very profitable. Some are well-capitalized farmers and others have a more limited income. Some of the experienced producers, especially the *ejidatarios* and *comuneros* whose plots of land are small (under 5 has.), live in their orchard, grow maize among the avocado trees and rely on the extended family to provide the labour required.

All avocado growers identify themselves as either nylon or experienced producers. There is neither a negative nor positive implication to the denominations. Being part of one of these categories does not necessarily entail that a producer has a certain fruit quality, a specific socio-economic status, or a definite approach towards the changing demands of the avocado markets. Both nylon and experienced producers regard the avocado industry mainly as a commercial opportunity. Regardless of the size of their land or their status as nylon or experienced producers, a large majority of the avocado growers tend to be market oriented; they are aware of the need to meet consumer demands. They tend to be active in upgrading production technologies and practices, and are constantly trying to gain a competitive edge against other producers and in international markets. Both, the nylon and experienced avocado producers interviewed

recognize that good information and operations flexibility are important to succeed, enter new markets and secure existing ones.

As investors, nylon producers are interested in maximizing gains, and are more likely to be active in export markets and in local organizations. Nonetheless, many experienced producers are also part of the U.S. export program, support industry regulations and are determined to increase their competitiveness through certifications and greater flexibility in their practices. Agricultural engineers from different public and private institutions, often remarked to me about the willingness of a large number of avocado producers, whether nylon or experienced, to implement changes quickly and upgrade practices constantly. According to the Agri-food Innocuity Program (*Programa de Inocuidad Agroalimentaria*) coordinator of the CESV, in Michoacán the avocado growers are the most responsive of all farmers to the implementation of innocuous and phytosanitary measures. This may be explained mainly by the fact that avocado producers are financially more capable than growers of blackberry, guava and any other crops in the region (M. Montoya, personal interview, October 15, 2003). Avocado growers have a larger financial capability to face the risk of changes. Besides, the investment in certifications has, until now, offered new opportunities and increased profits for avocado growers. The opening of the U.S. market has convinced many producers, even those who are not yet part of the program, of the need to increase technological levels and comply with international market trends and demands.

At the same time, there are many producers who are more passive about their participation in the export system and in local organizations. These avocado growers are typically experienced producers who view their avocado orchard as a reliable source of income, but are neither interested in having to change their agricultural practices nor in investing more capital than required to sustain their production. Whereas they seek to maximize their profits, they also see the national market as secure and lucrative. They often prefer to sell their fruit to small packers, and local and outside middlemen for the domestic market. Most of them see export production as beneficial since it tends to reduce the volume for the national market and may thereby increase prices. Some perceive many of the regulations as costly and unnecessary; however, they recognize the fruit-quality improvements in the whole industry. Many of the experienced producers do

not take part in organization meetings and belong to the JLSV only because it is mandatory.

Calavo acquires avocado from both nylon and experienced producers. According to the purchasing engineers, the differences between the two groups of producers are in many cases negligible. In general, avocado producers are commercially oriented and seek to maximize their profits from the orchards. Their investment decisions vary according to their own financial capacity to face risks, as well as how they regard themselves in the industry. Most, if not all of the nylon producers, and many of the experienced ones agree on the need to expand the market internationally; their monetary investments and orchard-management practices are mainly aimed at becoming “global producers”. They are the group most likely to sell their fruit to *Calavo*. In contrast, many experienced producers aim to maintain their position as suppliers of the national market; the financial security achieved with avocado production is already considered a major benefit that many other Mexican agricultural producers have generally not enjoyed. Some of these experienced producers view the international markets as too demanding in terms of information access and qualification requirements. They are unlikely to be interested in commercial transactions with *Calavo* and vice versa.

In an industry in which all producers still rely on the national market, only a small percentage of the harvested volume is destined for the international markets, but all producers are brought under very similar rules and conditions. The distinction between the two groups only suggests an important structural feature, rather than being a defining characteristic of the avocado producers in Michoacán.

5.3.2 Smallholders vs. small-scale producers

In Michoacán the average size of the avocado orchards registered at the CESV is 6 has. Currently, there is insufficient data regarding land-size distribution of avocado groves in Michoacán. An avocado producers’ census was conducted a few months after the field work for this research was carried out; results from the census should be released in 2006. The CESV list of producers permitted to export fruit to the United States provides partial but important information related to the different ranges of orchard sizes. During the 2002 U.S. export season the average size of the land producing for

export was 11.29 has. and in the 2003 season it was 10.63 has. Even though the average size of the orchards in the U.S. export program is higher than the regional average, a significant share of the orchards enrolled in the U.S. export program are smaller than 6 has. As shown in Figure 5.1 and Table 5.1, in the 2002 U.S. export season 41% (618) of the certified orchards ranged from 0 to 5 has., and in the 2003 season 45% (959) belonged to this same land-size segment.

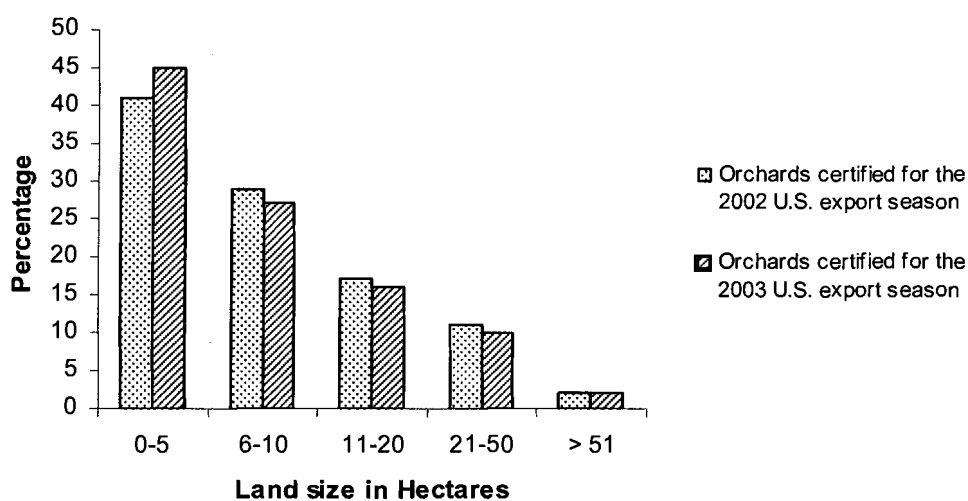


Figure 5.1: Size distribution of avocado orchards registered in the CESV for the U.S. export program, seasons 2002 and 2003.

Data source: Programa de exportación, 2002-2003, 2003-2004

Year by year the number of avocado orchards and producers participating in the U.S. export program is increasing rapidly. The average increase in the number of farms for all size categories between the 2002 and the 2003 seasons was 40.59%. Table 5.1 shows that between the 2002 and the 2003 seasons, the growth rate of farms sized between 11 and 20 has. was the lowest and well below the average. The number and share of farms in the 6-11, 21-50 and 21-50 has. ranges have had a similar growth rate, but still lower than the average. A remarkable rise in the number of holdings between 0 and 5 has. is observable; this size category grew by 55%. Consequently we can infer that in Michoacán the U.S. export program is increasingly dependent on increasing participation of orchards smaller than the regional average, and the small producers' contribution to the avocado export market is progressively gaining.

Table 5.1: Land-size distribution of participant orchards for the 2002 and 2003 U.S. export seasons.

Land Size in Hectares	2002-2003 U.S. EXPORT SEASON		2003-2004 U.S. EXPORT SEASON		% of growth*
	Number of Orchards	%	Number of Orchards	%	
0-5	618	41	959	45	55
6-10	434	29	566	27	30
11-20	265	17	337	16	27
21-50	160	11	209	10	30
> 50	29	2	39	2	34
TOTAL	1506		2110		

* Percentage growth for each size category between the 2002 and the 2003 U.S. export seasons.
Data source: Programa de exportación, 2002-2003, 2003-2004

The high rate of smallholder participation may fuel optimism about the poorest farmers taking part in the avocado industry. However, although many poor farmers have successfully adopted avocado production, the industry boom has worsened the problems of uneven land distribution. During the 1980s and early 1990s the higher profitability of avocado increased the demand for good quality land and resulted in overvaluation of plots. At a time of national economic hardship, many poor farmers, who were also non-avocado adopters, sought a way out of agriculture, sold their plots and migrated to the United States or became labourers. A few very wealthy producers acquired various small and medium-sized plots of the newly available land, and currently control a total area of several hundred hectares. In the Michoacán avocado industry a producer who has several orchards is categorized as a “strong producer” (*productor fuerte*). Wealthier avocado producers have accumulated land and continue to do so at a faster rate than poorer producers.

Strong producers generally better manage production and price risk. The producers register the groves under their name and/or that of their wives, sons or daughters or other close relatives. Their plots of land are situated in different municipalities and at different altitudes; as the fruit ripens at different times, this strategy ensures that they have fruit available throughout the year. Land in the highlands is more subject to weather damage such as frost, whereas the land in the lowlands is more vulnerable to pests. Having land in both zones mitigates these risks. By contrast, true

smallholders usually depend on their single plot of land and therefore are more susceptible to total loss. Factors such as the increasing cost of supplies, land fragmentation, migration and the lack of interest in agriculture among local youth, have negatively impacted small producers' ability to retain their land; many *ejidatarios* have registered with the PROCEDE program, sold their *ejidal* rights and left the land that their families have held for generations. Private investors have bought *ejidal* rights, arguing that this land-tenure system is generally secure and expropriation is unlikely,

There are not many advantages for having an orchard within an ejido. However, the advantage is the security, the security of knowing that the land is yours. It is safer to be within an ejido rather than having a private plot. Nowadays private land is getting safer but in the past it was not. For instance, the Tiamba *ejido* could say we need land; we need to extend because we now have sons and grandsons and the family land is not enough anymore. Then there would be a census of the properties and they [the *ejidatarios*] would take, invade really, the private properties nearby. (Private owner of ejido land, personal interview, August 23, 2003)

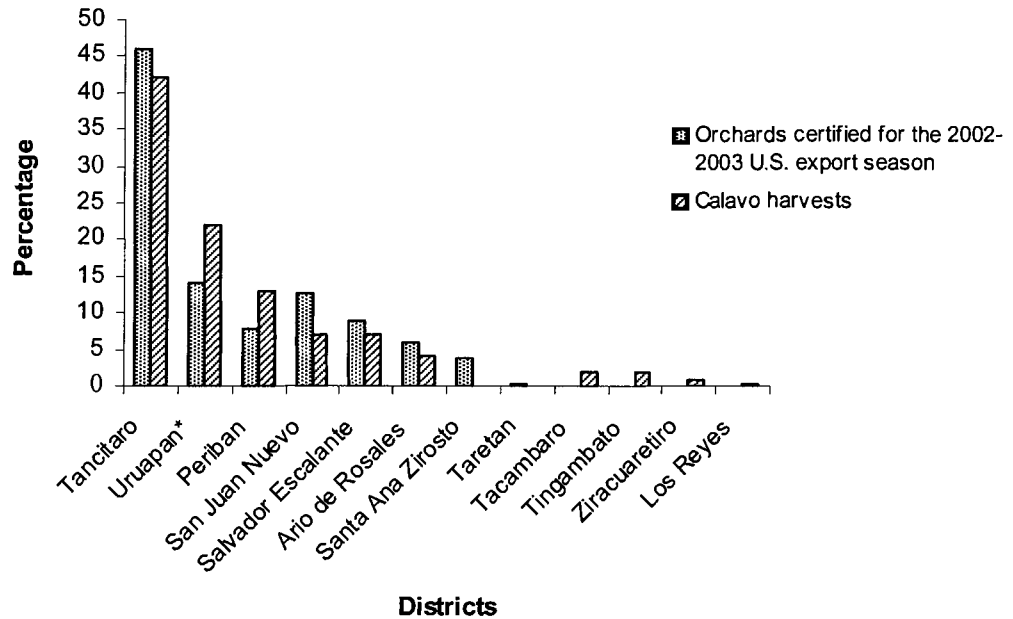
Currently, in the avocado industry the differentiation between *ejido* land and private property is often disregarded. All *ejidatarios*, as private owners, sell their fruit individually; many *ejido* owners and renters are avocado exporters and are financially comfortable. In the avocado region, attempts to transform ejido plots into more dynamic, commercially viable land have often been successful; yet, the participation of the *ejidatarios*, as a distinct social structure, is debatable. The Agrarian Attorney (*Procuraduría Agraria*) and the National Agrarian Registry (*Registro Agrario Nacional*), which archives the information generated, provides proof of land ownership upon request, and validates and registers modifications in property rights, announced in December 2005 that 87% of the *ejido* and communal land in Michoacán has been titled, and 178,412 peasant farmers have received their ejido rights (Procuraduría Agraria, 2005). The lack of an updated regional census makes it difficult to assess the impact of PROCEDE and the actual functioning of land rentals and the sales market. Nonetheless, the transformation of *ejido* land into avocado groves, and the ongoing accumulation of land among wealthier family groups are evident in the Michoacán avocado region.

True smallholders (i.e. the landowning poor) appear to have significantly reduced their participation in Michoacán agriculture. Those who have retained their land and have

ventured into avocado production have been forced to meet the increasing sanitary and quality demands of both the domestic and the export markets. Factors such as increasing production costs and limited access to information are steadily marginalizing these producers. The CESV's professionals make an effort to support and inform the producers about new regulations and practices; however, in Michoacán for a grower to be considered a good avocado producer s/he must be able and willing to afford extension services, appropriate agricultural supplies and technological advances, as I will explain in more detail later in this section. Traditional agricultural knowledge and skills are largely inoperative, and small producers become incapable of participating in the new markets. Smallholders have no option but to remain in the poorer sector of the production chain, as the source of permanent and temporary labour for the larger avocado producers and the packing facilities. The majority of Michoacán avocado growers may be small-scale producers, but they are not poor smallholders.

5.3.3 Land distribution and *Calavo* suppliers

Via a comparison of the *Calavo* harvest list for 2002-2003 and the CESV list of certified orchards for the same year, we can find several salient trends. As Figure 5.2 shows, the majority of *Calavo* harvests were carried out in the districts considered free zones (allowed to export fruit to the United States). Some 42% of *Calavo* harvests occurred in Tancítaro, which is also the district where the largest number of orchards was certified for the 2002-2003 U.S. export season. *Calavo* also harvested avocado in the districts of Tacámbaro and Los Reyes, which at the time were not certified but were included in the U.S. export program for the 2003-2004 season. Moreover, 466 of the 896 harvests on the *Calavo* list have a matching farm on the CESV list. Meaning that 52% of *Calavo*'s harvests were from orchards certified for export to the United States.



* Region Nuevo Zirosto which is sometimes listed as a county, is here included in Uruapan

Figure 5.2: Distribution by district of orchards certified for the 2002-2003 U.S. export season and of Calavo’s harvests

Data source: Programa de exportación, 2002-2003; Calavo, 2002-2003

While the *Calavo* list does not provide details such as farm size, by examining the matches on the CESV list we can perform some statistical analysis of those farms harvested by *Calavo* that are also certified to export to the United States.

Of the 340 farms that are matching (340 farms carrying out 466 harvests for 2002-2003), the breakdown of farm size is as shown by Figure 5.3. We can see that, in general, farms that supply avocado to *Calavo* tend to closely follow the trend of the CESV certified farms. More than one third of all of the *Calavo* farms that are on the CESV list can be classified as small landholdings (less than 6 has.). The average size of a *Calavo* plot that is on the CESV list for 2002-2003 is 12.71 has., whereas the overall size average on the CESV list for the same season is 11.29 has. The chart shows that for all sizes of farms, there is a close correlation in size between the *Calavo* and CESV orchards.

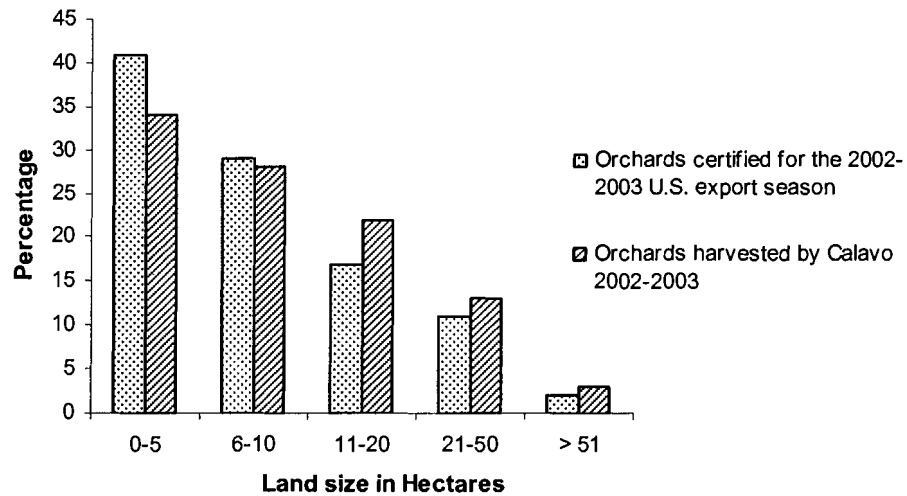


Figure 5.3: Relative size distribution of avocado orchards between the overall 2002-2003 CESV list and those that are a match on the Calavo harvests list.
 Data source: Programa de exportación, 2002-2003; Calavo, 2002-2003

Calavo harvests fruit from small and very small producers. The smallest plot registered to export avocado to the United States is 0.5 has. while the smallest orchard harvested by *Calavo* is 1 ha. Its purchasing-department staff declared that *Calavo* would harvest an orchard smaller than 3 has. only when there is enough volume and excellent quality. The minimum volume for a harvest to be economical for *Calavo* is 300 boxes (16-17 kg/box); the volume per tree should be close to 1 ton/year for an orchard smaller than 4 has. to yield the required minimum volume, which is higher than average. Another possibility for *Calavo* to deal with very small plots is when producers sell their fruit communally, which is very rare in Michoacán. For instance, *Calavo* buys fruit from the Caratzitumbio community. The land belongs to Purepecha natives, whose individual plots are 2-4 has. in average; the orchard boundary lines are not physically marked. *Calavo* negotiates over the fruit with a representative of the community; a harvest date and the price for the total volume harvested in all the plots are arranged. Later, the representative divides the payment among the producers. It is a good way for such producers to sell their fruit because otherwise most large packinghouses would not take it. It is beneficial for *Calavo* because the fruit is of good quality, and the firm can obtain enough volume to

be economical. Additionally, it improves the firm's reputation; it demonstrates that *Calavo* neither discriminates against natives nor smallholders in the avocado industry.

Although the participation of small landholdings (0-5 has.) is increasing rapidly when compared to other land sizes, a study of the actual land areas involved is also insightful. Whereas small landholdings represent 34% of the total number of farms that are both on the CESV list and sold one or more harvests to *Calavo* in 2002-2003, in terms of actual land area harvested, the small landholdings are less significant. As can be seen in Table 5.2, small landholdings (0-5 has.) represent only 10% of the total land area harvested, whereas the 21-50 has. segment accounts for 33% of the total land area harvested.

Table 5.2: Land-size distribution of orchards that are both harvested by Calavo and certified for the 2002-2003 U.S. export season.

Land Size in Hectares	Number of Orchards	%	Surface Area in Hectares	%
0-5	119	34	407.42	10
6-10	96	28	787.53	19
11-20	77	22	1,176.85	25
21-50	45	13	1,421.18	33
> 50	9	3	570	13
TOTAL	346	100	4,362.98	100

Data source: Programa de exportación, 2002-2003; Calavo, 2002-2003

For the 2003-2004 U.S. export season the average size of land on the CESV list was 10.63 has., smaller than the 11.29 has. average for the 2002-2003 U.S. export season. That decrease in average size combined with the increase in overall representation of the smaller landholders shows that there is a growing tendency for smaller land plots to increase their share of exports to the United States. We can also assume that *Calavo* is also increasing the number of small orchards from which the firm buys fruit. Furthermore, because certification for the U.S. market is relatively demanding, producers that are certified to export to the United States can also easily export fruit to the European and Asian markets; it is expected that *Calavo* will continue to buy fruit from small producers registered for the U.S. export program.

5.3.4 Growers prestige and reputation

The *Calavo* purchasing-department engineers have developed unofficial criteria to choose the producers from whom they buy the fruit. *Calavo* does not establish a benchmark; the engineers, based on their experience, have selected a few attributes that help them to assess avocado producers and determine the expected qualifications for the suppliers. The distinction between nylon and experienced producers is not a significant one; *Calavo* obtains fruit from both of these kinds of producers. The reputation of an avocado grower is based on an unofficial consensus among the engineers as to the appropriate attributes of *Calavo* avocado suppliers. This reputation is mainly dependent on his integrity and approach towards orchard management. A producer's prestige plays an important role in the purchasing decisions of *Calavo*'s staff.

The integrity of a producer is determined by his record of honouring verbal or written agreements with the firm. This demonstrates the responsibility and accountability of an avocado producer, and thus implies that a producer's word is considered as an ineluctable bond. In the negotiation with a member of the purchasing staff, the producer agrees to sell a particular kind (e.g. size, ripening stage) of fruit to the firm at a determined price and a set harvest date. A producer exhibits integrity if he respects the accord and does not sell the pre-contracted fruit to another packer, or changes his mind about the price to be paid. The purchasing engineers stated that on a few rare occasions, after an agreement has been reached, the producer may receive a better offer for his fruit and cancel the transaction with *Calavo*. Sometimes the producer informs the engineers about the cancellation of the deal, but on other occasions it is not until the *Azteca* pickers arrive at the orchard gate that they are informed about the retraction. Because there is neither financial nor legal costs associated with the failure to comply with an agreement, a loss of reputation accounts for the largest long-lasting negative effect.

Mutual trust evolves as a result of compliance with all the terms in an agreement on both sides. Reputation is built up over time. In the Michoacán avocado industry verbal agreements are the prevailing coordination arrangement between the growers and the packing enterprises; honesty and integrity of the partners are crucial for the establishment and development of a trusting, long-lasting relationship. A producer with a good reputation has the ability to choose whether or not to renew his obligations with a firm.

The lack of mechanisms that would obligate the producer to sell to only one buyer decreases the risk of indebtedness, loss of autonomy or of the land. To the contrary, reliance on reputation increases the sense of responsibility and expectations of sustained high-quality harvests. One negative consequence, however, of the reputation measurement is the exclusion of producers who are not known by the purchasing engineers. Possibly, the smallest producers, who are often more commercially timid, are not able to network and gain a reputation as easily; their access to buyers may be therefore limited.

Calavo's procurement-staff members also agree about the importance of appropriate orchard management. A producer's reputation is in part also built upon the care and maintenance of his orchard. The agricultural engineers of *Calavo* informally but unanimously agreed that producers can be classified as: first class or excellent (*de primera*), second class or average (*regulares*) and third class or fair (*no muy buenos*). This classification is based on the degree to which a producer is willing to request and implement technical supervision, management of harvesting timing and (re)investment decisions. These aspects are essential in the production of high-quality avocado.

First-class or excellent producers follow technical advice and implement recommended activities in a timely manner. A first-class producer hires a technician who visits the orchard periodically, plans activities and identifies needed resources, and is an active part of the decision-making process. The grower reinvests a reasonable percentage of profits in maintaining and improving the quality of the grove. An orchard that is professionally supervised and receiving appropriate investment looks clean, the trees are well-spaced and healthy (e.g. proper leaf colorations, pruned), the soil receives the necessary nutrients (a soil analysis should have been conducted) and overall productivity should be optimal. Finally, an excellent producer cares for his trees and harvests adequately. Even though avocados do not ripen until picked and thus can stay on the tree for months, a first-class producer does not delay harvest for too long. Delaying harvest for 4-6 months affects the health of the tree; the extra demand for nutrients causes stress that can result in a subsequent loss of productivity. Furthermore, heavy crop loads may cause limb breakage. An excellent producer proficiently manages the orchard; he constantly invests in information and technology upgrades.

The *Calavo* engineers state that there are a good number of first-class producers in Michoacán. The majority of large producers are first class, but many medium and small producers are also categorized as excellent. Similarly, there are nylon and experienced producers that belong to this category. Many of the producers that are technically first class also have a good reputation in the region and are often involved in local organizations. This group of producers has the best potential for technologically improving agriculture; they tend to be pioneers of new practices and in taking the lead in implementing protocols that transform into new credentials. If their orchards are located in a free zone they tend to be part of the U.S. export program. First-class producers are much desired suppliers for *Calavo*.

Average or second-class producers receive technical advice from an agricultural engineer, but are not willing or capable to execute all the recommendations. The final decision on how to manage the orchard is taken by the land owner, and is often based on the idea of investing only the minimum required. Usually the health of the trees is adequate, but tree pruning, applications of pesticides and fertilizers and other activities are performed when viewed as necessary rather than as a preventive mechanism. Some of these producers depend solely for their income on their avocado orchard; they seek to maximize profit while keeping investment very low. Others, having enough capital to reinvest in the orchard, may still not want to invest a large amount in it; most of the profit is spent on other items such as payment of debts, cars and properties. For the same reason, if entering into the program to export to the United States would involve a substantial transformation and related expenses, they are unlikely to take part. However, many of these producers are located in areas where weather risk and pest outbreaks are low, which facilitates certification for the U.S. market. They may also have enough volume of fruit suitable for the Japanese and European markets, and thus may be important suppliers for *Calavo*.

There is another kind of producer that belongs to the same category. There are second-class producers which, despite a major effort and investment to maintain the orchard in the best possible conditions, have environmental or biological problems that prevent them from successfully doing so. Many of these types of producers are those who initiated or bought their orchards approximately twenty year ago; at that time there was

not enough knowledge about the best kind of scion or stock to use for grafting. Their trees currently produce smaller-sized fruit and less volume than most other trees. The producers are not keen to remove the trees and replant new ones, mainly due to the major economic hardship it may cause, at least in the short term. Despite a considerable degree of effort and investment, and the generally good health of their trees, the fruit never achieves the expected quality characteristics; the producers therefore do not qualify as first-class producers. Yet, they may from time to time supply fruit to *Calavo*.

Finally, the third type of producers is those who are categorized as fair. These avocado growers rarely receive technical supervision. They often request advice from the agricultural supplies store front-desk staff and/or engineers, but a soil analysis is rarely performed. The management of the trees is carried out by trial-and-error methods, and some of the orchards have lower than average yields (less than 8 tons/ha.). The capital that is reinvested in the orchard is usually very limited and often insufficient. Most of these fair producers sell their fruit on the national market. They sell their fruit while on the tree (*al parar o en pie*), by size (*escogida*) or by combining all sizes and ripening stages (*a pela palo*) or they harvest the fruit themselves, transport it and sell it to middlemen. A few of these producers may neither be registered with the JLSV nor have a phytosanitary registration; some of their fruit may not have documentation and is sold on the black market. The majority of the fair producers own small orchards and tend to be experienced rather than nylon producers. *Calavo* may sporadically buy fruit from some of these producers if the quality of the fruit is good, the volume is acceptable and the orchards do have a phytosanitary registration.

It is impossible to determine the percentage of producers that belong to each of these categories. The criteria have been useful for *Calavo*'s purchasing staff to differentiate producers and choose suppliers. Moreover, these distinctions are widely accepted among all agricultural engineers, other professionals and the producers themselves. However, these categories are neither sharp nor universal; it could be possible to aggregate or disaggregate avocado producer groups according to the specific needs of an observer. These categories do not exactly match land-tenure system, land size, educational levels, economic position or any other common classification. In an increasingly regularized industry in which standardization and implementation of

technical and managerial systems are normally viewed as necessary to run a successful business, a categorization of producers based on their observance of technical recommendation seem to be consistent. The local agronomists, including the *Calavo* purchasing engineers, have had a major role in shaping the avocado industry and defining the qualifications that determine a producer's reputation and suitability as a supplier.

5.3.5 Length of the relationship between *Calavo* and the suppliers

There are approximately 600 producers that sold their fruit to *Calavo* for the agricultural year (August 2002-July 2003) in which this field research was conducted. For the packing facility to operate efficiently, it is important to run at maximum capacity; a minimum number of producers that regularly supply enough volume of fruit is indispensable. The firm has aimed to retain a group of reliable growers who can supply high-quality fruit at competitive prices. The frequency of commercial transactions between *Calavo* and the avocado producers may be constant, occasional or rare. The rate of transaction occurrence also largely determines the degree of information exchange and the accessibility of technical advice and loans.

There is a group of about 200 producers which are informally known by the firm as the *Calavo* producers' club. They are also described by *Calavo* staff as "captive producers" (*productores cautivos*). Captive producers consistently sell their entire quota for the U.S. market and a large percentage of their exportable fruit to *Calavo*. These producers own large, medium and/or small-sized groves located in different districts at varied altitudes. There are nylon and experienced growers among this group, and most of them are first- class producers. Several of the producers who own some of the largest plots of land in the region and do not perform the packing themselves for the U.S. market, have developed an informal partnership with *Calavo*. In the same way, many of the strong producers have become part of the *Calavo* producers' club. Harvesting fruit in a large orchard decreases transaction costs for both the firm and the producer. As a member of one of the families who own large amounts of land (approx. 500 has.) explained:

If *Calavo* pays me within a week of the harvest, why would I take the risk to sell to another packer who would not pay fast enough. You need the money for the maintenance of the orchards. It is also convenient for *Calavo* to harvest my fruit

because of the large extension of the groves. They send the pickers here and it takes them many days to finish harvesting. It can be a week or two, a month; sometimes it takes them two months to harvest all of my fruit. Neither *Calavo* nor Mission can harvest all the production. Sometimes we have them both harvesting at the same time. (J.J. Oregel, personal interview, September, 2003)

Each purchasing-department engineer has his own group of captive producers. The engineer knows the producer, the quality of the fruit and the time of the year when the fruit can be harvested. The producer sells his fruit to *Calavo* in a regular way, and in exchange, is constantly receiving information about future requirements such as new regulations or certifications. Although the majority of the captive producers have a head engineer who supervises the orchard, *Calavo* staff members provide some technical advice and general recommendations. This constant flow of information allows the producer to gain up-to-date knowledge about markets demands, implement new practices faster than other producers, and increase his competitiveness. At the same time, *Calavo* benefits by “assuring” a pool of producers who would comply with quality and phytosanitary standards even before they are officially put in place.

One of the *Calavo* purchasing-department engineers is also the manager of innovative projects. He is constantly researching new international regulations, certifications and practices. The engineer has more than twenty years of experience in the avocado industry, and has several diplomas concerning quality and environmental audits. He has been a promoter of the “Good Agricultural Practices” certification and has been supervising producers who want to achieve organic certification. He especially supports the *Calavo* producers’ club. However, the firm does not subsidize certain practices or applications for the certifications because there is no guarantee that, once a producer has obtained certification, he would sell his fruit to *Calavo*. Producers are not interested in an “exclusivity” contract; yet they value *Calavo*’s efforts to provide information to a select group of producers.

There is also a second group of producers that sell their fruit to *Calavo* intermittently. The producer self-selects out of long-term arrangements with *Calavo*. He may sell fruit to *Calavo* when he believes its price is competitive, but he is not interested in developing a long-lasting, even if informal, commitment with the purchasing staff or the firm. Among this group there are some first-class, large producers and strong

producers who are very desired by *Calavo*. Although they are not captive producers, the engineers visit them often and invest a significant amount of time trying to establish a long-lasting relationship with them. These producers often receive ongoing requests by purchasing staff from different packinghouses to handle their fruit. The producers sell fruit to many packers, and will rarely develop an exclusivity arrangement with any of them. These few producers who enjoy the benefits of a large, highly-technified orchard may benefit from higher prices and increased bargaining power.

At the same time, there are some second-class producers who sell their fruit to *Calavo* occasionally. Some of these producers have not achieved consistently high-quality avocado production. Yet these producers are potential suppliers for the firm, and thus the purchasing-department staff maintains relations with them. As a group they supply large volumes of fruit for different markets and for guacamole processing. The engineers deal with many more growers than their “captive” ones; developing a commercial relationship with a large number of suppliers guarantees enough fruit volume at any given time. *Calavo*’s reputation in Michoacán rests on its ability to buy fruit from a very diverse group of producers, and give them equal, respectful and personalized treatment.

There is also a third group of growers that are rarely approached by *Calavo*’s purchasing engineers. The quality and volume of their fruit may not conform to international market standards. Among a group of almost 10,000 overall producers, the number of those who export fruit is very low. Some growers are not interested in the export market, but others simply do not know how to initiate and/or maintain an arrangement with the purchasing staff. They feel there is a large communication gap between many growers and the international packinghouses such as *Calavo*. As one producer who on a few occasions has sold his fruit to *Calavo* explains,

It is very tiring for us [producers] to be calling the purchasing people to offer our fruit. Every harvest is the same thing; we have to call many of the packinghouse representatives to see who is interested in the fruit. I would rather have a packinghouse like *Calavo* interested in always buying my fruit, but I don’t get that courtesy. I recognize the [*Calavo*] purchasing engineers and their cars, but I just haven’t been able to befriend one of them. (Avocado producer, personal interview, September, 2003).

Some of the small producers have difficulties commercializing their exportable fruit. Many of them feel isolated and are trying to catch up with a quickly-changing environment. They perceive a few large growers are in charge; influential growers and the packinghouses make decisions and transform the industry on a constant basis. Small producers must adapt rapidly or lose access to the international market. If their avocado meets the standards of the international markets, they may be able to export their fruit and benefit from higher returns. However, some growers fear that new rules may become unattainable, limiting their possibilities to export. Overall, it is evident that Michoacán avocado producers are and will continue to be enormously dependent on the domestic Mexican market.

While some producers may feel that they have the power to choose a buyer, more typically it is the firm that chooses the growers. *Calavo* buys fruit from a multifarious group of producers, but the firm cannot afford to carry growers who are not producing optimal fruit in a consistent manner. The firm aims to work with larger and stronger producers because of their generally lower transaction costs. In the same way, *Calavo* will deal with producers who have a reputation for high quality and honesty. The firm gives priority to the growers that are technically and managerially more capable, as they are also often more capitalized and adaptable to change. *Calavo* buys avocado from both nylon and experienced producers; there is a large number of growers who may have a background mainly in subsistence agriculture, but who currently have the economic resources for new production inputs and technologies to earn them the credentials to be first-class producers. In addition, *Calavo* deals with small growers who produce high-quality fruit, but the participation of true smallholders among the firm's suppliers is uncertain.

5.4 The performance of *Calavo*'s contractual arrangements

The effects of the contractual arrangements with *Calavo* primarily depend on producers' participation, their ability to negotiate with the firm and the allocation of risks among the parties. The exclusion of the smallest producers, as explained in the previous sections, is not only the result of the firm's attempt to minimize transaction costs, but also

the product of the official norms and increasing quality and phytosanitary standards. The smallest producers are largely excluded from the export market, and their participation in the domestic market has been put at more risk, due principally to their financial incapability to upgrade technology and productive practices. Market-specification contracts are not an efficient strategy for the smallest producers to become integrated into the agro-export industry. *Calavo's* coordination arrangements have not provided the access to capital and information that the smallest producers require to take advantage of the booming industry. At the same time, *Calavo's* contracts have been very effective for many capitalized producers, who are able to retain autonomy of the productive process, and to export their avocado in a dependable manner. The polarizing effects of contractual arrangements have increased socio-economic inequalities and the dislocation of many farmers from agriculture.

5.4.1 Producers' participation

In Michoacán the certification to exports to the United States and the size of landholdings are important factors in influencing who will sell fruit to *Calavo*. Most large and strong first-class producers whose groves are certified for the U.S. market attract a larger number of buyers including *Calavo*. Accumulation of capital is occurring among these wealthier producers, who already have considerable personal economic resources and sources of income other than avocado. *Calavo's* contractual arrangements give priority to these wealthier producers, especially because of their lower transaction costs. Small and medium producers may be attractive for the firm, but not having the certification to export to the United States makes these producers less desirable; *Calavo* is most likely to deal with producers that observe quality and sanitary standards for all markets. *Calavo's* selection criteria are based on the demands of international markets but, most importantly, on local regulations and ongoing quality-assurance mechanisms.

The small and medium producers that establish a long-term relationship with *Calavo* have benefited the most from the contractual agreements with the firm. These producers have gained access to the international market through *Calavo*, which may not be easily accessed by other means. Small and medium producers usually are not knowledgeable about the exporting process, and often feel that they can rely on *Calavo*

by being familiar with and able to trust one of the firm's purchasing engineers. In comparison to the national packinghouses, *Calavo* is viewed by the producers as financially stable, strong and reliable. It also allows small and medium producers to secure a market for their fruit, receive payment quickly and obtain updated information related to the crop. The faster availability of capital from *Calavo* allows the producer to also reinvest profits into production more speedily and foster appropriate orchard management. The producers that belong to *Calavo*'s club may be more competitive than most others in the region.

Contractual arrangements with *Calavo* are widening regional socio-economic stratification among producers. The largest number of producers in Michoacán, and the main group of *Calavo*'s suppliers, is small producers. However, as earlier stated, the number of true smallholders participating in the export market and commercializing their fruit through *Calavo* cannot be determined with the existing data. Given the criteria that the procurement-department staff deploys to choose suppliers, we can assume that not many true small producers supply avocado to *Calavo*. Most true smallholders do not have enough capital to hire technical supervision and manage their orchards in the manner that is required to become first-class producers. Moreover, the continuous improvement of quality and sanitary standards around the world is increasing production costs and information requirements; it is constantly more difficult for true small producers to enter the export market. *Calavo* is likely to support and maintain a contractual relationship with those (small) producers who already have the means to cope with the changing regulations. Smallholders will continue to depend largely on the national market until its regulations also become too demanding and costly. At such time, many of these growers will only be able to commercialize their fruit via the black market, or will find themselves completely excluded from the industry. The participation of smallholders in the avocado industry is hampered by the changing global and local environment, and the lack of suitable strategies to incorporate them into the industry.

The avocado economic boom has widened the gaps among the exporters, non-exporters and subsistence producers. The rising purchasing power of avocado exporters pushes up the price of factors such as land, agricultural inputs and machinery. Increasing production costs more severely affect poorer subsistence producers who are already

struggling with the lack of governmental subsidies and commercialization channels; their ability to retain their land and guarantee household food security is being diminished. While two decades ago some subsistence growers transformed their plots into avocado groves, accumulated capital and ascended the economic ladder, today elevated costs and rising demand for agricultural land may prevent these producers from entering the avocado industry. Instead, the regional cost of living is increasing to the point that housing, food and production means are each day less affordable for the urban and the rural poor. Some may survive these harsh conditions due to remittances they receive from relatives in the United States, but many are becoming impoverished. The success of the avocado industry has furthered the relentless sharpening of social and economic stratification, and the impoverishment of the smallest producers.

5.4.2 Power relations between *Calavo* and the producers

Arrangements between *Calavo* and its avocado suppliers are generally not characterized by highly unequal power relation. The avocado producers that sell their fruit to *Calavo* enter the arrangement freely, and have the possibility to choose among many other buyers. The fact that some producers have decided to give continuity to this relationship with *Calavo* indicates that they believe they are better off by selling to the firm. The price offered for the fruit viewed by producers as fair, and cordiality among the parties makes transactions easy and uneventful. Some interviewed producers stated that they would like to have a trustworthy packer like *Calavo* for the national market. The producers appreciate the updated information about markets and regulations at no cost. Overall, the producers perceive *Calavo*'s commercial activities as a beneficial service.

Marketing contracts with *Calavo* have been an efficient coordination arrangement for the Michoacán avocado producers and the firm. In contrast to most agricultural producers in México, a large number of avocado producers, especially the exporters, have the financial autonomy that allows them to deal with buyers as equals. Even small producers that sell their fruit to *Calavo* run profitable groves, and usually do not require credits or supplies for production. The bargaining position of the producers is strengthened due to high demand and competitive prices on the national market. Approximately 70-80% of the avocado produced in an orchard is generally sold in the

national market; the producer is not dependent on *Calavo* to commercialize his fruit and make a profit. An avocado producer may choose to comply only with the minimum requirements permitting sales of fruit on the national market, and still run a lucrative orchard. A highly dynamic domestic market has allowed avocado producers to secure profits and attain enough bargaining power to avoid an exploitative relationship with the (foreign) packinghouses.

The physiological characteristics of the avocado trees, and regional environmental conditions, have been highly advantageous for the producers. Producers have the possibility to leave the fruit in the tree, and wait to sell the fruit until the price is better without fear of loss of product due to decay. This unique characteristic allows the producer to assess and choose the most beneficial market and buyer for their fruit. Additionally, the range of microclimates resulting from variations in altitude, sometimes even in a single plot, leads to constant production of fruit year round and a lower yield risk. Michoacán avocado producers enjoy relatively stable incomes. All these aspects reduce the dependence of growers on buyers, and thus increase the bargaining power of producers. Observers contend that no region in México or in any other country has the climatic conditions allowing for such high yields and continuous supply. Production costs in Michoacán are lower than in other regions in México, and also significantly lower than other exporting countries such as Chile, South Africa or Israel. It is therefore unlikely that avocado packers, including transnational firms, will benefit from moving operations elsewhere.

Calavo has adapted to local negotiation and conflict-resolution strategies. Even though *Calavo* selects its fruit suppliers, the firm has also to abide by the conditions imposed by the local environment. All negotiations and agreements are verbal, and to some extent, informal. As R. Luengas, a controller from California visiting the Uruapan facility mentioned during an interview, “It is hard for some managers in California to understand how most agreements in Michoacán are verbal. However, they realize that if that is the Mexican style of businesses, then that is how we [*Calavo*] will do it here [Uruapan]”. From the standpoint of an agribusiness firm seeking to achieve a steady supply, the problem is not simply to identify suitable producers, but to establish a reliable, long-lasting relationship with the suppliers. *Calavo* has no legal means to impose

any penalties on the producers who fail to respect an agreement. Exclusion from future transactions is the only mechanism that the firm has to pressure the compliance of producers with agreements; however, exclusion is only a viable punishment when the benefits of the contractual relationship exceed the costs of not renewing an agreement. Whereas *Calavo*'s faster payments are very attractive for the producers, and probably represent the firm's most important part of the firm's competitive strategy, even more importantly, producers do not want to jeopardize their reputation in the region. Local social networks and informal performance assessments play a substantial role in the relationship between *Calavo* and the avocado producers.

Calavo obtains fruit with the desired sanitary and quality specifications despite the firm's low intervention in the production process. *Calavo* does not have to invest in monitoring production or providing technical supervision to secure consistently high-quality fruit. The national official sanitary norms and regional quality standardization have helped to close the gap between buyers and producers. Orchard certifications and phytosanitary registration at the CESV, both paid by the producers, facilitate an initial screening process for *Calavo*'s suppliers. The producers view the quality and sanitary demands as imposed by the markets and the CESV, but not by *Calavo*. In a similar manner, APEAM members decide on a fixed quota and price for exports of fruit to the U.S. market. It is viewed as dishonest if *Calavo* or any other packers offer a better price for the fruit, or acquire more volume from an orchard. It has been convenient for both packers and producers that the number of growers certified to export fruit to the United States has increased at a pace similar to the rate that the USDA has allowed Mexican avocado to enter into a larger number of American states. The controlled volume and price system has guaranteed a reasonably fair market for all certified producers, and a degree of protection regarding price fluctuations. The Michoacán avocado industry is highly regulated, and this characteristic has positively affected the adaptation and success of *Calavo* in the region.

5.4.3 Risk distribution

Contractual arrangements between *Calavo* and the avocado suppliers have reduced risk and uncertainty for both parties. First, according to the contract-farming

literature, the producers' main risk is often related to the introduction of a new crop in a region by an agribusiness; the producers face uncertainty about the suitability of the crop and their ability to achieve the expected yields. This is not the case of avocado in Michoacán. The avocado industry has long been successfully established; avocado producers are very familiar with the cultivation. *Calavo* is a latecomer into the industry. All producers that sell fruit to *Calavo* have grown avocado, and thus do not need to make new investments in agricultural supplies. However, the producers assume the risk of any innovative practice or technical utilization, even if it is promoted by the firm's staff members. Moreover, the avocado producers run all the risk of production failure due to factors such as weather or disease. Since *Calavo* has no direct involvement in the production process, the firm does not offer crop insurance. Producers neither have access to government-run crop insurance nor do they trust private companies which offer the service. The risk of the entire investment in production is with the producers.

However, *Calavo* runs the risk that producers will fail to honour agreements and jeopardize a stable supply. The procurement contracts have decreased the fruit-quality risk otherwise faced in an open market, but have not completely overcome the uncertainty of supply. Nevertheless, local-adjustment mechanisms such as reputation and repeated interaction effectively reduce this risk. Similarly, contracting with *Calavo* has reduced producers' payment risk and price uncertainty. *Calavo* payments are secure and fast; producers avoid selling their exportable fruit on consignment and receive the price that is agreed on before the harvest. The captive producers particularly benefit from such agreements by reducing the risk of marketing their own produce and receiving an unfair price. All producers have benefited from the quota and fixed price for the U.S. market; any price risk is borne by *Calavo*. Whether contractual arrangements with *Calavo* have been a positive option for producers to lower price risk for exportable fruit, avocado producers bare the full risk of price variability in the national market in which the largest volume of most producers' fruit is channelled.

5.5 The environmental question

Many farmers owe their improved livelihoods to the avocado industry, which has also promoted an important regional economic boost. However, the expansion of avocado groves is increasing deforestation and soil degradation. Forest lands are being converted into small and medium monoculture avocado plantations. It has been suggested that adequate phytosanitary management of an orchard involves intensive weed and pest control for which the use of agrochemicals such as Manzate and Parathion, considered extremely toxic and banned in some countries, are commonly used. Additionally, intercropping has been discouraged; because the Hass variety is the most commercially viable, most producers have replaced the *criollo* and other avocado varieties, thereby endangering the mutually beneficial relations that often occur between these varieties. Whereas tree crops often require less agricultural inputs than herbaceous seasonal crops, intensive monocropping of a single variety increases pest risk, soil degradation and the possibility of total financial loss. The avocado fever sweeping Michoacán is increasing deforestation, loss of biodiversity and environmental damage.

Some of the producers are promoting a strategy to minimize the negative environmental effects of the avocado industry. APEAM members explained that they are working with the state to slow the transformation of more land and forest into avocado orchards,

There is going to be new legislation in which it is stated that land-use change will be heavily penalized. Aided by the future census, we are planning to obtain a map in which we can locate each orchard. Moreover, we are planning to have aerial photography to determine the area cultivated in avocado and the area that remains forested. An annual monitoring of the change in size of the forested area will be conducted; the size of the forest should be kept as it is today....We are very interested in the environment, in the resources, because the springs are drying up and they are very important for the producers. We are bringing awareness to the people about the problem we are facing, and we have to do something to save this. (A. Alvarez, personal interview, October 2003)

APEAM representatives also claimed during the interview that the association has fostered agreements with governmental institutions such as the Federal Environmental Protection Agency (*Procuraduría Federal de Protección al Ambiente* - PROFEPA) and the Water and Environment State Commission (*Comisión Estatal de Agua y Medio*

Ambiente) to conserve the environment and reduce deforestation in the region. However, according to other interviewees who are not certified to export to the United States and thus do not belong to APEAM, the environmental concern of some of the producers and APEAM members is just a new strategy to avoid competition. Moreover, there is the feeling that the wealthier producers now want to stop other producers from doing what they themselves did some decades ago. As a producer in Tingüindín explained,

There is a group of old-time producers from Uruapan who are demanding that the government not authorize the clearing of more pine forest to transform it into avocado orchards. I think it is dishonest of these producers because who gave them the right to clear pine forest thirty years ago? And what now gives them the right to ask that the same right is not given to other people today? If you ask me if I agree about more avocado plantations, I would say I do not know, but the argument these other producers are using is in my opinion wrong. What integrity, eh? (Avocado producer in Tingüindín, personal interview, August 28, 2003)

The National Forestry Commission (*Comisión Nacional Forestal* – CONAFOR) has warned about the unknown area of forest that has been converted into avocado orchards without proper permits. CONAFOR estimates that more than 20,000 has. of this inappropriately transformed land is now having a negative effect on springs and water bodies (Equihua, 2005). Yet, producers are still clearing the last relicts of forest in their orchards, and an average of 50,000 new plants²² is being produced in local greenhouses. Avocado cultivation has increased deforestation and soil degradation in the region. Nonetheless, while the economic gains remain large and most environmental discussion is more focus upon competition and power relations, real environmental problems are getting worse and no clear initiative is being taken. Moreover, the environmental debate will continue to create tension between the large, old-time producers and newer producers. Moreover, the government and the producers cannot ignore the environmental damage associated with the intensification of avocado farming; the producers depend heavily on the available, but limited, resources. Degradation poses a major threat to the industry in the long term.

²² Approximately 100 plants are planted in a hectare. The current production of plants would require the transformation of 5,000 has. per year into avocado orchards.

5.6 State involvement in the avocado industry

The neoliberal agenda generally calls for minimal state intervention. As explained in Chapter 3, in recent years the Mexican government has withdrawn in many ways from the countryside, particularly regarding subsidies and price controls that, in the view of some, have historically prevented farmers from becoming more competitive. Despite the rhetoric of the need to deregulate agricultural markets and reinforce the direct relation between producers and private enterprises, in the case of the Michoacán avocado industry the state and federal governments have been extensively involved in the regulation of the industry and have acted as mediators between producers and buyers. One may argue that the success of the avocado industry in the international sphere would have not been possible without the extensive support of the national government and several regional offices.

The state has become the main agent of regulation in the avocado industry. The SAGARPA and the CESV have established industry quality and phytosanitary standards, and have developed benchmark assurance schemes such as the phytosanitary registration card, the establishment of free zones and orchard certification for export to the United States. The standardization of the industry has been part of a governmental strategy that aims to position Mexican avocado as a leading export. In its support of the avocado industry, the Mexican government has also negotiated agreements with the U.S. government and the European Union. Mexican government intervention, accompanied by close coordination between growers and packers through APEAM, has been imperative for the success of the industry. However, at the same time that the regulation of the industry has assisted the exporters, it has increased costs and challenges for the smallest producers. Despite efforts by CESV technicians to inform and involve the smallest producers in the phytosanitary campaign, the norms have been enforced in a non-negotiable way, creating discomfort and apprehension for some. The governmental scheme that has successfully supported the expansion of the avocado industry and benefited many large, medium and small producers has left behind the smallest producers, which has increased local inequalities.

The government has channelled major funds and resources into the avocado industry. From 2002 to 2005 the federal government provided more than

MXN\$50,000,000 (US\$5,000,000) to APEAM in PROEXPORTA and PROMOAGRO resources (Infoaserca, n.d). The funds have financed domestic and international promotional campaigns designed to increase consumption of fresh and processed avocado. The resources have also subsidized the verification and certification of the official label “*México Calidad Selecta*”. Additionally, APEAM and domestic and international packinghouses, including *Calavo*, have received indirect federal support as a result of their membership in organizations such as the Agricultural National Council (*Consejo Nacional Agropecuario A.C*) and the México Fruit and Vegetable Dispute Resolution Corporation (*La Corporación de Solución de Controversias sobre Frutas y Hortalizas México, A.C.*). Other beneficiaries of federal funds have been a few of the largest producers that own packinghouses and large amounts of land. A large majority of the avocado producers, and especially the smallest ones, do not know about such support programs, or simply do not have access to information regarding the application process.

Federal *Alianza para el Campo* and PROMOAGRO resources have not reached *ejidatarios* and the smallest producers. The subsidy programs, once designed to support smaller producers, have instead mostly benefited the largest, wealthier avocado producers, and even the foreign packinghouses that belong to organizations such as APEAM. State economic intervention and the export-led strategy have increased uneven capital accumulation processes and accentuated the patterns of regional unequal development. Because the domestic market is primary for most avocado producers, and it is still accessible for the smallest growers, they have been able to maintain their participation in the industry. Yet, it is expected that the further normalization of the national market and the lack of effective governmental programs and resources that support organizations of the smallest producers, will further hamper their participation in the supply chain, causing larger inequalities in the region.

5.7 Conclusion

In this chapter I stressed that contractual arrangements used by *Calavo* have generally not helped poor small producers to become an important part of the successful avocado agro-export industry. The smallest avocado producers are being excluded from

the export industry largely by increasing government-induced standardization of avocado production, as well as the lack of access to capital and information. Market-specification contracts offer, by no means, a solution for these shortfalls. *Calavo* contracts with small, medium and large producers who are able to export to the United States, and have the financial means, information and technologies that allow them to upgrade production practices quickly. Alliances between the state and capitalized producers have resulted in steady concentration of land, capital and other means of production among the richer producers. Governmental programs designed to support the transformation of poorer subsistence producers into more commercially-oriented ones, have mostly failed due to a combination of inefficient communication strategies designed to reach such producers and the lack of organization amongst the producers themselves. The avocado industry continues growing successfully, but specially at the expense of poor producers and forested land.

6. Conclusions

Processes such as globalization and the liberalization of agriculture have promoted closer vertical linkages in agri-food supply chains. In México, as in the rest of the world, vertical coordination through use of contractual arrangements between agricultural producers and agribusiness firms has arisen as a controversial response to the new market-driven system of global agriculture and increased vertical linkages. Agricultural contracting usually describes a verbal or written agreement in which a buyer agrees to purchase a producer's output prior to or during production. In return for this guaranteed market, the producer agrees to supply produce that meets the buyer's quality specifications. The firms' general involvement in production, and especially in the provision of agricultural inputs and credit, may vary depending on the producers' individual requirements, their overall economic and political environment, and product characteristics.

Much of the controversy over contract farming concerns its social and economic impact on small producers. Promoters of contract farming argue that agribusinesses can help smaller producers to overcome the historical problems of lack of access to credit or inadequate information about critical areas such as technology, harvesting timing and markets demands. Contractual arrangements might improve the livelihood of small producers by securing a market for their produce and increasing their income. In contrast, critics of contract farming emphasize the inequality of the relationship, and the subordinated position of producers, with respect to firms. Contracting is viewed as a mechanism that enables agribusiness to benefit from cheap labour while minimizing their production risks. Producers lose control over production processes and often their land, increase their dependency on firms, and may put into risk their food self-sufficiency. Finally, when contractual arrangements exclude the smallest producers, a more pronounced socio-economic stratification occurs, thereby intensifying the accumulation of capital and means of production among a few wealthier producers. However, while the literature on contract farming tends to be marked by these contrasting theoretical

positions, my research stresses that the effects of contract farming are quite specific to an industry and a particular location and thus may best be examined through detailed case studies.

This thesis questions the potential of contract farming to integrate the smallest producers into the Michoacán avocado industry, and especially its rapidly-growing export sector. Specifically, this study asks to what extent contractual arrangements with *Calavo de México* have influenced the participation of the smallest producers in the avocado industry and in the export market. The answer to that question remains rather ambiguous. *Calavo's* decision to acquire fruit generally from producers other than the smallest ones would, at first glance, support the argument that firms usually exclude, when they do not outright exploit, smallholders. This study also generates important information on how government-imposed phytosanitary certifications, as well as local producers' categorizations and reputation systems, have had a particularly strong impact on *Calavo's* selection process, and consequently on the marginalization of poorer producers. I argue that while transaction costs are an important motivation for the firm to contract with large producers, regulations of the industry and alliances between governments and larger producers have negatively affected the possibilities for the smallest producers to benefit from the booming industry.

6.1 Concluding remarks

The success of the Michoacán avocado industry has generally benefited small, medium and large producers. The increasing national and international demand for Michoacán avocado has increased participation in the industry by a large number of growers, many of whom have been able to secure a stable income. Moreover, many small, previously poor subsistence producers have adapted to technical and information requirements of the increasingly regularized industry; these producers have transformed themselves into competitive avocado producers and in some cases successful exporters. The transformation of subsistence growers, including some ejidatarios, into successful avocado producers may sometimes be the result of income generation through non-agricultural activities and/or remittances from immigrant relatives. This capital inflow,

some decades ago, when the industry was still in a nascent stage, permitted some small producers to acquire or retain land, buy orchards or slowly convert their plots into avocado orchards. Similarly, mainly due to profitable participation in the national market, these producers have obtained enough capital to acquire technology, increase productivity, and in general, optimize their participation in the export market.

In contrast, many other small poor producers have not been able to participate in the booming avocado industry. The increase in revenues from the avocado market has raised regional prices of land and agricultural inputs, increasing production costs. Furthermore, phytosanitary and quality regulations have augmented the need for information and technology which is often inaccessible for the poorer producers. These constraints significantly lower the ability of poorer small producers to participate in the industry, and in some cases to retain their land. In addition, small, previously subsistence producers that are now active players in the industry often pride themselves on their successful transformation into avocado producers and exporters without direct government support. Although these producers acknowledge the assistance of governmental institutions in providing expertise and advice, they mainly view these activities as important for the industry as a whole, but not as vital for their own performance as entrepreneurs. The government also uses this rationale for cutting back its support for smaller producers. Furthermore, many small producers have increasingly been unable to capitalize on the momentum in the industry and adopt avocado cultivation. Presently, with increasing costs and regulations it has become almost impossible for poor smallholders to enter the industry without government backing.

Nevertheless, the Michoacán avocado industry is rather an exceptional case in which even some small producers have benefited from increasing regulations. The implementation of strict phytosanitary standards has facilitated avocado growers to produce fruit that complies with international regulations, and thus is relatively easy to export. Small producers who have been able to adopt official standards benefit from a better price for their fruit in the national market, as well as the possibility to export. However, most of the poor true smallholders that have adopted avocado cultivation cannot afford the technical supervision and inputs required to become certified exporters. These producers remain highly dependent on the national market, and face increasing

difficulties to participate in the changing industry. Currently, contractual arrangements deployed by packers such as Calavo do not solve the producers' main problem of insufficient capital, as the firms usually do not provide loans or financing for production. Although Calavo's contracts have facilitated the channelling of fruit for export, they have not increased the participation of the smallest producers.

The climate and geography of Michoacán make it an ideal avocado growing region. Avocado fetches a high price per kilogram when compared to other crops, and prices within Mexico have often rivalled those of exports. This has generated a massive influx of capital to the countryside of Michoacán. But this influx has not come without problems. Many smallholders have lost food self sufficiency in an attempt to convert their land to avocado, and many of those unable to adapt have lost their land. This conversion to an increasingly capitalized system has resulted in a loss of rural customs and a gradual process of proletarianization with many former landowners becoming day labourers. Other small producers who have become successful have done so by abandoning their traditional way of life. For avocado farmers, the future is one in which capital, not land security or traditional crop mixes, will determine success.

6.1.1 Winners and losers

Calavo uses market-specification contracts to acquire avocado from small, medium and large avocado growers, most of whom are certified to export fruit to the United States. *Calavo* uses this type of contract not only because the majority of producers permitted to export avocado do not require funding for production, but most importantly because the firm does not need to be directly involved in the production process to secure enough volume of fruit with the desired quality characteristics. Local conditions of the Michoacán avocado industry have been very favourable for *Calavo*; the industry has long been successfully established, and there is a large number of producers that are commercially oriented, are financially and technologically capable, and who comply with quality and phytosanitary standards necessary for export. It has also been advantageous for the firm to have access to local trained and experienced agricultural engineers who are familiar with the producers and can easily relate to them. The contractual arrangements between *Calavo* and avocado suppliers are verbal agreements that especially involve trust, reputation effects and technical/professional norms that are

highly specific to the avocado industry in Michoacán. *Calavo* has efficiently adapted to the prevailing local social relations of production, to producers' mechanisms for differentiation, and to power relations among producers and other major players in the industry.

The contractual arrangements with *Calavo* have been advantageous for the exporters, most of whom are medium and large producers, who want and can afford to retain a certain autonomy over their production. *Calavo* acts as an avocado dealer; the firm takes financial possession of the fruit before disposing of it. Because *Calavo* usually deals directly with the farmers, it provides benefits to them in terms of price and information flow- more than if the producers were to sell the fruit to agents that only handle avocado on behalf of someone further up the marketing chain. In comparison to arrangements such as on-consignment sales and post-dated checks that many buyers provide, *Calavo* offers a quick and secure system of payment, that has been very favourable for producers, as they themselves recognize. Furthermore, the firm's many years of experience and good reputation in the international avocado market have decreased distribution risks for producers, particularly facilitating the channelling of fruit to the U.S. market. However, this arrangement has also increased the dependence of avocado exporters on *Calavo*, a foreign agribusiness, and has transferred an important part of their surplus value (financial gain) to this American transnational.

True small-scale avocado growers are being excluded from the export market and contractual arrangements with *Calavo*. In order to reduce transaction costs, ensure a steady supply, and lower risks, *Calavo* contracts mainly with larger producers who are financially sound and better able to export to the United States. The government's expectation that contractual arrangements with transnational agribusinesses can integrate the smallest producers into international markets, in this case at least, must be regarded as hopelessly optimistic. Private, for-profit enterprises, such as *Calavo*, are structurally bound to maximize revenue and increase shareholders' gain; any increases in producers' incomes, or in general to local economic growth, may be a consequence of the success of a firm or industry, but these goals, as laudable as they may seem, cannot be central to a firm's corporate agenda. Moreover, in the absence of government-established development objectives and policies, it is naive to believe that increases in aggregate

production, exports and income are by themselves sufficient to ensure a improvement in the economic situation and wellbeing of small, poorer producers.

6.1.2 Contract farming and rural development

The type of contracts that agribusiness firms employ is relevant to the success of contract farming as a development tool. Market-specification contracts do not resolve the problems of lack of formal credit, public extension services and inputs that smallholders face as a result of market liberalization. Although resource-providing contracts may sometimes increase the potential for smallholders to be exploited and lose their autonomy, these may also be a more effective arrangement for small producers to increase their access to markets and improve their incomes and livelihoods.

However, resource-providing contracts have not been a viable option for *Calavo* in Michoacán. Although the firm attempted to use this arrangement by providing free-interest loans for production, avocado growers often failed to respect their agreements and frequently sold their fruit to other buyers. In Michoacán, producers typically have a significant advantage in such arrangements due to the extensive number of buyers from both the national and international markets, and the lack of legal enforceability of verbal agreements. Nonetheless, the initial failure in the implementation of these resource-providing contracts by *Calavo* has subsequently adversely affected the continuing viability of these arrangements for small, poorer producers, who might have benefited from improved access to capital for production. The preponderance of market-specification contracts implies that *Calavo* will only acquire fruit from those who can adopt specific production practices, i.e. mostly wealthier, larger producers.

If contract farming is used as part of a development strategy, governments can enhance the participation of small producers by requesting the use of differentiated contracts from agribusinesses. Firms might offer credit-providing contracts with a lower price for the fruit to the smallest producers, as well as market-specification arrangements with a higher price to the larger growers. Governments could design policies that assure fairness of contract terms, while simultaneously providing education to producers regarding contract evaluation and negotiation, and management skills. However, most importantly, the public sector should offer incentives for agribusinesses to take on the

additional costs of offering such differentiated contracts; these might include intervention in conflict resolution and investment in research and development. Much of the potential for successful contractual arrangements as part of an overall development strategy stems from the types and extent of government involvement, and the willingness of agribusinesses to cooperate in various arrangements.

The avocado industry has been an increasingly successful agricultural enterprise in Michoacán and in México in general. Levels of production, exports and domestic demand have increased at a relatively uniform rate, which has maintained a general stability in producer prices. The industry has furthered economic growth, infrastructure development and job opportunities in the region; nonetheless, the success of the industry has not had the multiplier effects in the rural sector or broader economy that are often expected from a booming agro-export industry. Michoacán remains as one of the lowest ranked Mexican states in the Human Development Reports of 2002 and 2004 (ranked in 28th and 29th places, respectively), with low rates of life expectancy, educational levels and GDP per capita. The continuing precarious situation of Michoacán in general contrasts with the estimated US\$400 million in income generated by its avocado industry in 2004. Much accumulation of wealth and land is taking place in Michoacán, alongside stubbornly high levels of poverty and deprivation.

6.1.3 The changing role of government

The principal theoretical frameworks that informed this study suggest that the adoption of neoliberal reforms would result in the Mexican government's reduction of support and involvement in agriculture. This study, however, provides evidence that this may not be happening and may not be uniform, not so straight forward. Both the national and state governments have had an active role in the avocado industry, and their participation has been a major determinant for the international expansion and success of the industry. The imposition of official phytosanitary and quality regulations has facilitated communication between producers and packers such as *Calavo*, as well as providing clear 'rules of the game' and expectations. Moreover, the standardization of the Michoacán avocado industry has allowed the producers to enhance their international reputation, expand exports to new markets, and thereby increase their profitability.

Increased cooperation between commercially-oriented producers and governmental institutions has also furthered commercial linkages between such producers and private capital, allowing for a rapid internationalization of the avocado industry.

Nevertheless, the nature and extent of governmental involvement in the Mexican agricultural sector remains rather ambiguous. Although subsidies have been removed, and many of the regulatory activities performed in the past have been eliminated, the public sector continues to provide capital and technical supervision to some producers, and in general designs agricultural policies that demand the continued participation of public institutions. Above all, such involvement reveals the governmental commitment to the neoliberal agenda and large export-oriented producers, while it withdraws from any responsibility to provide the smaller producers with the minimum conditions needed to ensure their livelihoods. Governmental goals to transform the smallest producers into competitive ones through contract farming, and to increase support for exportable agricultural products, however, seem incongruous. Private agro-industries have failed to spread wealth among the poorest producers; the expected trickle-down effects have not taken place. The current economic situation in general, coupled with decreased public support and expenditures for the rural poor, is resulting in a more pronounced socioeconomic stratification between wealthier commercial producers and poor subsistence ones. To effectively integrate the smallest producers into modern commercial agriculture, the state should design policies that specifically increase the competitiveness of all types of farmers, especially via improvements to their bargaining positions. Consequently, the state should oversee the functioning of increased vertical linkages in the agricultural sector.

6.1.4 Standardization, certifications and the reshaping of agriculture

The findings of this study indicate that the standardization of quality, sanitary and phytosanitary measures is a decisive factor influencing the ability of small producers to take advantage of the profitable avocado industry, and particularly of the export market. While the larger producers have benefited from the imposition of such technical measures and standards to improve their participation in international markets, these are considered serious impediments to the participation of the smallest growers in the export market. At

the same time, such regulations tend to reduce the overall flow of exportable avocado, thereby increasing producer prices for exporters. Furthermore, these quality and phytosanitary regulations generally impose higher production costs, which also discriminates against poorer avocado producers. Limited access to the necessary resources to meet such standards will likely continue to exclude many of the smallest producers from the export market. The CESV's attempt to become a certifying body for the EurepGAP protocol, thereby providing more accessible monitoring and accreditation for Michoacán producers, is certainly a positive development. However, the scope and effectiveness of this governmental effort will only become evident in the future.

The escalating demand for phytosanitary and quality regulations in the Michoacán avocado industry follows a general global trend. In the new market-driven global agricultural system, consumers' preferences re-define quality characteristics and safety standards, thereby profoundly shaping production practices. The impacts of the standardization and regulation of agriculture and food products should be understood at two bifurcated levels: in the developed and developing countries; and among large, capitalized and small, poorer producers. First, sanitary, phytosanitary and quality standards demanded by consumers in developed countries restrict the potential of (poorer) developing countries to export high-value produce. Scientific and technological methods necessary to achieve such standards are expensive; in effect, these requirements have become more difficult to meet than overcoming tariff barriers of the past. Second, the increasing demand for voluntary and/or mandatory certifications of agricultural products, predominantly provided by third-party, private certifiers, has deepened the need for improved information and technical supervision, which further exacerbates the financial burden on small producers.

Consumer demand for a few types of products with very specific characteristics threatens genetic diversity and increases producer over-reliance on export markets. Exaggerated emphasis on a specific product, leading to the rapid dissemination of one variety (e.g. Hass avocado) at the expense of traditional varieties, is generally regarded as unsustainable. Many studies show that monoculture intensifies environmental problems such as erosion and the risk of pests and diseases. Decline in economic viability of traditional varieties can lead to their disappearance. Moreover, producers that invest

heavily to meet produce requirements may become dependent on higher-value exports to developed-country markets. Changing consumption patterns and regulations in the international markets make such productive concentration a risky venture over time. Although consumers in developed countries should be able to demand produce that complies with high safety and quality requirements, the needs and special circumstances of producers in developing countries should also be acknowledged. Institutional cooperation among and within countries and at several levels (i.e. global, hemispheric, national, regional and local) may increase participation of small agricultural producers in international markets.

6.2 Limitations of this study and recommendations for further research

This study has certain limitations that should be taken into account when considering its contribution to the literature. These limitations should be seen as important opportunities for future research under the same theme. The study has focused on the contractual arrangements of *Calavo* in the avocado industry in Michoacán. The selection of a single case study naturally entails many limitations concerning the generalization of the results of the study. Although the results provide an understanding of the general characteristics and functioning of the industry, the analysis of contract farming conducted in this study represents only the single case of *Calavo* and its producers. Multiple case studies would enable us to further test the conceptual framework used in the research. To study the effects of contract farming on the participation of the smallest producers in the industry, it would be important to also include other types of contractual arrangements by additional foreign and Mexican packing facilities that commercialize avocado for the export, domestic, or both markets.

A major limitation of the study is that the sampling for the interviews was designed to target producers that, at the very least, sometimes sell fruit to *Calavo*. The effects of *Calavo*'s contractual arrangements on producers that never sell fruit to the firm are not directly assessed in the study; empirical data that aim to address this subject area were not collected. It is possible to infer that the exclusion of smaller producers from the export market, and from the overall benefits of an ongoing relationship with *Calavo*, are increasing the gap between the wealthier exporters and the poorer producers oriented to

the national market; however, further research that specifically aims to evaluate the extent of this impact should be undertaken. Moreover, given the diverse income activities and capital sources (e.g. remittances) to which avocado producers currently have access, it would be important to identify the relative importance of off-farm income, alongside the actual participation of small, poor farmers in the avocado industry. The results of the official avocado producers' census (soon to be released), may provide a first step toward a deeper analysis of the socioeconomic structure of Michoacán avocado producers.

An important additional constraint for my fieldwork was the lack of a vehicle for transportation. Visits to orchards, packing houses and offices outside Uruapan depended on the transportation opportunities offered by people such as *Calavo* engineers, CESV personnel and orchard owners. This restricted my mobility in the region. Furthermore, although I aimed to conduct the interviews alone with a producer, many times I was in the company, at least on arrival, of a person linked to a firm or institution. In order to limit the influence of these companions on my respondents' answers, I tried to gain trust by explaining my goals and my affiliation with local academic institutions such as the Colegio de Michoacán and CIESAS, as well as my status as a graduate student at Simon Fraser University.

The Michoacán avocado industry is very dynamic and evolving. It appears that both producers and governments will continue to support its growth, especially to meet increasing international market demand. Because avocado exports to the United States are no longer seasonally restricted, a complementary study focused on the strategies of producers and packers to prevent market saturation and guarantee equal participation would be interesting. It may be that fixed prices and quotas will prove more difficult to achieve, and increasing competition between buyers may generate new types of contractual arrangements.

Finally, a study similar to this thesis could be performed on other kinds of tree-fruit crops. The varying effects of specific characteristics of a particular crop on, for example, risk distribution and bargaining power might yield additional findings and conclusions. Overall, more studies that assess the potential benefits and challenges of contract farming as a development tool are especially necessary, given the increasing

importance of this subject area to contemporary models of rural development in México and other countries in the global south.

Appendix

The final (Access) table included the following fields from the CESV list:

- Name of Producer – A text field containing the full name of the producer.
- Name of Farm – A text field containing the name of the orchard farm.
- Farm Size – A number field. The number is the size of the orchard farm in hectares.
- Farm Registration – 4 digit number field. The numbers are the orchard registration number at the CESV (*Número de cartilla fitosanitaria*). This number is actually determined by the last four digits of the Orchard Registration field (see below).
- Orchard Registration – Text field. The registration number of the orchard farm at the SAGARPA. A number containing the long version of the farm registration number. Every number begins with HUE and is followed by eleven digits. The last four digits form the number listed in the farm registration field.

The following fields were added to the Access table:

- Region – Text field. This was determined by the organization of the Microsoft Excel files. Different Excel sheets contained information on specific regions/districts.
- OnCalavoList – A check box. If an entry on the paper Calavo List was matched in the CESV List, the box was checked to true.
- Number of Harvests – A number field. If the same farm was listed multiple times on the paper Calavo list, this field was incremented upwards. In this way, the number of Calavo harvests of a piece of land on the CESV list could be determined.
- Season – A text field. Season was determined by the organization of the Excel Spreadsheets that make up the CESV list. Season has two values: 2002-2003, which is directly comparable with the Calavo list; 2003-2004, which can be used for comparison with the 2002-2003 to obtain some statistics.

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