
CHANGING LIVELIHOODS IN SANTIAGO SACATEPEQUEZ

FINAL REPORT

DRAFT

Prepared for INCAP and FAO

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I. INTRODUCTION

The introduction of non-traditional export (NTX) crops and the production of *maquiladoras*, plants that assemble imported components for export, have proliferated in the Guatemalan highlands, particularly in Sacatepéquez and Chimaltenango. In the area of Santiago Sacatepéquez NTX crops were introduced in the early 1980s under the aegis of the Cooperativa Cuatro Pinos. The impact of both the Cooperativa and the adoption of NTX have been studied by IFPRI and INCAP since its beginning. These studies showed the initial success of the farmers who grew the new crops but also suggested that by the early 1990 the growth rate of that approach had begun to decrease.

In the last ten years there has been a dearth of studies in the Sacatepéquez region. The present study aims to reduce that gap by providing a glimpse at the main changes that have taken place in the last 25 years in Santiago Sacatepéquez y San José Pacul, two communities originally served by the Cooperativa Cuatro Pinos. The study was exploratory in nature and one of its main purposes was to document how the people from these villages interpret the changes that have taken place in their lives. The information collected will feed a larger project to be carried out by INCAP and FAO.

The main objective of the study was to describe, using standard qualitative techniques, the main changes that have taken place in these communities, how they impacted people's livelihood, as well as to portray the role played by the cooperative in this process. Four themes or axis of change were studied and described: infrastructure, health, education, agriculture, and off-farm employment. An additional topic of interest was to assess the role of the cooperative in the construction of social capital and the perception of members, ex-members and non-members regarding its role in conflict resolution and social cohesion.

The findings of this study are presented first for Santiago, the largest town in the region, and then for Pacul. It is argued that while the two communities vary greatly in terms of size and demographics, the two have followed very similar paths. Both communities depended on cash crop agriculture for their living, both later embraced NTX, and now both are shifting toward wage labor. In both places this shift has led to changes in local values, new job aspirations for the younger generations, and new labor opportunities for women.

II. BACKGROUND

The setting

Santiago Sacatepéquez is a *municipio* (county) in the *departamento* (province) of Sacatepéquez. There are other three villages in the municipio: Santa María Cauqué (the largest), San José Pacul and Pachalí. Its extension is around 150 km² and it is found at 2000 m above sea level. It is located 35 km from Guatemala City and 10 km from Antigua. The road from the Pan American Highway to Santiago (5 km) is paved, and those leading to the villages are partially paved. Its estimated population is 23,500, most of which is Kaqchikel¹. Sacatepéquez is the most densely populated departamento in the country, outside the metropolitan area (489/km²; nearby Chimaltenango, for example, has only 195).

The main occupation in Santiago is agriculture. A raising population has led to plot fragmentation and a concomitant reduction in farm sizes. Population growth has been particularly high in Sacatepéquez: between 1973 and 1994 it increased 81%, the highest in the country after Alta Verapaz and El Petén². Country-wide, in the last twenty years, the average farm size has decreased from 11.0 *manzanas*³ to 7.5, and micro-farms (*microfincas*, <0.7 ha) comprise now 54.5% of all farms, compared to 31.4% in 1979.

¹ Guatemala has 22 indigenous groups, 20 of which are of Maya origin. The Kaqchikel is the third largest among these.

² These two *departamentos*, located in the northern part of the country, comprise *la franja transversal del norte*, where internal migration and the advancement of the agricultural frontier has been remarkable. A possible explanation for the population growth in Sacatepéquez could be also be internal migration, but this time people from the city as well as from other areas of the country moving to the area, the former fleeing urban congestion and the latter perhaps attracted to the many maquilas around San Lucas.

³ 1 manzana = 0.70 ha. One manzana is divided into six cuerdas (1 cuerda = 0.11 ha.).

This has increased pressure on land and water resources and led both to the expansion of the agricultural frontier, often onto steep soils incapable of sustained production, and to the deforestation of big parts of the region. In 1950, 65% of the country was covered by forest; by 1996 the proportion had declined to 34%. It has been estimated that in the 1990s, only 7.3% of municipal land in Sacatepéquez had forest coverage and that almost half of soils in the department were over utilized (PNUD 1999, PNUD 2001). Land erosion in Sacatepéquez has been defined as “very high”, which means over 150 ton/ha/year (PNUD 2002).

In spite of land degradation, the proportion of population in rural areas continues to be very high, around 62%, a high proportion for Latin American standards⁴. While agriculture has decreased its share of the GDP, it still plays the second most important role, contributing 22.4% by 2003. It has been estimated that 40.1% of the Guatemalan population is primarily engaged in agriculture, and when controlling for ethnicity, the proportion among the indigenous population climbs to 52.0%, and that of rural men to 70% (PNUD 2003). While the non-poor are not concentrated in any single economic activity, 57% of the poor are engaged in agriculture. Salaries in the agricultural sector are lower than those in industry or the tertiary sector: in 2000 agricultural wage workers earned US\$1.70 per day, while those in industrial sectors earned US\$4.50/day. In Guatemala, women earn 56.4% of men's income, but the gender gap in agriculture is less pronounced and women earn 90.6%. Few households have ever been able to survive exclusively from agriculture, and most observe a combination of survival strategies. Rural households face considerable difficulties, however, as the creation of employment in the manufacturing sector has been slow and insufficient⁵, the shift towards crop diversification has been limited and is currently stagnated, and the rural wage labor opportunities have been inadequate. For example, despite the proliferation of industrial labor in the area, in Sacatepéquez the growth of non agricultural labor in the formal sector has been negligible: between 1996 and 2000 it increased from 22.9% to 23.8% (PNUD 2002, PNUD 2003).

These trends have led to an impoverished rural population. While the proportion of the extreme poor decreased slightly in the 1990s, in the current decade it has increased. In the rural areas it went from 24% in 2000 to 31% two years later (PNUD 2003). But in Guatemala, Maya households are the poorest of the poor: while the mean *Ladino* (non-indigenous) income in the rural area was Q15,136⁶ by 2000, the mean rural indigenous income was Q10,885⁷. This can be explained by the historical patterns of ethnic discrimination and the differentiated access to education and land. Indeed, while average rural Maya landholding is 0.52 manzana, Ladinos own on average 1.52.

In the last twenty years the export of non-traditional goods, namely garments and textiles produced in *maquiladoras* (export-oriented assembly plants) and non-traditional export crops (mostly fresh vegetables and berries) have provided new income opportunities for the rural sector (see below). Since the late 1980s several *maquiladoras* began operations in the nearby municipio of San Pedro Sacatepéquez. In the early 1990 several plants opened in the area of Manzanales, a few km west of Santa María Cauqué. Country-wide, *maquiladoras* have become the most important of the non-traditional exports: the subsector has increased from US\$175.6M in 1996 (a 33% share of all non-traditional goods) to 352.7M (69% of all non-traditional goods) in 2001, comprising higher revenue than sugar. By 2003 there were 413 maquila factories in Guatemala, employing 106,500 workers⁸ (Oxfam 2004).

Increasing labor opportunities, notwithstanding, have not increased levels of wellbeing, probably because of Santiago's low educational achievements. Santiago's human development index is 0.62 (that of the whole *departamento* of Sacatepéquez is 0.66), the lowest in Sacatepéquez with the exception of Santa María de Jesús (PNUD 2002). While Santiago's proportion of poor is 42%, lower than the national average (54.3%; PNUD 2001), its literacy rate by 2000 was 75.2% (was 67.9% in 1994), the lowest in the *departamento* (x = 83%), with the exception of Santa María de Jesús. Enrollment in elementary school is also lower in Santiago than among most of the surrounding municipios: only 49.4% of boys and 42.1% of

⁴ In Latin America the process of urbanization has been more pronounced and only 23% of its population is rural (PNUD 2000).

⁵ While the economically active population increases annually by 90,000, the annual generation of employment is 9,000 (PNUD 2002).

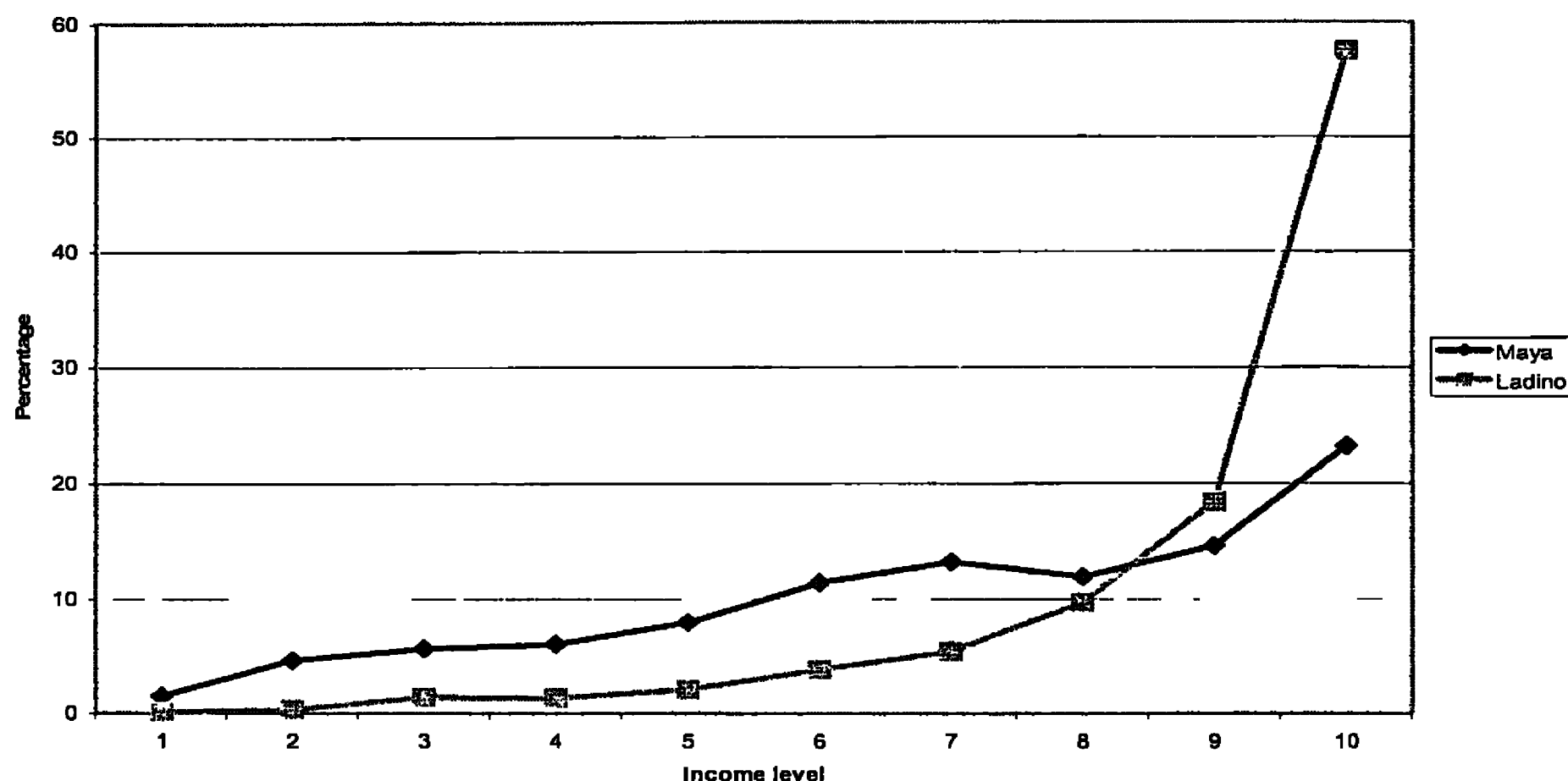
⁶ By 2000 US\$1 = Q7

⁷ In women-headed rural Maya households, average income was a mere Q7,228.

⁸ Data on the actual number of maquilas and its employees is contradictory and should be taken with care.

girls enrolled in 2001 (45.8% for both genders, the average for the whole departamento is 58.2%; PNUD 2002). There are no local data regarding enrollment at the high school level, but the enrollment ratio for the whole country has gradually increased, from 16.2% in 1996 to 23.4% in 2001. Despite this fact, the Ministry of Education (MofE) has not increased the funds to this level, and continues to allocate around 10% of its budget on secondary education. The educational needs, therefore, have been fulfilled by private education. In Chart 1 can be seen the percentage of income spent on education by the different income levels, disaggregated by ethnicity. It is interesting to observe that up to the 8th deciles, Maya households (generally poorer than Ladinos) spend a higher proportion than Ladinos on the education of their children.

Chart 1: Household expenditures on education



The emergence of non-traditional export crops

By the mid 1970s Guatemalan farmers began to explore the production of new export crops, given the stagnation of the traditional export crops: coffee, sugar, bananas and cotton. It was hoped that the new crops would provide economic growth and alternative employment to small-scale farmers. In the international market there was an increased demand for fresh produce and American bilateral agencies and the Inter American Bank provided financial and technical help to expand production. The introduction of non-traditional export crops have been analyzed in several publications and will be succinctly reviewed here.

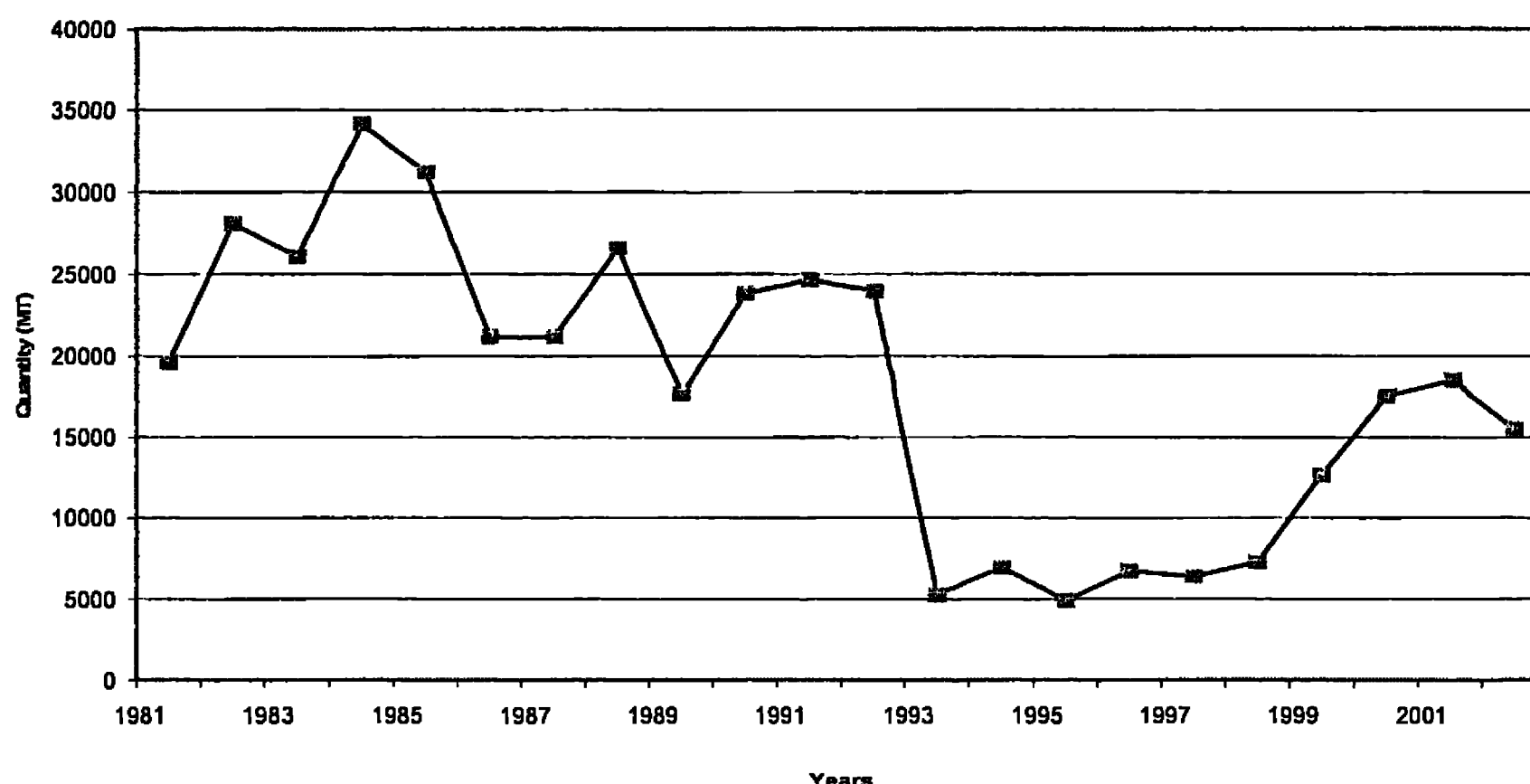
Industrialized countries' demand for broccoli, snow peas and other fresh vegetables continued to grow rapidly through the 1970s and 1980s, but expansion in Guatemala proved difficult: obtaining land within the densely populated highlands was expensive and land consuming. Supply could not keep up with demand and the agribusiness corporations had to turn increasingly to independent producers to supply their buyers. By the beginning of the 1980, a number of smaller producers started to bypass the agribusiness and deal directly with small producers. One of these was the Cooperativa Cuatro Pinos, whose role in the emergence of NTX crops in the region of Santiago was pivotal.

Despite their lack of formal education or capital, small farmers enjoyed a number of advantages: they were familiar with horticultural production, their land was available and their desire to maximize the use of family labor was well suited to snow peas, a crop which required an input of over 600 persons/day/ha over a four month period (von Braun et al 1989). The use of unpaid family labor allowed much higher returns: while the gross margin per hectare of snow peas was estimated 15 times higher than those of maize, and twice those of traditional vegetables (von Braun et al 1989). Production costs, however, were considerable

higher for NTXs: in the mid 1980s the inputs costs for snow peas were, on average, for times higher than those for traditional vegetables and 13 times higher than those of maize.

The growth of independent small export-producing farmers was possible because of a parallel growth in intermediaries and exporter. Managing the daily output of so many producers scattered over an extensive region of poorly serviced rural highlands, and ensuring that it is selected, packed and shipped within 24 hrs of harvest required a sophisticated distribution system. The production of NTX grew considerably and reached a peak by the mid 1990s, when there were at least 50 firms making regular export shipments of fresh peas during the harvest season (see Chart 2).

Chart 2: Fresh vegetable exports



Some of these farmers had regular contractual arrangements with local intermediaries, while other growers stayed independent, selling their output, often in lots smaller than 100 kg, at specialist auctions held in Santiago Sacatepéquez and other communities around the central highlands. Starting at 5 pm and ending around midnight, intermediaries locally known as *coyotes* would receive contracted deliveries and bid for non-contracted supplies to fill their nightly quotas, either for direct delivery to an exporter or for onward sale at one of the five mayor wholesaling centers that evolved, Santiago being one of them.

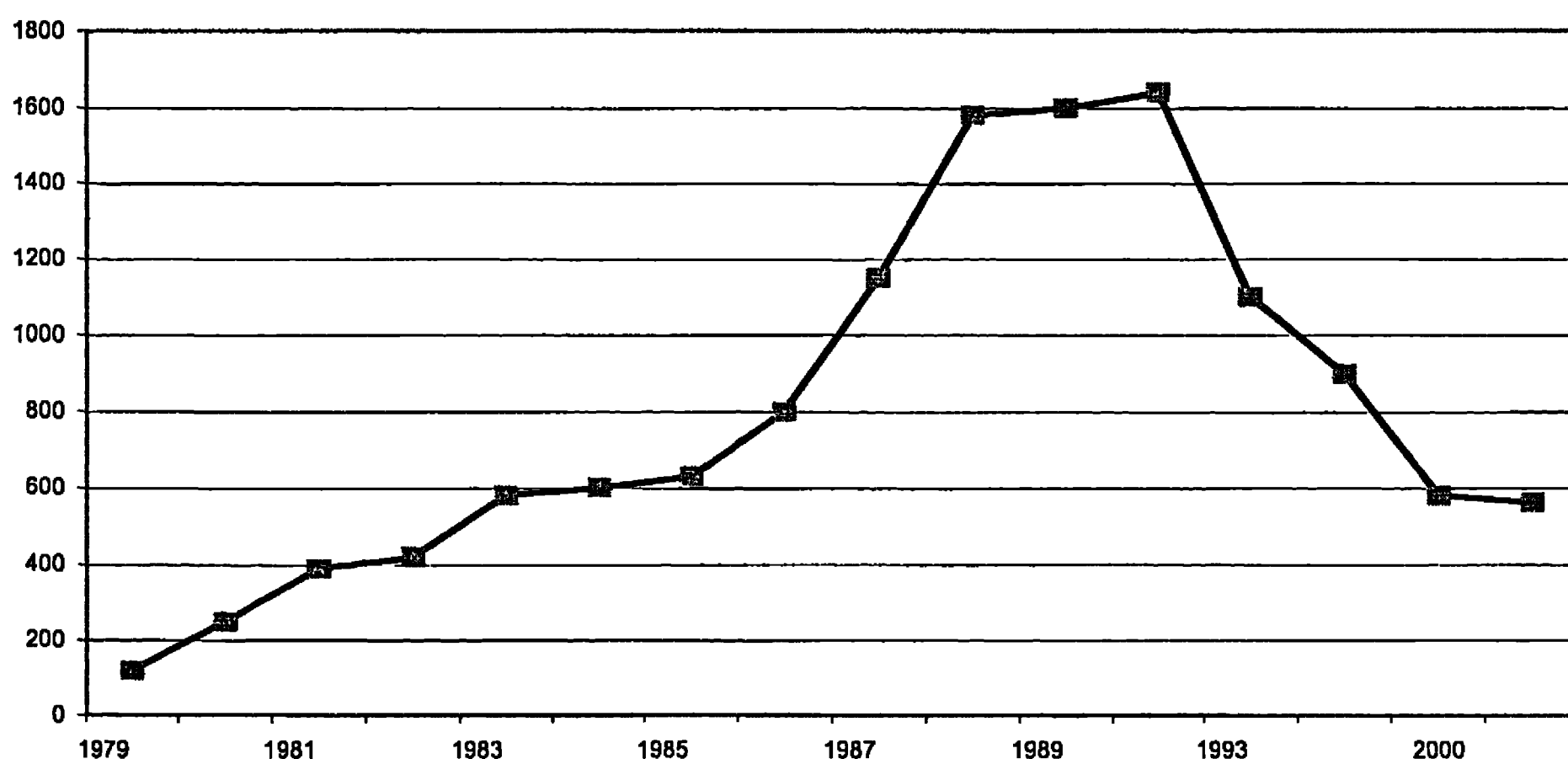
The Cooperativa Cuatro Pinos

The earthquake of San Gilberto in February 1976 destroyed over a million homes in Guatemala and some communities were completely damaged. Santiago Sacatepéquez was among them. Bilateral cooperation and aid poured into the ruined countryside and in a partition among donors, a Swiss group went to Santiago. While the primary efforts of this group (made up of Caritas, Red Cross, the Swiss government and Entraide Protestante Suisse) was to rebuild Santiago and its surrounding villages, its actual efforts went well beyond this goal. The role of the Grupo Suizo, as it came to be known, has been detailed elsewhere and will be only summarized here (see Eykman 1990, Tartanac1990, and more recently Skinner-Klée 2002).

The Swiss had successfully organized building and reconstruction squads in Santiago and its surrounding villages. The groups had worked well together and were encouraged to keep their association in the

form of an agricultural cooperative that could provide farmers with better terms of trade⁹. For two years informal *grupos agrícolas* were organized the pilot testing of new crops began. The cooperative was founded by the end of 1979, with 117 members coming from Santiago and its three villages: Santa María, Pachalí and Pacul. The Cooperativa Unión de Cuatro Pinos, in reference to the four communities involved, began producing cauliflower and Brussels sprouts to ALCOSA, as well as dehydrated parsley to a local subsidiary of Nestlé (sopas Maggi). Sales to ALCOSA allowed members to increase their income, and cooperative members were having better yields and lower costs than other farmers selling to ALCOSA¹⁰. The cooperative thrived, and membership increased dramatically: a few months after its inception membership had more than doubled. New communities joined the Cooperativa: El Rejón, San Mateo Milpas Altas and El Arado (see Graph3; the early history of the Cooperativa has been well detailed in von Braun et al 1989 and Eykman 1990).

Chart 3: Members in the Cooperativa



During the 1980s the production of NTX intensified and the surface of land used for growing these new crops increased; most members, however, continued sowing maize and the producing traditional vegetables. Incomes soared, both by unit of land and by unit of family labor. The Cooperativa provided necessary inputs through credit and in also initiated irrigation schemes and land sales to its members. In addition to the increased income, the Cooperativa was allocating 10% of its profits to its *sector social*, a branch of the cooperative involved with education, health and other social services. As a result, night schools were opened for members to finish their elementary education; scholarships were given to their children so they could study high school out of town, and in 1985 embarked on a local high school, opened to the whole town but subsidized to members' children. Health clinics also flourished and the Cooperativa had a team of four physicians giving consultation in the different villages. In addition, members received constant education on the functioning of cooperatives and leaders¹¹ were specifically trained in cooperative leadership. The Cooperativa was also behind the provision of basic services in the communities of its members: road improvements, introduction or improvement of piped water and electric power.

⁹ The Swiss had planned since its involvement in Santiago that the reconstruction project would be followed by a socio-economic and development project (see Eykman 1990). Notwithstanding, the need to preserve the emerging social organization was stressed by several cooperative members during the course of fieldwork for this study. This is their version.

¹⁰ This was possible because members relied on their own technicians and not on ALCOSA's who, apparently in tandem with agrochemical firms, were recommending overuse of more expensive products (see Eykman 1990:51).

¹¹ In the 1980s these included the 48-member *Consejo de Administración* (board committee) which were renewed every two years. These allowed a sizable number of members to be trained in leadership.

The Cooperativa allowed members lower production costs and better agronomic practices. Unlike other NTX growing regions, such as Patzún, members did not have to experiment themselves with new varieties of cultivars or crop management; they were also shielded from the voracious marketing of many intermediaries (Eykman 1990, AVANCSO 1994).

By the end of the 1980s the cooperative had over 1600 members, but by this time the profitability of snow peas began to drop. Growers faced increasingly alarming agronomic problems and by 1991-92 membership began to dwindle. By the mid 1995 the *sector social* had greatly diminished its functions and by 1998 it was canceled. By 1998 the Cooperativa faced serious agronomic and financial problems which were only exacerbated when Hurricane Mitch hit the country in 1998 as it left an increased burden of fungal disease and significant losses (Skinner-Klée 2002).

In addition, the Cooperativa faced management problems of its own. Around 1998 there was an attempted take-over lead by a group of founding members and newer members from Sumpango, but it was violently repressed¹². Management problems only increased, and double accountings were kept. Albert Hintermeister, the leader of the Swiss Group and a person pivotal to the emergence of the Cooperativa, is said to have visited Cuatro Pinos at the time and swiftly asked not to return. By 1999 the cooperative was facing bankruptcy and it began to sell its assets. The depth of the managerial problems at the Cooperativa became apparent until 2000, when the new director went to the banks to review the cooperative's loans and assets. The extent of corruption, double book keeping, and unjustified expenses finally came to the open knowledge of all members. The manager was finally fired and the first manager of the Cooperativa was asked to lead again. A grant from the Canadian Cooperative Association has provided the cooperative with a second wind. The current management has estimated that around US\$7 million were lost.

The Cooperative has decided to work only with the members it had by 2001 (580 by then, around 560 by 2004) in order to strengthen its organization and better focus its technical assistance. It has introduced new crops (yellow wax beans, radicchio, and is experimenting with others). Since production volumes are still low, the Cooperativa is trying a new commercial model: groups of farmers under contracted production. Under this scheme, the cooperative provides growers with inputs in the form of agricultural credits and growers commit to produce following the cooperative's strict guidelines. A new program has been introduced, specifically designed for the wives or daughters of the cooperative's members. Under this scheme, 60 women have been given credit to produce their own plots of NTX and around 12 have been given green-houses to produce tomatoes and a variety of peppers. Some men have also begun producing in green-houses¹³.

To entice members to sell only through the Cooperative, around 10% of every member's sale is paid at the end of the year; and an additional Q500 bonus is paid to those whose records show that have sold only to the coop. Scholarships are being given again to members' children and a clinic, staffed with a female physician, a nurse, and a dentist, has opened its doors to members for a modest fee (Q10). Agricultural inputs in the form of credit have been offered again, but the cooperative has become stricter with back payments: while before around 10% were deducted from each check, currently members have between 25-30%.

III. METHODOLOGY

Study design

The study was qualitative, descriptive, and exploratory. Fieldwork was divided in two phases: the initial phase comprised a visit to each community in order to be introduced to community leaders, to whom the objectives of the study were explained. This visit was followed by one week of field work, where open and

¹² According to some respondents, the new manager (installed in the early 1990s) called the army and soldiers occupied the premises and helicopters flew over.

¹³ Women's green-houses were heavily subsidized; men's were given on credit.

very exploratory interviews were held with key informants and officials at the Cooperativa Cuatro Pinos. These interviews allowed an initial understanding and were essential for designing the data collection instruments that were used during the second phase of the study. The second phase comprised a series of individual and group interviews and took around three weeks (end of July to mid August 2004). Individual interviews were held at the home of the interviewee or at her farm; group discussions were held at the Cooperative in Santiago, health post (in Pacul), and at the home of community leaders who graciously helped the study team to conduct their research (in Santiago).

Study areas and sample selection

The study sites were the town of Santiago Sacatepéquez and San José Pacul, a village located 10 km away. In order to capture the changes that had taken place in the last 25 years, the sample was stratified by age. The target population included young (aged 18-30) and older (over 40) women and men in farm and off-farm employment, community leaders and cooperative officials. Participants in the study were selected purposefully. In each site community leaders and local assistants were asked to identify and recruit participants, taking care to include current cooperative members, ex-members and non-members.

Data collection

A total of 12 research tools were designed for data collection. These included: six key informant interview guides on education, health, infrastructure, farming, off-farm employment, role of the cooperative; two open-ended interview schedules on agriculture and off-farm employment, and three group discussion guides on agriculture (one for women, one for men), off-farm employment, health and education. During the first phase of data collection, 29 in-depth interviews were undertaken with key-informants. In Santiago these included teachers, health personnel, the municipal treasurer (*tesorero municipal*), leaders from women's groups, farmers knowledgeable of the changing role of the cooperative, and a sociologist who had conducted fieldwork in the region in 2001. In Pacul key-informants included both older and younger farmers, teachers the water manager (*fontanero*) and the president of the newly elected COCODE¹⁴ (*Consejo Comunitario de Desarrollo*). During the second phase of the study, 22 men and 17 women were interviewed regarding their livelihood and economic activities. In addition, nine group discussions were held with farmers and non-farmers; these groups were segregated by gender.

Table 1. Data gathering techniques and number of interviews conducted

Technique	Number of subjects/sessions in each community		Total
	Santiago	Pacul	
Key Informants			
Women	8	4	12
Men	10	7	17
Total, key-informants	18	11	29
Individual, open-ended interviews			
Women	11	7	18
Men	11	10	21
Total, open-ended interviews	22	17	39
Focus groups			
Women	3	3	6
Men	2	1	3

¹⁴ Following the 1996 Peace Accords, in 2001 three laws on decentralization were approved by Congress. One of these involves the creation of a single local (village-level) development committee, formed by the local mayor and up to 12 members. These committees or *Cocodes* were meant to substitute older organizations, such as water committee, health committee, and the ubiquitous pro-development committee [*comité pro-desarrollo*]. Local level *Cocodes* are represented at the municipal level at the *Comité de Desarrollo Municipal*, *Comude*, which is also represented at the *departamento* level by the *Consejo Departamental*.

Total, focus groups	5	4	9
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IV. MAIN FINDINGS

A. Santiago Sacatepéquez

1. INFRASTRUCTURE

By the time of the 1976 earthquake the road between Santiago and the Pan American Highway was in bad shape. It was paved under the auspices of the Cooperativa in 1983. The Pan American Highway was improved, from a two-lane road to a four-lane highway in the mid 1980s. In 2002 the road from Santiago to San Pedro Sacatepéquez (going through the area of Tres Cruces) was paved. The only road to the villages that has been paved is that leading to Chixolis. The dirt road from Santiago to Santa María Cauqué is particularly in bad shape. Most streets in Santiago were unpaved by the time of the earthquake. The current mayor (elected in the early 1990s and since re-elected three more times) has paved them with cement-brick pavers (*adoquines*), but in some sectors the pavers are loose and have deteriorated. The main street in Santiago, called *Calle Real*, was paved with cobblestones which are currently being replaced with cement.

By the time of the earthquake public transportation was limited to a few old buses that ran at 1 am, 3 am and 5 am. Before the earthquake, people used to walk to Mixco or Guatemala City, carrying their produce either on their backs or on the back of horses. By 1990 more and newer buses were introduced. Currently there are buses to San Lucas every 30 minutes; there are several taxis, *moto-taxis* (Indian-made *Tuk Tuk*), and over 100 pick-up trucks carrying people and their tools to the vegetable fields. There are also several buses taking workers to the near-by maquiladoras. Many of the buses running to San Lucas and beyond are owned by the mayor (*Transportes María Luisa*).

Before the earthquake the main source of water was a spring called La Ciénaga. Around 1966 piped water and the sewage system were installed. After the earthquake the Swiss Group built a well and a second well was dug by the current mayor. Currently, around 2,300 dwellings¹⁵ have piped water. Those without access to piped water (between 10-15% of the population) need to resort to the 12 *pilas públicas* (public laundry facilities), eight smaller pilas and six *llenacántaros* (public water taps) which are fed by La Ciénaga spring. As water is insufficient, it is distributed by sectors. Those living right in the middle of Santiago have water every day, although for six to eight hours a day. Those living in higher areas receive water only very early in the morning (around 3 am) and for around three hours. Water scarcity is further exacerbated by being diverted to irrigate fields. The local health center tested the water quality and following its recommendations the Municipalidad has recently begun to treat water. In the past few years the Municipalidad has planted several trees to protect the water sources.

Currently there have been some problems involving the management of rivers and springs. Two groups have been formed to protect two water sources from what members view as the greedy plans of the Municipalidad, who allegedly will either pollute or destroy these sources. There is also dissatisfaction with the recently polluted river: according to some inhabitants the Municipalidad, for an undisclosed fee, has allowed the Municipalidad of San Bartolo Milpas Altas to drain its sewage system into this river.

The population of Santiago is around 24,000, yet there is no waste management. There are a few garbage trucks that collect domestic waste, but apparently few households are willing to pay the Q10

¹⁵ Following a virilocal residence pattern, where males bring their brides to live at his parent's house, it is not uncommon to find three or four households living in a single dwelling. Each household has its own house and often the hearth or kitchen is not shared. Usually there are only one water and one electric meter per dwelling, independent of how many households co-reside on the premises.

fee and prefer to burn it at home or dump it in a ravine. This dump has been traditionally used by the population, but in the last five or eight years the mayor, who owns the ravine, has allowed neighboring municipios to also dump its waste. As there is no garbage treatment (while a Municipalidad official describes it as a *relleno sanitario*, neighbors claim it is not), the population is discontent about the smell and proliferation of flies.

Electric power was introduced in Santiago in the 1950s and is currently used by around 3000 dwellings. While in the early 1990s households were paying around Q10¹⁶ a month, currently the electric bill is said to be around Q100.

Telephones were introduced in the early 1980s but very few lines were in place. By the mid 1990s, Guatel (the national telephone company now privatized and renamed Telgua) installed a few communitarian telephones. Currently there are around 300 telephones. In the last five years, cellular telephones became available and have become widely used¹⁷.

There have been radical changes in terms of construction. As elsewhere in the country, the 1976 earthquake led to a shift in building materials. The earthquake destroyed most houses in Santiago, originally built of adobe and thatch or tile roof. The Swiss Group, as noted, built houses whose base was either adobe or cement block (the decision rested upon the owners), the upper walls were made of wood and canaletta roof. Many of these houses are still round, and some have been replaced by block and tin roofs. Currently no homes are being built with traditional materials, and the latest trend, and probably a status symbol, is cement roofs (*techos de terraza*).

In addition, the entire main square has been rebuilt in the last five years: the old municipal hall has been replaced by a two-story building, with a massive community hall. The market place has also been rebuilt, as has the elementary school. There is also a brand new, small shopping mall across the street from the market place.

There is also a new trend towards a neolocal residence pattern, especially among the more educated and better-off: young couples are spending only a month with the parents of the groom and then moving on to independent living. The interlude with in-laws has been set to the minimal time esteemed necessary for the bride to learn the husband's domestic habits and preferences.

2. HEALTH

The local health post was built well before the earthquake (around 1960) and has not been refurbished since. It is located two blocks from the main square. It has a fairly ample waiting room and several clinics, where two physicians give consultations. There is also a social worker, a registered nurse, nurse-aides, a lab technician, and a rural health technician (TSR). There is a group of village health workers trained by the Health Center. These volunteers help the nurse-aids mostly during the immunization rounds. Traditional birth attendants (TBA) are also trained by the health center staff. Users need to arrive early in the morning to get one of the limited number of slots given out everyday; usually it takes the whole morning to be seen by a health provider. The quality and range of services provided at the health center has not changed substantially in the last 20 years. Perhaps the most important improvements have been the readily provision of immunizations and, very recently, a wider variety of family planning methods, including the three-month Depo-Provera¹⁸.

¹⁶ Around 1990 the exchange rate was US\$1 = Q5.00. The current exchange rate is US\$1 = Q8.00.

¹⁷ Up to the early 90s only Guatel provided fixed telephones (at great delay and after considerable paper work and often bribes) and only one private firm provided mobile phones. By the mid 90s mobile communication opened to competition and prices have significantly gone down. As public-run Guatel became privatized Telgua and fixed telephones were finally open to competition it has become much easier to get a telephone line. Still, currently it is more expedient and probably less expensive to get a mobile phone than a fixed line.

¹⁸ Population growth in Guatemala is high, 2.8% (if out-migration is included it goes down to 2.6%) which means the population is doubled every 27 years. Women have in average five children (in El Salvador they have only 3.6) and women with no schooling have

In addition to the health center, there are ten drug-stores (two of them physician-owned) where health consultations are sought, and five traditional birth attendants (TBAs). Women have sought and continue to seek TBAs for both antenatal care and delivery¹⁹, but 40 or 50 years ago it is said that some women never sought any outside care: "our grandparents said that it is not good for a woman to show her naked body and some women were very shy and never allowed a *comadrona* to touch her belly or even to see her". Currently TBAs provide well-appreciated massages or rubbings (*sobadas*), which are said to ensure a good fetal position and ease labor and delivery, and most women, regardless of where they give birth, seek their services. In addition, TBAs are also sought for treating common childhood folk illnesses, such as *caída de mollera*, *ojo*, *cuajo*, *susto*, and *varillas caídas*²⁰. There are also several healers in town and a few practitioners of herbal healing.

By 1980, TBAs were usually the only health provider sought by pregnant women and they certainly delivered most children, in the last twenty years women have begun seeking antenatal care at the local health center. It is said that younger women, especially primipara, prefer to deliver at an institutional setting²¹. For some, this is their actual preference, while others are mostly following the advice received at the health center and plan to deliver future babies with TBAs. At the group discussions, several young women expressed their preference for delivering only at hospitals, where they perceive not only better medical care and hygiene, but also an easier way to take care of post-natal bleeding, and have someone else take care of the soiled laundry. Some women also mentioned a desire for privacy:

The hospital in Antigua is very modern and clean, and its nurses are very nice. An additional advantage of giving birth at the hospital is that we can have some privacy. If we give birth at home, as soon as we have the first contractions, everybody has to be watching. There you have your mother-in-law, your sisters-in-law and the whole family: even the dog has to be near and listen to your moans, cries and pains. At the hospital no one is allowed inside and we are free to yell as much as we want.

There are currently three private physicians in Santiago. The first to arrived came as the attending physician at the cooperative's clinic and when this clinic closed in the early 90s he installed his own clinic in Santiago. The second physician is a native of Santiago and opened his clinic in 1992. The third physician opened his clinic five years ago. These physicians provide a wide variety of services and one of them has an X-ray machine and an ultrasound. They charge between Q25 and Q35 per consultation. Two of them also provide medical drugs at a discount rate.

There are no NGO attending health needs in Santiago. The only institution ever giving health care was the Cooperativa. It had a health center on its premises, emergency services over the week-end, medical attention at the village level once a week, a dentist clinic twice a week. Four physicians were hired (three men, one woman) as well as a dentist who trained a group of ten members' children to become village doctors. The center staff, in addition, frequently lectured on health education, but few members would attend. While these services were open to members and non-members, the latter were required to pay a modest fee. By 1987 the Cooperativa opened a drug-store whose prices were lower than those found in other drug-stores. By the mid 1990s these services came to an end, due to financial duress (Eykmán 1990, Skinner-Klee 2002).

seven. More alarming is the rate of teenage pregnancy: 21% of women aged 15-19 are mothers or are already pregnant (26% in the rural areas); among those with no schooling the rate increases to 32% (among women with high-school education it is 9.2%). The negative consequences of having at this age group have been well documented. The rate of contraceptive use in Guatemala is low: only 43% of women in union use some family planning method. Among the Maya population the proportion is even lower: 23%. Unmet need of contraceptives has been estimated at 23.1%

¹⁹ According to the ENSMI 2002, 57.9 of all births are at home. However, the MofH survey on maternal mortality has estimated this proportion at 73%. According to ENSMI 2002, 80.4% of all births among the Maya population are at home.

²⁰ These are part of the cultural epidemiology among the Maya. Most of these illnesses are related to diarrheal diseases, still a common cause of infant mortality. Sacatepéquez has a relatively low child mortality rate: 1.1/1000 (national average is 3.5/1000. Infant mortality rate continues high and among the Maya population it is 49/1000 [2002] (national average is 44/1000).

²¹ Guatemala has one of the highest rates of maternal mortality in Latin America: 153 for 100,000 live births. Sacatepéquez, however, has the lowest rate of any department in the country: 60/100,000.

The Catholic Church provides sporadic clinic days, about once or twice a year. They also provide some food-aid for the sick. Currently there is no food-aid in Santiago, and the only institution ever providing such aid was the health center which concluded this program in the early 1990s.

Health resources outside of Santiago are rarely used, given the cost involved. When outside medical services are needed, people tend to go to Antigua, Guatemala City or even Chimaltenango. There are no ambulances in Santiago and for emergencies people need to call the firefighters²² in San Lucas to take them to the hospital. Likewise, they can ask for a taxi or a neighbor with a vehicle for a ride. The usual fee is Q100.

There seems to be a common perception on the population that they were healthier a few decades ago:

In the past there was respect. We had no clothing and not even caites [sandals], but there was no danger. There were fewer diseases, people lived longer. We used to have temascales [steam-baths], but they were built of adobe and all came down and we never built them again. Our bodies were kept clean and in balance with the help of the temascales²³. Our diet also changed. In the past we seldom used fat – perhaps only a little bit of lard, every now and then. Now we cook everything with oil. We never ate bread, either, and we drank atol de masa [a thin maize gruel]. Now we don't even drink water, we need to drink frescos [industrial-made mix of sugar and artificial color and flavor]. Now there is a lot of chemical stuff in our food, we eat a lot of chicken and they have been injected [with hormones]. Now all food has chemical fertilizer and poison [pesticides], in the past they were all natural. That is why we see now many cases of gastritis, ulcers, cancer and even aids. In the past illnesses were simple, we could cure them with herbs.

Malnutrition rates in Santiago are surprisingly high: in 1986 the proportion of stunted school children (> 2 SD, height for age) was 67.9% and it dropped to 52.2% in 2001 (national average during this year was 48.7; in Sacatepéquez it was 45.01%). While there is no easy explanation to this fact, native observers and key informants in this study have suggested three probable and related causes: the massive incorporation of women to labor-intensive crops, the preference for snacks and easy to prepare foods (especially instant soups and noodles) and very precarious domestic hygiene.

3. EDUCATION

Elementary education

There are three elementary schools in Santiago. The first school was built around 75 years ago. By the time of the earthquake it was a solid brick building that withstood the tremors. At that time there were around 15 students per classroom, four of which were girls. The school has been built three different times to accommodate an ever increasing population. In 1991, an afternoon school began to operate in the same premises; it became an independent school in 1994. The current building for both was built recently: it has 23 classrooms with around 40-50 students per classroom. Most of the teachers come from the department of Sacatepéquez, but only three are bilingual. Recently, a teacher was hired specifically to teach in Kaqchikel. While the enrollment in the first three grades shows little if any gender gap, this tends to increase in the last three grades.

The third elementary school began as a bilingual kindergarten²⁴, a two-classroom building built by the Swiss Group some years after the earthquake. When it began it had two local teachers and around 50 students per classroom; about 30% of students were girls. Students from this bilingual school, however, had trouble enrolling into the mainstream elementary school, apparently due to whims of the latter school

²² Outside Guatemala City, ambulances are often run by firefighters – usually there is a station in every department and sometimes can be found even at the municipal level. Hospitals seldom perform this service.

²³ Temascales are the traditional sweat baths. The statement refers to the hot-cold balance, a form of humoral theory observed among the Maya population, but more generally to the absence of illness which is indeed understood as the absence of balance or equilibrium.

²⁴ In Guatemala bilingual education began timidly around 1990, but with less than the full support of the Ministry of Education. The first PRONEBI teachers were hired in a distinctly discriminatory fashion and earned around half of what other teachers did. Even among the MofE staff there was distrust and jealousy towards these schools and teachers, and many perceived PRONEBI (currently DIGEBI) schools as second-class. It was only after the Peace Accords in 1996 that bilingual education has begun to be valued.

principal. After much work, the school was expanded and turned into an elementary school. Currently it has 12 classrooms, with around 40-45 students per classroom. All teachers used to be Kaqchikel, but recently the MofE has hired a few who speak only Spanish. Students now can attend two pre-primary grades and the six grades of elementary school²⁵. There are currently 462 students, 48% of which are girls.

Under the aegis of the Cooperativa a night school operated in the 1980s. It began in 1983 with three teachers and 132 students who could complete their elementary education in only three years. Adult literacy, both for members and non-members, was also offered. These classes were given in Santiago and in three other villages. By 1985 the Cooperativa gave out a number of scholarships for member's children to pursue secondary education. That same year the Cooperativa also subsidized high school education in the same premises as the elementary school²⁶ (see discussion below; Eykman 1990). After all the tribulations faced by the Cooperativa in the 1990s it ceased to support these schools. It was only last year the Catholic Church resumed adult night elementary education.

The provision of food has followed each administration's public policies and has included a variety of *atoles* (thin cereal-based gruels) in the 1980s; a fortified biscuit (*galleta escolar* developed by INCAP) was introduced during the government of Vinicio Cerezo (1986-1990). In the early 1990s, school snacks included *galleta escolar* and *atol elotín* (a corn beverage). This policy changed during the government of Arzú (1996-1999), when the MofE introduced an enriched breakfast, with a higher caloric intake. The government provided both food and money to buy local produce. Mothers were organized in breakfast committees, which bought local supplies, fixed and served the meal. During the Portillo government (2000-2003) breakfast continued to be served and during its last year the amount of money allotted to each student increased to Q2. With the current government (2004-2007) this amount has gone back to Q1 per student. While the management of these funds is overseen by the *Junta Escolar*, formed by three parents, one teacher and the school's principal, countrywide it is not uncommon for the latter to make inappropriate use of the money. Currently, parents are no longer willing to fix the meals and the school has hired someone else to do it.

Provision of texts and school supplies, likewise, has followed each administration's public policies. Between the late 1970s and mid 1980s, military regimes provided some textbooks financed by the international cooperation. From the mid 1980s to the mid 1990s the newly installed civil governments provided textbooks, especially to the lower grades. During the Arzú government (1996-1999), a series of textbooks called *Camino de la Excelencia* for all six grades of elementary school were developed and distributed. These included four books in the main subjects: mathematics, language, science, and social studies. The Portillo government (2000-2003) distributed the same textbooks with minor changes. The provision of these text books, however, continues to be insufficient and it is not uncommon for students to share them.

During the Arzú government a program of scholarships for girls operated in rural areas. Parents received Q300 a year to help them with school-related expenses. The Portillo government continued with the scholarship program but modified the target group by including poor boys. Before the November 2003 elections, the mayor distributed more of these scholarships (still at Q300 per student), but the target group, allegedly, was politically defined.

Although public elementary education is free, historically the state has not been able to meet all the educational needs at its own schools. Local schools have decided to bring into play parents' contributions and are asking parents for a modest yearly fee of around Q50. Parents are aware of the insufficient funding and apparently approve of such payments.

²⁵ In Guatemala *educación primaria* comprises six grades in elementary school and attendance is compulsory by law. *Educación parvularia* or pre-elementary education comprises two grades, *párvulos* and *preparatoria*.

²⁶ Besides a few *socios fundadores* [founding members still emotionally attached to the Cooperativa] interviewed, very few respondents mentioned the education subsidies given by the Cooperativa.

There are no early schools in Santiago. During the Cerezo government (1986-1990) a day-care center functioned at the local health center, but as elsewhere in the country, few working mothers actually made use of it. In the last five years a few *hogares comunitarios* have been installed. In this scheme, a local mother is trained by the government and receives basic furnishing in order to attend up to 10 preschoolers (from as young as three months). Working mothers can leave their children at her house for a modest monthly fee. The program has been very popular in several periurban towns in Guatemala City, but its reception in Santiago has not been very enthusiastic.

Secondary school

In 1985 the Cooperativa Cuatro Pinos, aware of the educational needs of its members' children, opened an *Instituto*²⁷ *Básico*²⁸ *por Cooperativa*. It functioned only in the afternoons, on the premises of the elementary school. The first class had 38 students, 15 in the first grade, 15 in the second grade and eight in the third; two-thirds of the students were boys. The Cooperativa hired eight teachers. The school was open to children of members and non-members, but the latter were required to pay a low fee (Q15). In 1995, ensuing financial problems, the Cooperativa stopped subsidizing high school education and the Instituto became *tripartito*, paid by the Municipalidad, the central government, and parents. Currently students pay around Q800 a year in school fees, but the estimated cost of sending children to the Instituto is around Q3000, once uniforms, books and supplies are taken into account. The Instituto is no longer housed on the premises of the elementary school and is currently functioning partly at the *escuela de párvulos* (kindergarten) and at the community hall in the Municipalidad. A new two-storey building has been built, with 14 classrooms. It appears to be ready for students but has remained closed: the Instituto was to move to the new premises this January 2004, but the parent association disapproved the mayor-appointed principal, and the mayor decided not to inaugurate the building this year. Currently there are 360 students (50% of them girls) crammed in old or inadequate grounds. According to one of the teachers, the annual growth of the student body is around 80% and the drop-out rate is around 1%.

Several parents noted the poor the quality of education at the insituto. Their concern has more to do with the unchecked presence of gang-members amongst the students and an apparent increased consumption of drugs than with education quality per se. To remedy this situation a few families are sending their children to study *básicos* in La Antigua or Chimaltenango.

My son is studying the básicos on Saturdays, in Chimaltenango, in the Instituto América Latina [an Evangelical-run private school]. He used to attend the instituto here in Santiago, but I was not happy, because of the bad company: the students here lack respect and there is too much drug going around. In Chimaltenango the setting is healthier even if it is more expensive. Currently our annual school fees for this child were around Q2000.

Before the Instituto children would go to study in the nearby towns: La Antigua, Chimaltenango or even Guatemala City, but few would study beyond the primary level, not only because of the expense involved but also because secondary education was perceived of little value. A 42-year old man had this to say:

I had a tough time going to secondary school, as my parents did not help me out, even though they had the means do to it. They just thought it was not worth the trouble. After I finished elementary school my father said that if secondary school was my choice I had to pay my way. So I had to walk every day to Pacul [around 3 km], to cultivate the land and then walk back to San Lucas to go to school. It was a difficult time, as the war was going on and the comisionado militar would harass all students, claiming we were guerillas in disguise. To make things even worse, our teachers were mean with us Indians. I remember well how my sixth grade teacher questioned by will to enroll in high school. She said I should stick to my hoe and forget about pursuing an education. Right now things have greatly changed. Still, I think that only around 30% of the people in Santiago actually support their children to pursue secondary education. It is

²⁷ In Guatemala public secondary schools are called *institutos*, but the term may also be applied to private institutions. *Colegio* is applied only to private schools.

²⁸ Secondary education is divided into three lower grades and two to three higher grades. The former are called *básicos* and comprise the *ciclo básico*. The two to three higher grades are called *diversificado* or diversified cycle, depending on the choice of core courses: *bachillerato* (high school), *secretariado* (secretarial school), *magisterio* (teaching school), *perito contador* (accounting), and others.

not so much they don't want their children to advance, it is just that they are too poor. While school fees might not be that high, you still need to buy uniforms, gym clothes, sneakers, school shoes, books. And if you are talking about diversificado, then there is the cost of transportation to Antigua or Chimaltenango. That is why many parents do not encourage their children to study, they simply cannot afford it. Besides, we have all seen some youngsters with high school education who are unable to find a job and unemployment is a huge disincentive.

His case is not unique and several respondents in the 30s and 40s told similar stories: once they had finished the six years of elementary schools, their choices were to join the labor market or become full-time unpaid family workers. Most of these respondents at this point appreciate the rewards than can be accrued with post-primary education and are willingly sending their children to pursue it.

There is currently no *diversificado* in Santiago and families must send their children to Chimaltenango or La Antigua. In both of these places there is a daily regime and also a week-end plan, which not only allows the student to work during the week but decreases considerably the cost of transportation (a round trip to Antigua costs Q12 and one to Chimaltenango Q10). No one mentioned going to school in Guatemala City, probably because education in the city is much more expensive due the increased cost of transportation (both in terms of time and direct cost), in addition to the potential danger to be faced in the city. In our sample, there were several cases of full-time maquila or unpaid family workers to travel to Antigua and Chimaltenango and study over the week-end. In Antigua is located a big, state-run instituto (INSO), and in Chimaltenango the preferred choices seems to be Christian-run high schools and a variety of two-year long technical schools.

I have worked in the fields since I was about seven years-old. When I was ten my father gave me specific chores that I had to do all by myself. I would go to school in the morning and as soon as school closed I would go straight to the field, until around five in the afternoon, when we would all go home. When I finished elementary school I started básicos here in Santiago. I would get up early, around five, and help my parents in the field all morning and around eleven I would head home to get ready for school. At that time my father decided to take a job in the city to help meet ends, and only my mother and I would work in the field, as my little sisters were still too young. I really wanted to study and go to college and two years ago I began studying in Chimaltenango, the ciclo diversificado. This has been accomplished to a great expense and sacrifice from my family. When I was still studying in Santiago we would plant two cuerdas, but now all my mother can do is grow half a cuerda. With the current low prices we can no longer hire help, and my sisters are busy with school and cannot really help out in the field.

In the past, the only options that girls had were agriculture or domestic service in the city. It was until the early 1990s that girls began to study out of town, and mostly over the week-end. I had no such choice, but my eldest girl is going to school at INSO in Antigua. We pay around Q600 for the whole school year, and about Q40 for transportation per week. She wants to go to college, following my oldest son. We need only buy her the school sweater and the gym uniform, as since 1997 [after the Peace Accords] Maya girls are allowed to wear their regional dress. Ladina girls and boys, however, do have that expense to make. ... Currently, I think that about 60% of kids finishing sixth grade go up to básicos, but few of those keep on diversificados. So many kids now want to study básicos that you need to enroll them early, around September. If you wait until January, there is just no room for them.

New views on education

Most respondents in our small sample seemed to value their children's (both boys and girls) education and would contrast their views to those of their parents and grandparents who did not. What varies seems to be the desired level of education: for a few it is a completed elementary school (six years), for many others it is the basic level (nine years), for a handful it is high school (11 or 12 years) and even college. Many parents are well aware of the vicissitudes of farming and want their children to have more options. What follows are what both mothers and fathers stated regarding their children's education.

The best gift we can give our children is education. We have little land; we have nothing else to leave them. We know farming is very risky; we want them to be able to find a job.

Children help us in the field during the afternoons or over the week-end. Now we understand that both boys and girls must go to school, but it is also useful for them to know how to farm, to be skilled with the hoe.

Currently, the employers at the maquila only want young people with some education. Before they would ask for elementary school education, but now they prefer to hire those with básicos.

Some families plan for some children to study and others to help out in the fields. I have noticed that the eldest children don't get much schooling; they drop out around the third grade. Younger children may finish the sixth grade and the very youngest might go to básicos or even diversificado. It is just that when families are starting out they are too poor, and the first children need to help out; they suffer the most. For example, I studied only second grade, but all my other siblings were able to study until the sixth grade.

Now it is easier to go attend school and most parents struggle to send their kids to school. But some don't. My brother sent his daughters only to first grade and then sent them to the field, to help their mother out. He sent his sons to the Catholic Church's night school, as he wanted their help in the fields.

My husband was having a hard time making ends-meet and he migrated to the USA. With the remittances we have been able to buy land and pay for our children's education.

Despite parent's new appreciation for education, only 45.8% of children in the municipio (49.4% boys and 42.1% girls) currently enroll in elementary school. This rate is much lower than the national average 61.6% (62.5% boys and 60.6 girls). There has also been some improvement in adult literacy rate which increased from 67.9% in 1994 to 75.2% in 1999 (PNUD 2001).

4. AGRICULTURE

Up to the 1976 earthquake agriculture was basically the only livelihood option in Santiago. Few farming households, however, were ever completely subsistence based, and most produced cash-crops for the domestic markets. Non-traditional agricultural export crops (NTX) were introduced in 1980 and proved capable of employing a large part of the community well throughout that decade, but with the decreasing returns of these crops, the current demand for agricultural wage labor has waned. Households in Santiago, as elsewhere, have greatly diversified their subsistence strategies since the early 1990s. Up until then, there were few opportunities for non-agricultural wage labor, and those were usually in the construction or security industries, usually in Guatemala City. Currently, there are more possibilities for off-farm employment. Maquila wage labor, mostly in the nearby San Pedro Sacatepéquez and Manzanales, has become a crucial livelihood option for many households²⁹.

a. Access to land

In Santiago, access to land can take three forms: through inheritance, rent or purchase; sharecropping and land lending are no longer frequently seen. Most households rely on a combination of these, which often results in land fragmentation. Frequently each individual cuerda is located in a different plot of land or *parcela*. While some families prefer to use the most distant parcela for milpa agriculture, as maize and beans are the least labor intensive cropping system, other prefer quite the opposite, claiming that given the bulk of the grain it is best to have it planted in the most accessible land. In general, the fields with the best soils are used for cash crops.

Despite the diminishing size of land holdings, inheritance is still the main way to access land. Patterns of inheritance appear to be changing. In the past males were said to be preferred, and women would inherit land only when parents had enough land or they were especially willing to distribute land among their

²⁹ Households in Santiago follow a variety of subsistence strategies, most of which are fluid and tend to change frequently, sometimes seasonally. While an individual household may temporarily rely on a greater extent on one or another, the distinction often asked in census between main and secondary occupations can be misleading in this setting, as occupations are complementary and all provide deeply necessary income.

daughters. In any case, women would receive less land or land more distant from town. But land ownership does not necessarily mean that women have direct control over its use and management. Several male farmers readily agreed that even if the land was their wives' it was them who made all cropping decisions and who decided over the use of whatever income may be generated. Several others said they would talk with their wives about land use, but also acknowledged that it was a mere formal consultation, usually consisting on informing her about his decisions, and only rarely asking for her opinion. Usually only single women have control of their land and its products. Recently, however, as married women have joined gender-awareness groups such as AFEDES³⁰ they seem to have gained more control of their land and labor.

Methodological box 1

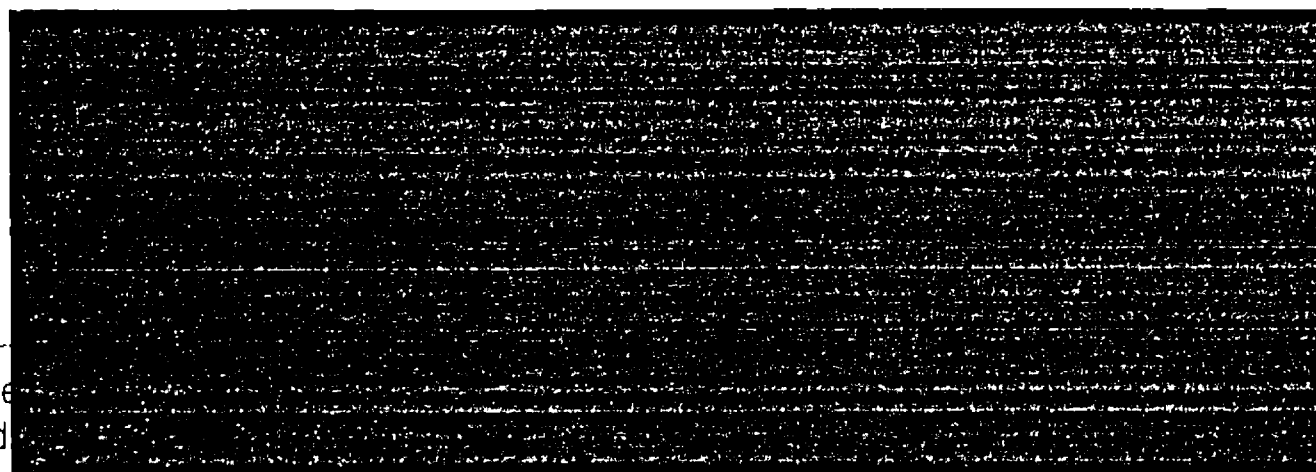


In the last ten to twenty years it is said that women are gradually receiving land on a more egalitarian basis. A survey conducted by ASIES in the nearby town of Santa María Cauqué in 1994 shows that in 66% of surveyed households the female head had inherited some land, but that female land holdings were smaller than those inherited by the male head (2.1 vs 2.9 cuerdas; Asturias et al 1996). In San Mateo Milpas Altas the gap is even wider: in 1999 it was found that while men inherited around 3.15 cuerdas, women received only 0.33 cuerda (Skinner-Klee 2002). The timing of inheritance is also changing: while in the past children (mostly sons) received some land at the time of marriage, due to the current size of holdings, land is changing hands only when parents are either too old to farm the whole extension of their land or when they pass away.

About a third of our sample had purchased land, but few had purchased land in the last five years. In the last ten years land has become increasingly expensive, not only because the production of NTX raised its value and land has become increasingly scarce, but also because people from the city are buying in big quantities and turning land around Santiago into a Guatemala City suburb. This land is said to be around Q35,000/cuerda, and that close to the Pan American highway is twice as expensive. For this reason some farmers have bought land in the neighboring municipios of Mixco, San Pedro Sacatepéquez and Parramos. Land with difficult access (no roads, no public transportation) costs around Q3000/cuerda, but few are willing to cultivate at such places. Those able to buy land are said to be those that already farm more land or well Ladinos from the city. People willing to sell land are those no longer in farming or too old to farm; notwithstanding, all land-owners are said to be potential sellers if the right price is presented. Traditionally it was considered that only people in great need would sell their land, as land was the basis for subsistence and the best mean to reproduce life, both in terms of biology and culture. Now some people still consider selling land in terms of "shame":

Some people made their money through shame. They sold their land and did not buy new one to replace what they sold. To sell land dear in one place and then purchase land elsewhere for less money is called progress, but selling land and using the money to buy cars, clothes, that is a shame. Then you leave nothing to your children.

Methodological box 2



³⁰ A local institution formed by women's group credit groups in Santiago and

Land rental is common and farmers are paying around Q300/cuerda/year, depending on the quality of the land, its access and, sometimes, the cropping pattern. Those growing maize pay less than those growing NTAX. Land lending is uncommon and usually takes place between father and son: there were three such cases in the sample. Sharecropping is even less common and when observed it is in milpa agriculture. Traditionally there was a system called *samaj kuch'ual* whereby there would be an exchange of labor for land. Currently, *ir a medias* is seldom seen, but still practiced by a few landlords. In a group discussion, a woman said her family had a *compromiso* [commitment] with a landlord, who would give them six cuerdas of land and they would give him the harvest of three. In this case the landlord ran with all farming expenses, except labor. As agriculture has become more commercialized land has become a commodity subject only to monetary transactions.

In nearby Santa María Cauqué several studies have been undertaken that shows the contraction of land holdings: from 1963 to 1994 average size of owned land decreased by half (from 9.7 to 4.6 cuerdas), while the amount of rented land doubled; it was estimated that farm size decreased at an annual rate of 3.5%. It is quite probable that a similar situation has taken place in Santiago.

Table 2: The changing access to land in Santa María Cauqué (cuerdas)

Access to land	1963		1967		1971		1994	
	%	x	%	x	%	x	%	x
Owned land	89.7	9.7	97.4	9.5	98.5	7.7	86.6	4.6
Rented land	10.3	1.1	2.6	0.2	1.5	0.1	14.4	2.5
Total farm size	100	10.8	100	9.7	100	7.8	100	7.1
Sample size	197		229		249		82	

Source: Mata 1978, Tavalán 1999

Access to irrigated land

There have been three small-scale irrigation schemes in Santiago. Around 1990 FONAPAR, a government-run institution, installed two groups, both relying on electric pumps. One of these projects disintegrated as members could no longer pay the ever increasing utility bills. The Chicayá project got a subsidy from the Municipalidad and was able to exchange the electric pump for one running on diesel: the individual fee went down from Q700/month/cuerda (for 4 hrs, twice a week) with the former, to Q250 with the latter. A third group was organized by the Cooperativa in the 1980s. This group, called Chituc, worked for a while and then got into deep financial trouble. Apparently, most members dutifully paid their dues, but the irrigation committee pocketed the fees. Eventually the electric bill got enormous and the Cooperativa declined to expand the credit originally given to members to cover the irrigation equipment. Things got so bad that one of the members of the irrigation committee is said to have committed suicide in face of mounting debt. Most farmers eventually paid their debt back to the cooperative and currently the scheme functions autonomously. It has 90 members who water 200 cuerdas. A recurrent problem they are having is the increased cost: while a member paid two years ago Q300 to irrigate 1.5 cuerdas, currently she is paying Q525.

Affective attachment to land

For most respondents, the relationship with the land they produce goes well beyond economics. As in most peasant societies, among the Kaqchikel land is enmeshed in a web of relations from kinship ties and family histories to self-identity. Up until 1980 it was very common to celebrate planting ceremonies where the whole extensive family would gather to ritually feed the earth in order to assure its cyclic regeneration.

When I was a child I was told I could talk to loq'olej ulew (sacred earth) as if it were a person. We would always pray when we entered our land. We were told that maize, and therefore the milpa, were life. Before planting, around San Isidro day [15 May] my grandmother would make a big celebration: huge amounts of stewed chicken, roasted beef, atol shuco and tamalitos. Our elders would burn incense and candles, asking the birds and insects not to damage our milpa. They would ask for good yields to feed the children. They would also ask our nahuales for protection, and for this reason all the children in the family had to be present, as nahuales are more likely to respond to favors asked by children. Sometimes there was even music, tun and chirimía, and after a few drinks they all began to dance. Then planting could start. Likewise, the first elotes to ripen were taken to church as an offering. My grandmother would go to church, with the biggest elotes she could find, and would place them in a nice basket, called kol. This was done around the Day of the Dead [1 November]. Atol de elote was made, as well as tamalitos de elote and we would go to the cemetery and eat with the dead. My aunts are still carrying on the tradition, but my mother became Evangelical and the church does not encourage such ceremonies. Now she just takes the first elotes to church and that's it.

By 1992, by the time of the 500 years commemoration, the then incipient Maya movement began to rescue the planting traditions, but stripped them of their Catholic undertones. Currently, few families outside the Maya activists seem to be carrying the tradition: the Evangelical church tends to see such ceremonies as heathen and devil-inspired. A similar view seems to be taken by the Carismáticos, a branch of the Catholic Church. Many respondents showed nostalgia and regret to what they perceive as "the lack of respect" to land.

b. Land use and cropping patterns

There are three cropping patterns in Santiago: milpa agriculture, traditional vegetable crops and non-traditional export (NTX) crops. Intercropping is quite often the norm and it is not uncommon to find cilantro or parsley growing on the same bed as snow peas or zucchini. In a one cuerda plot, for example, 20 furrows of snow peas were observed. Between these there was lettuce on one half of the plot, and French beans and cilantro on the other. Another farmer explained:

We try to get the most we can from our land. On one plot I have snow peas, beets, radishes and cilantro. As one is harvested it frees space for the next. I have now 30 furrows of each crop. First I planted 30 furrows of snow peas. In the middle I planted 30 furrows of beets, 30 of cilantro and the last 30 of radishes. Thirty days after everything has been planted, we start picking up radishes, at 45 days we harvest cilantro, at two and a half month we are harvesting beets. The very last to be harvested are snow peas. This system allows us to get four crops in the same plot of land, using the same fertilizers for all.

While labor requirements are different for the different crops, usually the same person (mostly unpaid family worker, only rarely hired help) looking after beets, will look at the NTX crops, and even the milpa. It should be noted that few farmers rely – or have ever relied – on any one cropping system.

Milpa agriculture

The traditional milpa cropping system, still widely observed in Santiago, involved using five grains of maize, spaced about 80 cm between plants and rows. Land is not tilled at all: as in pre-Hispanic times, with the help of a stick seeds are placed on the soil and then covered with the foot or with a hoe. The traditional cropping system was to sow maize interspersed with beans and squash. Bean cultivars have changed: currently *frijol de enredo* is seldom planted, and the preferred variety seems to be *frijol piligüe*. Black *frijol de enredo* is no longer sown due to rodents [taltuzas], and broad beans have been practically abandoned since the 1980s. With the introduction of NTX and the use of fertilizers maize grew faster and it tended to compete with broad beans for light.

It was surprising to find no innovation in terms of maize cropping system in the last 20 years. The major change appears to have been the massive use of fertilizers for NTX crops initiated in the early 1980s, which resonated in improved yields and faster growing plants. In many parts of the country seed density has also changed (only two seeds are placed on each hole and the distance between plants and rows has been reduced), but not in Santiago. In addition, only a handful of farmers ever tried hybrid or improved

varieties and their acceptance varied. As elsewhere farmers haven't seen the cost-benefit of buying seed every year. But even if they were interested in buying such seed, currently commercial varieties of maize are not sold anywhere in Santiago. Maize fields are routinely fertilized three times over the growing cycle, "as land has gotten used to it"; both chemical and organic fertilizers (*gallinaza* [chicken droppings]) are used. Weeding is usually done by hand ("the use of so much venom poisons the land", a farmer said) and pesticides are seldom used.

Maize is sown only for self-consumption, "and for sentimental reasons", as a farmer explained. Only a handful were growing over three cuerdas (the amount of land most frequently sown) and in all cases farmers were sowing elotes as a cash crop, which reaps a much better price than the dry grain. Several farmers are no longer sowing maize, especially those that need to rent land or labor, as well as those with very little land: maize growing cycle is six months and in that period of time it is possible to grow two cycles of snow peas or five cycles of radishes. It was surprising to find out that in a culture whose myth of origin is about gods making humans out of maize dough, many people no longer even cook maize but prefer to buy ready-made tortillas. In the last four or five years there has been a proliferation of *tortillerías* (small-scale tortilla factories) in town.

Farmers' estimation of yields varied greatly, but most stated around 4qq³¹/cuerda (1560 kg/ha; the national average is around 1700), but some claimed to sow, 8qq, 10qq and even 15qq. As maize is usually not sold, farmers can only guesstimate their yields. In addition, their unit of measurement is one *carga*, which is around 35 kg. It is my impression that when asking for yields in terms of quintales (45 kg) farmers were answering in terms of cargas, thus overestimating yields.

Farmers allocate half or one cuerda to sow beans, which are often planted "in winter" [rainy season], around March or April, using the moisture of the very last rains. Sometimes it is intercropped with maize (one row of maize for every row of beans), but often it is not. It is not clear why farmers prefer one way or the other. It is possible that fewer farmers are currently sowing beans, as farmers have had trouble with pests (mostly the feared white-fly) and the price of pesticides have sky-rocketed. There was less disagreement regarding yields and most farmers stated 2qq/cuerda (779 kg/ha; national average is around 650 kg/ha).

Traditional vegetable crops

Since colonial times the Sacatepéquez region has been known for its fresh produce marketed in Guatemala City and other domestic markets. Before the earthquake the most frequent crops were cabbage, radishes, Swiss chard, beets, lettuce, *güisquil*, *ichintal*, sweet peas, celery, as well as pears, peaches, apples, plums and a variety of flowers. According to Mata (1978), in the nearby Santa María Cauqué almost 70% of all households grew these vegetables and they allocated around 1.5 cuerdas to their production. Given the climate and soil conditions in the region it is quite possible to grow vegetables year-round. In the study conducted by ASIES in 1994 it was found that 77.3% of all households were still producing these vegetables.

Households plant different crops according to their guesstimates of price conditions: while they know the cyclic prices, they tend to estimate that if the price is low at one point in time, it will be higher a few months later. Labor and input requirements are another consideration. Radishes, for example, are a preferred crop as "*it need only be planted and it grows all by itself*", it is neither fertilized nor fumigated, and grows in about four weeks. Thyme has similar advantages. Only a few households have specialized on a particular crop; most diversify production in order to minimize risk, especially low prices. Crop rotation is a given.

In many households these crops are considered "women's crops", as they are often the ones in charge of their production, processing and marketing. Generally women harvest vegetables three times a week and sell mostly in the two wholesale Guatemala City markets: La Terminal and the Central de Mayoreo (CENMA). Before the earthquake families would take their produce on the back of a horse or mule and walk to the market. As transportation improved, women began taking the early morning bus. Currently,

³¹ One quintal (1qq) = 100 lb or 45 kg

around 60 women leave Santiago around 1 or 2 am every day to sell their goods at La Terminal; sales at CENMA are in the afternoon. Vegetable petty trade is considered a female endeavor (the few men engaged in this type of effort often had their own pick-up truck) and it is said to reflect poorly on a woman whose husband is seen selling his own vegetables.

While the situation varies, when women are in charge of these crops they tend to control the fruits of their labor and they have the freedom to dispose as well as they can of these weekly sales. They save some of the proceeds to buy additional seed and other inputs, save some for a cash fund and spend the rest.

Organic fertilizer is commonly used as well as different kind of pesticides. Farmers apply the latter without any protection ("too cumbersome", farmers would say) and there is no rotation in their use. The pesticide of choice is Volatón, preferred for its good price; Malathion and Folidol are also commonly used. Herbicides are seldom applied and weeding is done by hand; herbicides are sometimes used to demarcate field borders. With an increased load of pathogens and pests, farmers often rely on the advice of agro-chemical sellers for pest management. Despite the effort of programs like IPM-CRSP, integrated pest management is not practices or even known in the region.

Seed beds are produced at home, often in plastic trays. Tomato seed is now seldom purchased and farmers are increasingly relying on commercial seedlings. Farmers relying on rain-fed production often conserve moisture by incorporating field residue, and even damaged crops, back to the soil. A few, more technologically savvy, are experimenting with plastic mulch.

Some farmers have produced tomato, a risky and capital-intensive crop.

Planting tomatoes is like playing the lottery. I made my house with the tomatoes I grew and the next cycle I almost lost my house to the tomatoes. The first time I planted tomatoes I did really well: I had nine rows of string, was getting 67 boxes per week and was able to sell at Q155. I was able to built my house. The next cycle it was very bad: a disease without a name hit the field and there was almost nothing to sell. The third cycle was not good, but at least I did not loose money. The next time, however, was a total disaster: there were pests and I used all kinds of pesticides, but to no avail. I won't plant tomatoes again: you can make good money, but it is an expensive bet.

Currently, the Cooperativa has begun farm trials with greenhouse-grown tomatoes and peppers. Production volumes are still low, either for export or even to sell to Guatemala City supermarkets.

There is the general complain that in the past yields used to be higher and that the cost of production were considerably lower, as there were no major pest problems and the soil was still in good condition. In Table 3 it is possible to compare prices for basic inputs and producer's prices, as reported by farmers. The most notable has been the dramatic increase in chemical fertilizer.

Table 3: Price comparison 1990-2004

Prices	ca. 1990	2004
Chemical fertilizer	Q40	Q140
Organic fertilizar	Q10	Q18
Seed	Q15	Q60
Producer prices: Swiss chard (bunch)	Q0.20	Q0.75
Producer prices: radishes (thousand)	Q25	Q35

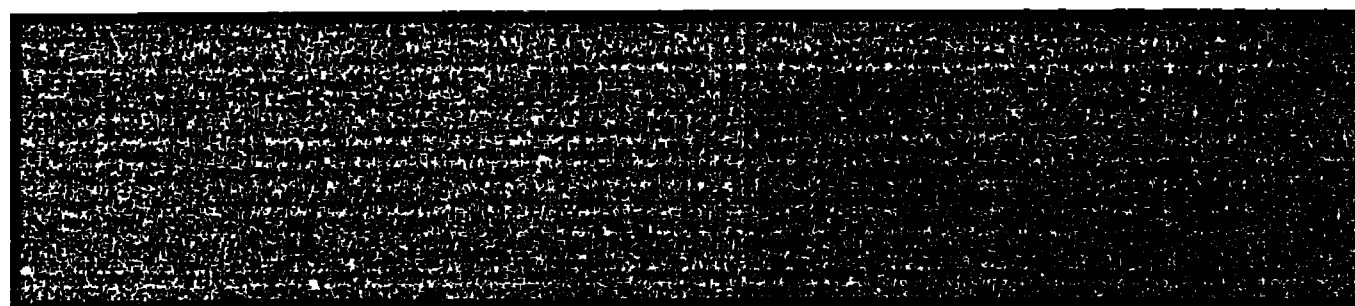
Non-traditional export crops

As noted, NTX were introduced in the region by the Cooperativa Cuatro Pinos in the early 1980s. At the beginning farmers were growing broccoli, cauliflower, Brussels sprouts, and then diversified into snow peas, mini zucchini and French beans. Currently they are still growing the last three as well as radicchio

and yellow wax beans. In addition, a few farmers are also growing berries (blackberries and strawberries), independently from the cooperative.

In the 1980s NTX production thrived and the prices of snow peas reached a peak (around Q8/lb³²) by 1985-86 and then began to drop. As cash flowed, some members invested their savings in buying more land, especially those that had the smallest holdings (von Braun et al 1989; Barham et al 1995 found a similar trend in other villages in the region). Others improved their homes and others purchased vehicles or horses. Most noted changes in their diet (more consumption of animal protein and fats), school enrollment, clothing, and particularly, an increased use of shoes (Valverde et al 1992). The cropping system in the area has been described by others and is not repeated here (von Braun et al 1989, Eykman 1990, Tartanac 1990, AVANCSO 1994, Asturias et al 1996).

Methodological box 3



By the late 1980s and early 1990s yields began to decrease, while at the same time farmers faced deteriorating conditions in production: a dramatic rise in pest infestation as well as soil degradation.

In 1984 I was getting paid Q8/lb for snow peas and I was harvesting 3qq/cuerda three days a week. Now the highest price I can expect is Q4/lb and yields are around 1.5/qq and only exceptionally close to 2 qq. And there is no nothing like the price increases we have seen in fertilizers and pesticides.

While in the mid 1980s members were able to acquire more land and thus slightly decrease the highly skewed distribution of land in the country, the trend proved not to be sustainable (Carletto 2000). Moreover, some of those that bought land had to resell in order to pay their mounting debt.

By the early 1990s pest control had become a major problem, and farmers were using increasingly expensive pesticides even more intensively. By 1994 there was a crisis due to the presence of the leaf miner in snow peas; the quarantine requirements imposed by phytosanitary authorities in the US made intermediaries and agro-export firms to stop buying produce, which resulted in major losses for farmers, the most vulnerable in the marketing chain. At this time the Cooperativa faced several detentions because of pesticides residues³³, all of which greatly reduced the initial profitability of NTXs. Repercussions were felt directly in higher production costs, economic losses resulting from detentions, pest resistance, health damage to the people exposed to the pesticides, and environmental contamination.

The terms of trade had also changed. By the mid 1990s the number of exporting companies increased seven times with respect to their number in 1980 and they were concentrating most of the benefits. Producer prices only deteriorated. For example, by 1985 when the consumer price of snow peas varied between \$2-4 in the USA, farmers received \$0.57, or 19.5% of \$3 paid by the consumer. Ten years later, when the average consumer price was \$4, farmers received \$0.18, or 4.5% of this price (von Braun et al 1989, Asturias et al 1996).

Due to price instability, crop detention, increasing costs, and the always unpredictable weather, many farmers temporarily abandoned NTX and increased their production of traditional vegetables. Unable to cope with these uncertainties, others simply abandoned agriculture altogether and sought off-farm employment in Guatemala City and elsewhere. While farmers had faced agricultural failure before, the

³² At that time US\$1 = Q1. While farmers and even cooperative officials mentioned record prices up to Q10/lb by the middle of that decade, the highest prices recorded by von Braun et al (1989) are slightly under Q4/lb.

³³ Most of these involved the use of chlorothalonil, which was not registered by the EPA for use on snow peas.

magnitude of the losses during the NTX crisis of the mid 1990s seems to have pressed them to reconsider other forms of making a living:

In 1990 a disease fell into our snow pea field and we lost everything in those 1.5 cuerdas. The peas were fully grown and we had spent a big deal of money in pesticides and other inputs. We lost everything, all our savings. For several seasons I had been investing what little savings I had in cinder blocks and steel rods, as I wanted an addition to our house. That had to go as well to pay our debt to the Cooperativa; we also had to mortgage our land. My husband quit working in agriculture and went to work as a security guard at the cooperative. Then he found a better position in Guatemala City. I continued growing my vegetable garden, but only kept half a cuerda. In the last few years I have begun growing French beans and celery, but I sell them myself at La Terminal, because I can get a better price there. My husband is no longer in the cooperative, given that he no longer produced NTX he was expelled as soon as he paid off his debt.

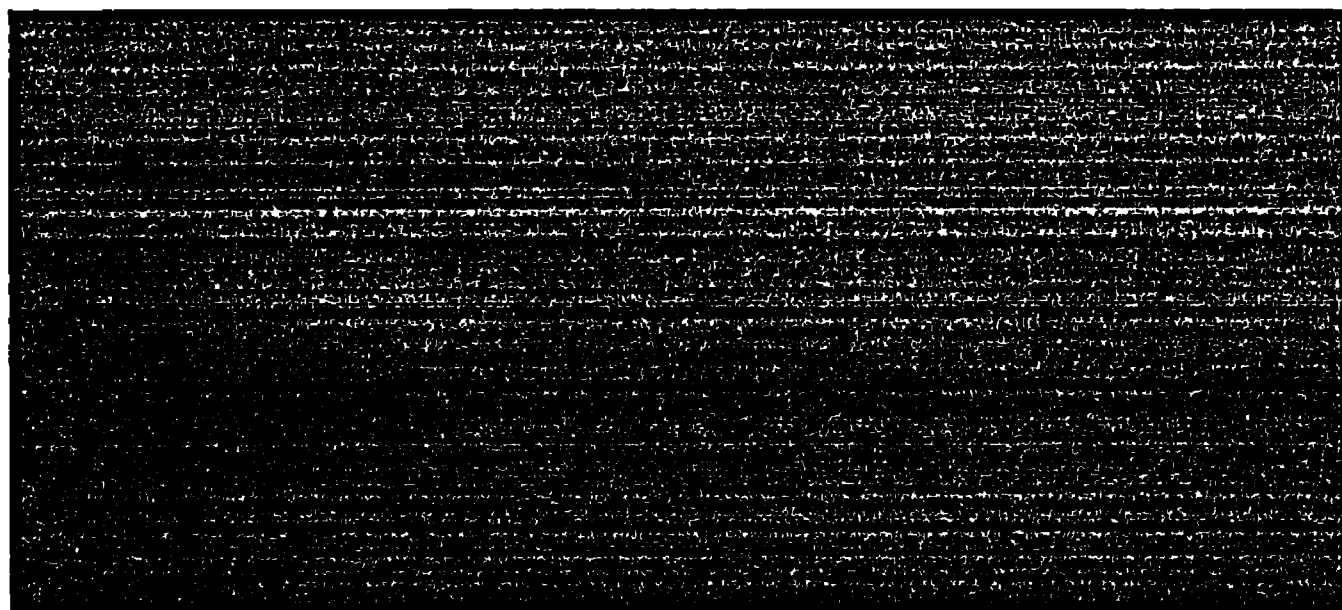
Around 1994 we had planted 12 cuerdas with snow peas, but about three weeks before harvest there was frost and we lost everything. We had already used a lot of agrochemicals and ended up Q20000 in debt. The Cooperativa gave us additional credit, but that year the price was very low, and we were still deeply in debt. The third time we tried zucchini, only to get, again, very low prices. Since then we have no longer grown export vegetables, its better to stick to the vegetables we know [traditional vegetables], the ones we have been growing for a long time. This year I was induced to try with snow peas again, but the crop got black spots due to excessive rains and it got ruined – it wasn't worth even to harvest it.

My husband planted snow peas and zucchini from 1985 until 1994. That last year we had 12 cuerdas, and not only did we lose our entire crop, we were also heavily in debt. Three of the nine cuerdas we had bought with the aid of the Cooperativa were sold only to pay back our debt. The following year my husband tried tomatoes, and again, he did poorly. Since then he wants nothing to do with agriculture, and today we are not even growing maize. We now have our own business.

Around 1985 everything was going well, the price was right and the yields were good. With my other partners [another three cooperative members] we rented 65 cuerdas in Chimaltenango, on the way to San Martín Jilotepeque. We had no worries and we were leading the good life, spending a lot of money womanizing and in partying. Then frost hit us and we lost everything, everything. I moved to Florida to work on odd jobs, in an attempt to bring some money back.

Around 1988 I began to grow snow peas. I did for four years, but each time something got wrong. Snow peas are a gamble, and for four years I tried and lost. I had planted five cuerdas, but by that time prices had begun to drop. I decided it was time to call it quits and started a new business. But other farmers kept on trying and only got heavenly in debt. A few farmers did make money but eventually they lost it again. This one guy did very well then, and now he is running a taxi cab. Many of those that were then able to buy a car are now again on foot.

Methodological box 4



Currently, few farmers are still growing NTX and those who do are well aware of its risks and price uncertainty. According to most respondents, only those farmers with larger holdings are still producing them. Hamilton et al (2002) recently estimated a threshold of around 4 cuerdas (0.5 ha) below which

farmers cannot or will not produce NTX; it is possible that a similar threshold is in place in Santiago. In an attempt to diversify risks, farmers have always produced a variety of non-NTX crops, but apparently the surface on which NTX are currently produced has been reduced, giving up more space for other cash crops. Moreover, to keep expenses low many deliberately grow only small areas with NTX or grow during one season of the year; others grow miniscule plots in different areas to minimize the potential damage of pests and pathogens. Others farmers, however, only wished they could grow additional land with NTXs.

Farmers are well aware that NTX are not for any kind of farmer and that only a few are willing or able to withstand its high production costs, as well as its volatile and unpredictable prices. According to Santiagueños currently in different economic practices, three kinds of farmers are still producing NTX: 1) those with enough money (although not necessarily more land) to withstand volatile prices and the unpredictability of nature, 2) those that are old too to pursue a different path and agriculture is their only livelihood option, and 3) those that are simply lucky and have never faced a serious setback. In a group discussion with old members of the cooperative, when asked why they continued producing NTX, one 50 year old farmer had this to say:

We keep producing our crops because we have no other choice. At my age no one is going to hire me. I have little schooling and my only work experience is in agriculture. We keep doing this because there are times, for a few weeks, that we do get a good price, and with that in mind, we keep trying. Sometimes we end up even, others we lose, others we gain. We have the land and we know how to make it produce. Besides, the Cooperative is experimenting with new crops: artichokes, limes, persimmon, Haas avocado. We keep on, waiting for the next snow peas, for the new crop that will take us out of poverty.

They are also aware that NTX profits have not been equally distributed among growers. In their view those who were able to profit the most from NTX were 1) early adopters, 2) those who were "smart" [*listos*] and invested their profits in additional land to expand their NTX production, 3) those that were able to sell in large quantities when the price was right, 4) those with enough savings to better stand crop failure and absorb losses, and 5) those growers who also became intermediaries (*coyotes*). A few added an additional trait: those smart enough to quit when the price began to fall. Farmers are aware that during the boom years they were often spending their profits unwisely: many mentioned cases of excessive drinking and partying, others became womanizers; few had any savings. In a recent study in three villages in the central highlands, Goldín and Asturias (2001) used multiple regression analyses regressing wealth onto selected predictor variables. In their analysis wealth was associated to land ownership, not marketing through intermediaries and cooperative membership. In the male farmers group discussion (all still members of the cooperative) a participant described as follows the successful NTX producer:

*The ones who made it, who are no longer poor [*salieron de pobres*] are those who worked really hard, those that knew what it took to make it, followed through and did actually make it. It didn't matter if they had little land, they had the vision to save and rent more land. Without land but money you can produce, but with land and no funds you are stuck. You need to set up goals. If you are content with your situation, if you have no ambition, there is no path out of poverty. Probably only 20% of cooperative members were able to make it. ... But some came out poorer: those who had planted a lot got into huge debts and then failed.*

If the family has money they can withstand NTX production all year long. If they cannot irrigate they won't make it, and if they have no money, they can grow NTX only for short periods of time.

Some families came out of poverty through the maquilas: some sent all their children to the maquilas and thus were able to buy land. Others came through with trade: they set up stores and thus were able to buy land. The main point is to take advantage when the prices are high.

Others made it because they had lots of children, lots of family labor. I know this one family where children really helped out and they were producing around 12 cuerdas. But this is not common, as most young people prefer to go to the maquila.

Commercialization of NTX

During the early 1980s the production and marketing of NTX was mostly dependent upon membership to the Cooperativa, but by the middle of the decade non-members were also producing and selling to other intermediaries in the thriving coyote markets held in Santiago. While members were committed to sell only to the Cooperativa, they often sold to the highest bidder, especially when prices were high. The first local coyote, Germán Puc, is said to have started out buying the cooperative's rejects. In theory, the cooperative's alert committee [*comités de vigilancia*] was on the watch-out for those selling to coyotes. In theory they were to impose fines, but they never did because, as one ex-board member said, "*everybody was selling to coyotes, even board-members*"³⁴.

Coyotes – there were about 50 at the time, some of whom even joined forces to form their own packing firm – were also attractive because they paid in cash at the time of the transaction (in the Cooperativa members were paid a week later), were less selective in terms of produce quality, and when the price was high, their prices were often higher. Coyotes, however, are said to have vanished when prices were low and to have had misleading scales, taking around 10% off the weighted produce. While many farmers thought coyotes were the ones making more money out of the NTX boom, coyotes also faced considerable losses. One, for example, is said to have committed suicide in face of considerable debt, another is said to have lost all his assets and that only now, around 10 years after the crisis, is starting to build-up his affairs; a third coyote went to work illegally to California, where he spent about five years. Most of these coyotes were farmers with very little schooling and after the snow pea crisis many found themselves hardly employable.

By the end of the 1990s the coyote market had moved out to Patzún, Tecpán or Sumpango. Currently there are few coyotes in Santiago, but they no longer pay on the spot. In addition, when prices are low they are said to buy on consignment. Apparently, coyotes have lost their reputation and several farmers complained that in addition to their tricked scales, sometimes they receive the produce only to vanish. Their place as main local intermediaries seems to have been taken by several small packing firms (*empacadoras*) that have emerged: some are led by old cooperative members, others are not. There are three of these *empacadoras* in town, but it is not clear if they are intermediaries or direct exporters. In addition, there are two larger *empacadoras*, 5 km away, on the Pan American Highway and several more in other municipios, some of whom cater to Santiago farmers. Many of these *empacadoras* provide technical advice as well as in inputs in the form of agricultural credits. One of these is ADASS, Asociación de Desarrollo Alternativo de Santiago Sacatepéquez, a cooperative-like association formed in 1992 as an alternative to Cuatro Pinos; it is said to have 40 local members³⁵.

The Cooperativa Cuatro Pinos is probably still the largest local *empacadora*, hiring over 100 women working in double shifts. According to members, the Cooperativa has very high quality standard and often their produce gets rejected. Their prices are now often higher than those paid by other *empacadoras*, which are said to be less strict in terms of quality, but that their prices are also lower. Regardless of price, members seem to trust more the cooperative's scales and all take for certain they will be paid. Some other intermediaries are known to vanish, never paying farmers' produce.

Some very small-scale NTX producers, however, prefer to market their produce in the domestic market: the wholesale La Terminal market in Guatemala City. According to a woman who grows snow peas and French beans together with her husband, they are able to get much better prices at La Terminal: "*last month coyotes were paying around Q1/lb of snow peas, the Cooperativa was paying Q1.50, but at La Terminal I was able to sell at Q3.*" It should be noted that NTX have little demand in the domestic market. An important exception are French beans, which have had such good acceptance that in some market segments it has displaced the traditional varieties.

Empacadoras were seen picking-up produce on farmers' field, but it is not clear under what conditions they do it, as farmers said they must deliver its produce to the *empacadoras*. For this, they usually hire a pick-up truck, who charges Q4 for each box or Q25 for a full trip. The Cooperativa used to have trucks to haul

³⁴ It is not clear if these sales included top quality and rejects or only the latter.

³⁵ The actual functioning of this association is not clear and would be worth to explore in the future.

the produce from farmers' fields to the storage centers [*centro de acopio*] it had set in each village. These centers, however, were sold during the cooperative's financial crisis at the turn of the century; the only standing center is that of Pacul.

Now, as before, prices change every week and farmers know who the highest bidder is. However, prices are lower now than what they used to be 20 years ago, despite the fact that production costs have increased at least five fold, yields are lower, and the currency has been devaluated.

Now prices are never good. Last week don Chico [the owner of a local empacadora] was paying Q1/lb of zucchini, yet the cooperative paid Q1.50. But last year prices went down to Q0.50/lb, and only the cooperative was paying Q1. I have estimated that if you sell at Q1.50 your barely cover expenses. You need to sell at Q2 to start making a profit. There is just no business in this anymore. Years ago, when I was selling snow peas at Q4 or even Q5 the pound [US\$4-5], fertilizer cost around Q8 [US\$8]. Right now I barely get Q1.50 the pound [US\$0.19], and yet fertilizer is Q140 [US\$17.50].

Characterization of NTX producers

Based on the above descriptions, NTX growers in Santiago seem to fall into these four groups:

1. Small independent producer: using mostly unpaid family labor, he buys his own inputs and sells through local intermediaries, as his output is probably too low to sell under contract. Part of his output might be channeled through his wife in any of the domestic markets.
2. Small farmer producing under contract: agricultural inputs are provided by local or regional agro-exporters. Output volumes are probably larger than those of the independent producers and are all sold to the agro-exporting firm. Reliance on one or two permanent wage workers.
3. Petty capitalist producer: He might purchase all agricultural inputs individually or these could be provided by local or regional agro-exporters. The extension of land under cultivation is larger and labor is mostly hired, but unpaid family labor is also usually incorporated. The producer also works in the field, but most of his efforts are devoted to management. Sells to either local exporters or to larger regional intermediaries.
4. Cooperative producer: using mostly unpaid family labor, he gets inputs from the cooperative with the commitment to sell them their production on an exclusive basis. Gets technical assistance, social benefits, educational bonus, and dividends on a yearly basis.

c. Agricultural labor

Agricultural labor in Santiago has always been family based. During the NTX boom, family labor was supplemented by wage labor, which tended to be seasonal and was concentrated during harvest. Currently few farmers hire wage laborers, locally called *mozos* (the most common term for these workers in the rest of the country, *jornaleros*, is apparently unknown in Santiago) and most rely on unpaid family labor.

According to farmers there is a current shortage of wage laborers: "*all labor problems started with the snow pea crisis. At that time men abandoned agriculture and went to the maquilas, and now no one wants to go back to the hoe*". Some farmers reported hiring out-of-town *mozos*, especially those coming from San Juan Sacatepéquez, but most seem to rely on local labor. In addition to being scarce, wage labor has become increasingly expensive. While minimum wage has been recently set at Q35/day, in Santiago, as elsewhere in the country, farmers are paying Q30 or Q25 (if lunch is included); women are usually paid Q5 less than men. But it is increasingly difficult to hire workers only for a day: most are now asking to be hired for the whole week (six days) or to be contracted by specific tasks [*por trato*]. This way, instead of hiring a man for three or four days to prepare the land, workers now demand a Q400 deal, for each cuerda being prepared, and the actual amount of time taken to complete the task is up to the worker.

Given the low returns in agriculture and the ever increasing costs, many farmers have realized that to make ends meet they need to diversify sources of income to and try that at least one child is employed off-

farm. In Santa María Cauqué, Asturias et al (1996) found in 1994 that less than 20% of surveyed households relied exclusively in agriculture. It is quite probable that the trend has only intensified in the last ten years.

While availability of family labor has always depended on the domestic cycle, families are now smaller and children (of both genders) are sent to school for longer periods of time. Schooling, however, does not restrict children's labor, but does limit its intensity: children can attend elementary school either in the morning or in the afternoon and the local *básicos* school is held only in the afternoon. Apparently, it is easier to tap on adolescents' labor than on their elder siblings, who are often more interested in working off-farm. Parents at times try to entice their sons and daughters to stay in the field and will provide them with land (often one *tablón*) and inputs. It should be noted that such enticements are not deemed necessary to ensure wives' labor, which is often controlled by men.

Our children help us during the afternoon or over the week-end. We have understood now that children must go to school, but I think it is also good to them to know how to use the hoe. For us it is difficult to find help with our crops, as young people prefer to go to the maquilas. For this reason we need to know how to toil the soil, we must know how to perform all tasks. We do everything that men do; we even can use the hoe.

During the snow pea boom women worked a lot. We still continue working long hours: while less land is being cultivated we also receive less help from our children. In the past, parents just grabbed their children and took them to the field. If we didn't want to go, too bad, we had no option, as our parents would have hit us. Now children go to school and they seem to have more homework and once in básicos it is more difficult to have them in the field. Things are certainly getting more complicated as young people do not want to be farmers, and they think it is better to go to the maquila and get a dependable wage.

The mobilization of women's and children's labor for work in agriculture, regardless of the crop in question, is generally the prerogative of the male head of household. He may inform his wife that she needs to assist in one task or another just before her labor is required. She may also stay in the field after bringing lunch to her husband at noon. Often, particularly during harvest, it becomes more of a tacit expectation that she will perform the required tasks. This pattern of intra-household female labor recruitment falls within the patriarchal system which some have argued forms the basis of the comparative advantage of family-produced cash crops (see Henderson 1995 for a review of the literature). While traditionally women did not use the hoe, which was considered akin to a "gender transgression", currently women perform all tasks, except for soil preparation. Still, several women, especially single heads of households, claimed they regularly prepared the soil.

Female farmers also try to recruit as much unpaid family labor as male farmers, but usually they can rely only on their children. Their use of wage labor is uncommon, probably because they have smaller holdings than men. Apparently women can afford to hire wage workers only after they reached a certain level of growth and reasonable levels of stability, which does not come too often. Women who are not able to retain their adult children's labor, often do receive their help in the form of cash transfers to pay wage workers.

I began growing vegetables when I was about five. I would go everyday with my parents. When I enrolled in school, I would go straight to the field; we returned home until sunset. In the 80s many women, young and old, worked as mozas. We were making around Q8, but men were making much more. According to employers, women's work was easy and that justified lower salaries. But we worked the very same hours as men and we were doing very much the same chores. When I got married I had nowhere to work and both my husband and I began working for my mother-in-law, a widow. We were her unpaid mozos, working from sunrise to sunset with no pay whatsoever, only our food. She would give each of us Q2 every Sunday, to keep us happy, she claimed. It was a desperate situation, but we had no land of our own, we had nowhere to go. She could have paid us as much as she did her other laborers, but she didn't want to. If we had refused to work the long hours we did I am pretty sure she would have kicked us out of the house.

It is well known that with the introduction of NTX women's labor increased, yet the benefits they accrued are less clear. NTX production has been found to perpetuate or exacerbate gender inequalities. In a context where men and women control separate budgets for subsistence and agriculture production, women have been found to depend increasingly on their spouses, often receiving proportionally less funds to compensate her lost independent income (see von Braun et al 1989, Katz 1995). During the 1980s women were at times forced to dedicate most of their time and efforts in their household's NTX production. Currently, as the extension of NTX crops has been reduced and their production requires less intensive work, women do not appear to forego other sources of work. On the contrary, it would appear that following the introduction of communal banks, many women (up to 60%, according to a bank official) are increasing or starting their independent production (see below, under access to credit). Recent findings from Chimaltenango on less asymmetrical gender relations (Hamilton et al 2001, Hamilton et al 2002) would appear to be more the result of less intensive NTX production rather than to the erosion of patriarchal ideology.

With the introduction of snow peas my work load increased, but I saw that as an opportunity for our family, even if it meant a big sacrifice to me. Because of the snow peas I had to leave other sources of income that I always had, such as my chickens, turkeys and pigs. I also had to quit weaving. I began to depend on my husband, but he was a good man, he gave me what ever was needed. But not all women were as lucky.

Women in Santiago are undervalued and their labor is underpaid. They are viewed as less productive than men, yet are overburden with household and farm responsibilities. Their husbands or their fathers dispose of their labor and sorely take advantage of them. Women work all day long. Among the Maya women are raised thinking they must be constantly busy, that they have no right for free time. This is beginning to change for young girls – they are now allowed to play – but not yet among older, married women. They get up early in the morning so they can cook maize, wash clothes, and clean the house. At harvest time they work from sunrise to sunset, taking along their little babies. There you can see them, with their babies on their backs, even when it is raining. My father was a member of the Cooperativa and we were able to prosper thanks to snow peas, but we sure paid a price. We girls had to get up very early, cook maize and go to the mill to prepare corn dough, and cook tortillas. We had to do all household chores early in the morning, as we had to be in the field by 8, when harvesting began. My father inherited only one cuerda, but with the profits he made with snow peas he was able to buy several manzanas. He wouldn't send us to school then, we had to harvest the peas. Since I wanted to study I enrolled in night school, but it was exhausting. Eventually I finished elementary school. Then my father realized that I liked school and he agreed to let me study básicos here in Santiago and then secretarial school in Antigua. My father hired several workers and he could have easily paid more workers and liberate us of such arduous work, but he wouldn't. His priority then was to save labor expenses as much as possible.

d. Access to credit

Small landholders in Guatemala frequently face great barriers to gain access to credit. Credit institutions often require collateral, and smallholders usually lack the legal documentation to mortgage their land. Furthermore, interest rates are high and the great risks of NTX production often works as a disincentive to both farmers and lenders. Commercial banks offer the lowest interest rates, but farmers tend to think they can hardly meet their credit requirements. Micro-credit institutions are a more accessible option, but they charge high interest rates. Loans with local money-lenders [*prestamistas*] are usually a last resort utilized only in case of extreme need, as their monthly interest rates are exorbitant, and said to vary from 10 to 20%.

Methodological box 5



For most members, one of the great advantages that the cooperative has to offer is its lines of credit. Most of these credits are in the form of agricultural inputs. In addition, the cooperative gave loans to buy land and to install irrigation. In its beginnings the cooperative loaned only modest amounts of money, but facilitated larger loans through Bandesa, a government-run bank that received funds from USAID in the mid 1980s specifically to finance NTX crops. As snow pea prices began to drop and agronomic troubles increased, many farmers found themselves unable to pay an escalating debt. In the face of crop failure the cooperative would extend additional loans, which many times only exacerbated farmers' already hefty balances. As noted, this was a common reason for abandoning NTX crops and eventually the cooperative.

The cooperative offered the best terms for credit and seems to have been the most widely utilized finance option. Later on, other agro-exporters began to work under contract with local farmers, advancing needed inputs as early payment. A serious limitation in this form of contract was that often the input packages were not specific to the different micro-regions where NTX produced their crops. Coyotes also provided inputs, usually charging no direct interest rate. Notwithstanding, they would often impose a lower price than that paid by other buyers. To date all these lines of credit are still available to farmers.

In the last ten years several institutions have begun to offer different programs of group microfinance, commonly called communal banks [*bancos comunales*]. These are group loans for organized women's groups. A three-person board of directors is elected and the three become the legal representatives for the whole group. Only small amounts of money are loaned and no collateral is required. The interest rates are often higher than those offered by commercial banks (around 3% monthly rate) due to their high operation costs. Most provide training on business management. Usually the first loan is given on a trial basis, and funds are limited to Q1000-Q2000. If the group proves to be credit-worthy individual loans are often around Q10000. For higher amounts, women must seek a commercial bank.

The first of these communal banks was under the auspices of the cooperative, around 1985, and was geared to members' wives. It was a group loan and members declared that it failed as some participants got behind their payment and the seed money on which it was based was not rotated as planned. By 1994 CARE began its communal bank groups in the region. The initial amount of credit given was Q250 and subsequent loans were up to Q6000. By 1995 FINCA established two groups in Santiago. Loans were limited to Q700 and members had to pay back within 16 weeks. Currently there are several organizations that promote microcredit: ACT (with 4 groups), Fafides (8 groups), Génesis empresarial (4 groups), Agudeza, FIAC, FAPE, BanRural and Afedes. BanRural is a commercial bank, it has four groups and probably the lowest interest rates of all (22.5% annual rate). Afedes is a local institution that originally grouped cooperative's members' wives and daughters. It has organized five communal banks in Santiago, two in Pacul, one in Pachalí, and another in Santa María Cauqué. It is apparently the only organization to include gender awareness, domestic violence, and self-esteem strengthening as part of their business training. Most of the credits all banks provide are used for agriculture (around 50% of the individual loans), small livestock, weaving, and petty trade.

In the last few years the Cooperativa Cuatro Pinos began a line of credit specifically for women – members' wives and daughters. They have provided inputs for 60 women growing a variety of NTX on their own. Additionally, they have heavily subsidized 12 greenhouses with drip irrigation (the approximate cost of each was Q15,000).

5. OFF-FARM EMPLOYMENT (MAQUILA, CONSTRUCTION AND SERVICES)

Agriculture has been the most important livelihood option in Santiago. Ever since the San Gilberto earthquake in 1976 households have been diversifying their income strategies, relying mostly on out of town wage labor opportunities. In the 1980s the two main options for men were construction work and security guards; for women it was petty trade or domestic services. By 1990 the main option for both genders has been wage employment in one of the several maquila factories in the area.

As de Janvry (1981) and others noted years ago, wage work has not displaced agriculture and the process from peasant to proletariat is far from complete. However, in an undetermined proportion of households, farmers' adult children have become full-time wage workers with no ties to agriculture.

a. Maquila wage labor

Since the late 1980s maquiladoras, plants that assemble imported components for export, have proliferated in Guatemala. Many of these plants have been installed close to Santiago: many are located on the Pan American Highway, close to Santa María Cauqué, others are in nearby San Pedro Sacatepéquez. Country-wide, maquiladoras have become the most important of the non-traditional exports: the sector has increased from US\$175.6M in 1996 (a 33% share of all non-traditional goods) to 352.7M (69% of all non-traditional goods) in 2001, comprising higher revenue than sugar (PNUD 2002). By 2003 there were 413 maquila factories in Guatemala, employing 106,500 workers³⁶ (Oxfam 2004).

While maquila factories are one of the few employers in the rural areas, the jobs they offers fail to meet their full potential for poverty alleviation, owing to precarious employment conditions. Women make up an overwhelming proportion of the workforce (80%), partly because they can be paid less than men, and because they are stereotypically considered more dexterous, less troublesome and more subservient than men. By design, the industry exploits the vulnerabilities of women and reinforces socially constructed stereotypes (the literature decrying the precarious employment at maquilas is extensive; for Central America see ERIC 1997, Cordero 1999, Fernández and Quinteros nd, Wolf et al 2003, Goldin 2003a, Oxfam 2004). Notwithstanding, maquila wages still form an essential part of many workers' livelihoods and make a substantial contribution to family income.

Industrialized countries have protected their markets from developing-country exports for nearly half a century. A series of protectionist agreements culminated in the late 1970s in the Multi-fiber Agreement which allowed industrialized countries to apply quotas unilaterally on textiles and garments from exporting countries. This was complemented by high-tariff and non-tariff barriers. With the end of import quotas on 1 January 2005, Guatemala will probably suffer from increased global competition, particularly as China and India increase their shares in industrialized country markets. Competition will also come from other poor countries, like Nicaragua, where salaries are less than half of those paid in Guatemala. This transition will hit Guatemalan female workers particularly hard, since they have few alternative job opportunities.

In Santiago, maquila factories represent one of the most important sources of wage labor. In nearby Santa María Cauqué, Asturias et al (1996) found that up to 58% of surveyed households had at least one member working in such industries; it is quite possible that a similar proportion holds true for Santiago. Maquilas are the preferred job opportunity among the young, especially for women. The working conditions are known to be hard and the hours long, but some people feel this is compensated by the relatively high salaries. While most studies have condemned the working conditions at these factories, few have focused on maquila workers' perception of this kind of work, nor the impact it has had on agriculture. The following are respondents' opinions on the maquilas.

Working at the maquila is less demanding than working in the fields. Not only are you making more money, you also get some benefits, such as IGSS [social security], paid vacations, and Christmas bonus [aguinaldo]. Most young people, both men and women, prefer working at such places and you see around 30 buses leaving every day from Santiago to the different maquilas in the area. But it is not a good place to work, there is much exploitation. In addition, women loosen up: many get pregnant, some are having abortion, and others are doing drugs. Some women loose their identity and now you see them wearing make-up, nail-polish and getting hair-cuts.

Young people prefer working at the maquilas. In the past we didn't have many options, except helping our parents out in the fields. But now, thank God, we have other opportunities. We like maquilas because we see the money every fortnight.

³⁶ The number of factories and workers is to be taken with caution, as different sources cite different data.

It is good for our children, especially our daughters, to go to the maquila and earn their good money. They want to have their own money, to be able to buy nice clothes. And they should, because once they marry they won't be able to do it.

Now things have changed and not many young people want to stay in the field. Parents often will talk their daughters against going to the maquila, warning they could get morally lost in such places.

I worked at the maquilas some years ago. I remember workers coming from different places, such like Sumpango, Xenacoj, San Andres Itzapa and Chimaltenango. From Santiago we were around 400, both men and women. I have no idea how many people work now. There were buses coming to pick us up, that was one of the benefits. When I quit working there I got paid all my benefits. I decided to quit because I had worked there many years, I was tired. I was working from Monday to Saturday and was forced to work overtime. Besides, my two daughters decided they wanted to work at the maquila and asked me to take a rest. Currently things are getting thorny at some maquilas. At Lindotex, for example, employers are saying they need to reduce personnel because they are being forced to pay very high taxes and they claim is not profitable to keep on working. Last month they fired 800 workers and it is said this week another 300 will go. Five years ago it was much better. Employers would send many buses to pick up workers, now only about 10 are coming, and mostly to pick up women. Many people say maquila work is only for women, and often it is only very young men who look for work in those places.

Maquilas came around 1990 and they were concentrated around San Pedro Sacatepéquez. One bus came to pick up workers. By that time wages were about Q400/fortnight, a much better wage that you could have made either in the fields or in the packing plants. We would work on a trial basis for about two weeks, while we learned to use the machinery. That learning period was paid, but at a lower salary. A few years later maquila started to spring up in Santa Lucía Milpas Altas, in Guatemala City, in San Lucas and in Manzanales. Every time there were job openings it would be announced with loudspeakers and people would gather at the Municipalidad to find out more details. At the beginning, more men than women would work at the maquilas, but eventually the trend reversed. Work at the maquila is under a lot of pressure. We were constantly supervised and hard-pressed to work faster. If you were not fast you would be scolded, yelled at or even insulted. You worked very long hours, around ten to twelve, and got only half an hour break for lunch. Sometimes you could not even go to the toilet. I went to work there when I was 15 years old, against my father's will. He wanted me to stay in the field with him, even offered me some land for my own crops, but I was very curious, I wanted to know what maquilas were all about. I would leave my house around 6:30 am and come back around 10 pm. The money was good, but part of it was spent in food at the workplace. I worked for about two years, but then employers said that only workers over 18 could stay, and so I moved to another maquila in Guatemala City. That place was much nicer, with less pressure. Reasonable goals were set every day and if I hurried I could finish my job early and then simply go home. Two years later I got married and quit working outside the home. Maquilas are only for young women – if you start out at 28, say, you might stay even if you are 35, but they usually don't take anyone over 30. If a woman is past that age she must work as a domestic worker – she really has no other option.

According to respondents' view, maquila wage labor is certainly a mixed blessing. It has become a vital part of many households' income but it has come for a price. Few respondents openly complained about the health hazards associated to these factories and not one mentioned the lack of labor unions as a concern. All, however, grieved about the abusive treatment received by the mostly Korean [*chinos*, in vernacular Spanish] supervisors. Parents are also ambivalent about sending their daughters³⁷ to the maquila. While their income often shields them from the vicissitudes of agricultural prices and often helps to subsidize the education of younger siblings, they are keenly aware that at maquilas their daughters will mingle with all kinds of people and that as their daughters are exposed to a much larger world, parental authority over them slowly erodes. For the young workers, however, this mingling with people from a diverse background is often seen as a unique – and valued – opportunity to strengthen interethnic relationship in a context of relatively equality, where Ladinos are not yielding their power over them.

Despite the fact that wages in maquilas are higher than elsewhere and that for many women maquila represents hopes for a better life, salaries are actually low and not even enough to cover basic expenses.

³⁷ According to Asturias et al (1996) and Goldin (2003a), daughters transfer up to 80% of their salaries to their mothers. Sons, however, are allowed to keep a larger proportion of their salaries for their own personal use.

In 2003, the average monthly wage in a maquila was US\$158. This salary is quite comparable to that received in El Salvador, but much higher than that in Honduras (US\$118) or Nicaragua (US\$69). In Santiago, however, women reported slightly higher wages, around US\$180. Maquila salaries in Guatemala have improved in the last 15 years, but they still lag behind: while in 1990 they covered 32.7% of basic needs, in 2003 they were estimated to cover 52% of them (Oxfam 2004).

b. Construction and related services

Before 1976 there were few masons in town. As elsewhere in the country, the earthquake spurred the construction industry, which in Santiago was further encouraged by the Swiss efforts in reconstruction. As noted, the Swiss formed and trained construction squads in Santiago and its surrounding villages, training masons and carpenters. For example, a 47 year old man reported that he learned carpentry in the reconstruction squads organized by the Swiss Group and continued his training with INTECAP. He had been a farmer and quit growing vegetables and sowed only maize; eventually he became a full-time carpenter and not even grew maize. He trained his three sons in carpentry and now two of them got a scholarship in a private university in Guatemala City.

Of those involved in construction, apparently half do it full time, and the other half combine it with agriculture or other jobs. A 50 year-old man who was at the time of the interview working as wage laborer in a vegetable field, reported that once the rainy season is over he works as a mason, mostly in Santiago or Antigua. Those working full time as masons seem to follow a recurrent path: they start out as assistant masons [*ayudante de albañil*], and after two or three years they become full-fledged masons. There is also a tendency to start with local employment, moving to small constructions (usually in the informal sector) to corporate wage labor in Guatemala City. The Municipalidad has aimed to support the local construction workers and has made the provision that all municipal-funded construction should hire local masons. In addition to masons and carpenters, there are several small-scale blacksmiths and tinsmiths in town.

c. Petty trade

Many households in Santiago produce traditional vegetables, which are generally sold in the wholesale marketplace in Guatemala City called La Terminal, but increasingly also in the newer CENMA. The traditional sexual division of labor in Sacatepéquez has been that women generally sell the households' vegetable production while men usually sell NTX crops. This pattern has remained unchanged. Several women traders reported how they would walk with their mothers all the way to Guatemala City's La Terminal market, carrying produce on their heads or on horses' backs. As transportation improved, women began taking buses to La Terminal.

Currently, around 400 women travel in about 10 buses that leave Santiago at 2 am towards La Terminal. There are three levels of traders: retail, small-scale wholesalers and intermediaries. The first two tend to sell mostly their home-produced goods, but at times will supplement their trade with that produced by their neighbors. Most of the traders in Santiago are small-scale wholesalers selling to intermediaries at La Terminal; during the rainy season (or year-round if they have access to irrigation) they travel three times a week and around 8 am they are back in their homes. For example, a 52 year old female farmer, her family's main breadwinner, is currently growing five cuerdas of vegetables, one of which is French beans, with the aid of her four children and two wage workers. She and her daughter sell the produce in La Terminal.

You always make some money selling vegetables, and you see [get] the money right away. That is why I have been growing vegetables for this long time. Before I was weaving, but you cannot send your children to school with those earnings. I used to sell French beans to a coyote, but now they come around only when the prices are high. But I get better prices selling everything myself at La Terminal. At the Cooperativa you may get Q0.75/lb beans, but I sell them easily at Q3, and all I have to spend is Q3 for each 40-lb container. I got credit from an AFEDES communal bank to buy two cuerdas of land and I have been able to expand my production. I have been able to pay the high school of my daughter and son, and with my earnings I was able to build my five-room cement-roof house [casa de terraza].

Some women sell their home-produced vegetables on retail, mostly at La Terminal but also at other marketplaces, and tend to return home late in the afternoon. A few women trade on a larger scale, buying produce from several farmers in Santiago and then selling it to other intermediaries in La Terminal – they make the most profit of all, and are often helped in their efforts by their husbands, who tend to own small pick-up trucks.

Women often decide how to allocate the earnings from this trade, but major purchases are often consulted with their husbands. Women keep a fund to replace agricultural inputs, some funds for occasional expenses, such as clothing and schooling, some for every-day expenses, and some for savings (Katz [1995] and Asturias et al [1996] have both studied gender-specific household purchases). A woman 51 year-old had to say:

My husband has his crops and sells to the Cooperativa; I have mine and I sell at La Terminal. We often help out each other, but each of us controls our own money. Two years ago, for example, frost fell on my husband's snow peas. He was desperate, as he lost everything he had invested. In addition, he owed money to the Cooperative. I told him not to worry, and gave him the earnings I had made, in addition to selling two of my pigs.

Most women in Santiago seem to raise chickens and pigs for sale. These are in a very small scale: around 20 hens and chickens and two to three pigs. These small livestock are often considered an essential part of life, a cost-efficient form of using home residues. In addition, as seen in the previous example, pigs are banks on the hoof, ready to be sold in case of an emergency.

In Santiago there are around 50 small-scale stores, many owned by women. These have mushroomed in the last 15 years. They sell every-day food-stuff and other needs, as well as variety of trash-food directed to young children. Other petty traders include women selling snacks at recess time at the local schools (around 10 of them), and those selling snacks (*chuchitos* and *atoles*) around the Santiago marketplace late in the afternoon (another 10 vendors).

An interesting addition to the local commerce has been the proliferation of *tortillerías*, small shops where tortillas are produced all day long. There are perhaps 60 of these *tortillerías* in Santiago, and their presence signifies that many families in their process of urbanization and incorporation into the non-agricultural labor market not only quit producing maize³⁸, they even stopped cooking it all together. *Tortillerías* are staffed by four to five women. One of these wage workers said that she works from 6 am to 8 pm, with a two-hour break at 2 pm. Her daily wage is Q50 (twice the agricultural wage), and slightly more than what she could earn as a domestic maid in Guatemala City. Due to her age she does not have the option to work at the *maquilas*; she complained of the long hours and difficult working conditions (standing all day by the fire) and thinks she might not be able to stand it for long.

d. Services

Traditionally there have been two main sources of employment in the service sector: security guards and domestic employees. Several respondents commented that during the 1980s, during the country's civil war, many men voluntarily enlisted in the army. According to some, becoming a soldier had become a rite of passage, a requirement to marriage, and a prerequisite for adulthood among males. Most conscripts did not learn any skills, besides the use of arms. In the early 1990s, with the collapse of NTX crops, many farmers found their experience in the army could be of some use and many got hired as private security guards in Guatemala City; some have continued in this sector, in part because they have limited skills as well as low levels of schooling. This occupation is specific for an age-group (those currently in their mid-life who served as soldiers in the 1980s) and as enrollment in the army is no longer compulsory, younger men usually don't have this option.

³⁸ In the traditional Maya *weltanschauung* humans were created out of maize and the grain was considered the nourishment of life. Many of the Maya traditions and ceremonies had to do with the agricultural cycle of maize.

For women, the traditional option was to work as domestic helpers in Guatemala City. Often, it is only women in their mid-life, or those with young children, who would consider this option, as younger ones prefer to go to the maquila. There are however, a few young women work as live-in domestic assistants; older or married women prefer to live in their own homes and travel every day to their workplace. Salaries vary greatly, but are usually lower to those in maquilas or in packing plants.

For six months I worked as a domestic worker, close to Antigua. My husband had left me and I didn't know what else to do. I paid my neighbor to look after my two young children, but when I found out she was spanking them I had to quit. Before that I had tried working at a packing plant, but when I refused to do the night shift I was fired. Then I moved back to my mother's and began working with her in the fields. We take turns to sell vegetables in Guatemala City.

Another option for women is packing plants, of which there are three or four in Santiago. Younger women are often preferred, as they are perceived to be faster and more dexterous than their counterparts. In the Cooperativa Cuatro Pinos there are currently 112 employees, all of them young women. A good number of them are from villages in Chimaltenango, and some cooperative members are discontent that their daughters are not given a preferred status. Women work in two eight-hour shifts, but often there are long hours of overtime. A woman, for example, reported she had worked at this packing plant for around six months, as she couldn't keep up with the very long hours. She said it was not infrequent for her to start work at 8 am and finish next day at 2 am. The current salary is Q1000/month, plus over-time.

As Santiago becomes more urbanized and its population becomes more educated, more people are working in the service sectors, but its numbers, outside the above noted options, are still very limited. There are, for example, a limited number of teachers and nurses, a few seamstresses and tailors, and a new beauty parlor.

e. Artisanal production (weaving)

Weaving has been an important source of income for women in Santiago, as in other Maya communities, but it is rarely a full-time occupation. It is very labor intensive and requires little investment in capital. Moreover, part of its attraction has been the flexibility it allows as it can be relatively easily incorporated into women's daily activities around the house. It has been a preferred choice by women with several young children.

By the early 1990s Dary (1991) found that the traditional *telar de cintura* was in the process of becoming extinct, as women were busy working in the NTX and had no time left for weaving, equally labor intensive but less lucrative. In the nearby Santa María Cauqué, Asturias et al (1996) found only 1 woman, out of 82, still weaving. It is quite possible that the same process took place in Santiago. Currently, however, there has been a recovery in this ancient tradition, in part made possible for the decline in NTX production but also in response to the Maya revitalization movement. As 45 year woman explained:

I began weaving when my first daughter was born. I never knew how to weave, as my mother never taught me, but I had a friend who could weave and I learned from her. At that time I had two small children and I really wanted to work less intensively in the fields. Women would see my weavings and would ask me to do some from them... I think since the Peace Accords [1996] there has been a new appreciation of our traditions, of the skills our grandparents had. I feel that weaving is a way of remembering my grandmother; by weaving I am honoring my grandmothers, their traditions and ceremonies. I think it has become an option for those women who do not want to work in agriculture nor in the maquila, and learning the old weaving patterns but also innovating from them has become part of our ethnic pride.

Notwithstanding, weaving is not a highly remunerated activity. Katz (1995) estimated weekly earnings around US\$1.15 for a median 18 hour workweek, but in Santiago they are roughly around US\$25 (the working hours are probably higher as well³⁹), which is comparable (but far less demanding) to a six-day

³⁹ Given the way in which women intersperse weaving with domestic labor, they tend to underestimate the time spent producing a huipil. While no attempt was made in this study to assess margins of profits, it is a venue worth pursuing, especially because returns appear to be quite comparable to agricultural wage work.

wage labor in agriculture, but only a fraction of what can be earned in the *maquila*. Profits for the newer, fashionable and less labor intensive *huipiles* [blouse] are around Q200 (they sell for Q500 and raw materials go for around Q300). More elaborate and expensive *huipiles* take 20 days and are sold for Q800 and the most elaborate take around six weeks of work and sell for around Q1700. With the available information it is not possible to estimate margins of profits of the different kinds of *huipiles*. While some women claimed it was more profitable to weave the less-labor intensive *huipiles*, while others claimed exactly the opposite.

Women are increasingly asking for credit in the widely available *bancos comunales* to extend their weaving prospects. A limitation most weavers face is marketing. There are two main venues: independently, whereby women go the Santiago marketplace and peddle their weavings themselves, or on consignment work, in which women are asked to produce a specific *huipil* at a fixed rate. Currently there are no weavers' cooperative in Santiago; there is a great deal of interest in joining these cooperatives on the part of women tired of struggling to sell their goods on their own or being short-changed by middlemen.

f. Migration

Internal migration, usually to the coffee or cotton fields, was practiced well before the earthquake and there was no consensus as when "grandparents" quit going: some claimed migration stopped around 1930s, others said 1950s. In any account, by the time of the earthquake it wasn't practiced at all. International migration to the USA began in Santiago around the late 1980s and it has been an option for a few Santiagueños – current estimates run between 50 – 80 migrants. Of these, around 20 are said to have been cooperative members seeking to clear their debts. Migration seems to be often a short term option. Four men were interviewed who had spent some 10 months abroad, the length of time necessary to accumulate some cash to pay debts and start a new livelihood. A woman, for example, reported that her husband, a farmer, migrated last year. He sends monthly remittances and once came down with a car, which he sold for profit. With these remittances she has been able to able some land and pay her children's schooling. Some of these migrants have stayed and eventually married *gringos*. A woman in a group discussion reported that two of her cousins had migrated and married in the US. She assumed her aunt received remittances, but had no direct knowledge about their amount or frequency.

In the last two years a new option has taken place: the Canadian embassy has facilitated the temporary migration of some 50 Santiagueño farm workers of both genders. Employers pay the air ticket and provide lodging and migrants need only pay their food. These migrants go for four to five months and make around Q6000 a month [US\$750], a very attractive option for local farmers. A woman said that her husband went last year, as was heavenly in debt, owing over Q10000 to the cooperative. This year another contingent of 50 farmers are currently in Canada, some are working in strawberry fields, others are transplanting a variety of seedlings. They will return with the first Canadian frost.

B. Pacul

1. INFRASTRUCTURE

Pacul is a village located 7 km of Santiago, with around 150 households and 1400 inhabitants, according to the Catholic Church census. It is reached from Santiago by the road leading to San Pedro Sacatepéquez, which was paved in 2000. From this road, at the intersection called Tres Cruces, there is a small dirt road leading to the village and then to Mixco. The road is in bad condition, and during the rainy season the section leading to Mixco becomes impassable. The road has been an unresolved problem for the last twenty years. In the past few weeks, the local COCODE obtained from the governor of Sacatepéquez heavy machinery to improve the road. It was in good condition for a week, then it rained heavily and it quickly deteriorated. While the mayor has repeatedly promised to pave the three km leading from Tres Cruces to Mixco, it was only last year that around one km was paved. The road has been a major concern for the population, and in an informal survey conducted by INCAP in 2001 (Valverde 2001) it showed up as a main felt need. The road used to be much narrower, more like a path, and in the 1980s

the Cooperativa helped to widen and improve it. Before that time people had to walk to sell their goods in the market, whether in Mixco, San Pedro Sacatepéquez or Santiago.

In tandem with a bad road is a deficient transportation system. For the last few years there has been a regular service between Pacul and Mixco, but the quality of the service has been appalling and many respondents, especially women trading their produce in Mixco, bitterly complained the mistreatment to which they have been subjected (Asturias et al 1994 also report similar ill-treatment in Santa María Cauqué).

The only way to the market in Mixco is to take Tito's bus. We have to get up very early and have our baskets or boxes by the road. We start moving them from our homes to the road around 1 am . Taking them up the bus is arduous work and Tito will not help us – he has no manners. He insults us, calls us names, even calls us dim-witted Indians [indias brutas]. We are tired of taking so much abuse, but we have no choice, as he is the only one providing the service.

Since last year a small bus runs frequently between Pacul and Santiago; there are no complaints about this service.

The water system has greatly improved, but piped water is still not accessible to all the population. Traditionally, households had hand-dug wells. The cooperative tapped a small spring for irrigation and some water was bypassed for domestic use. The users of the irrigation scheme eventually got in conflict with the local village-improvement committee [*comité pro-mejoramiento*] and now this source is used only by its original owners. At the turn of the century the mayor built a new mechanical well. Villagers were asked to donate their labor and to come up with Q600 for the piped-water system, but some villagers refused or could not afford the service. The water is chlorinated and a monthly fee is set at Q12. The fee is insufficient to cover its maintenance costs; when the local mayor [*alcalde auxiliar*] tried to increase the fee villagers repudiated him and eventually had him recalled⁴⁰.

Electric power was introduced in 1982 and most of the dwellings in the village are connected. In Pacul there are no sewage system and no garbage collection. There are also no line telephones, but several villagers have cellular phones.

Compared to Santiago, dwellings in Pacul are considerably poorer. Most of the houses visited during fieldwork were the very same that the Swiss built almost 30 years ago. Few families have made improvements and there are only a hand-full of cinder-block constructions. In the last five years there have been several public building constructions. The FIS [*Fondo de Inversión Social*] built the village's community hall, the sport fields (a basket ball court and a soccer field). In addition, the community donated its labor for the construction of the Catholic Church. All these buildings are a source of pride and provide most villagers with a sense of progress.

2. HEALTH

There has never been a health post in Pacul nor a resident nurse or physician. There are two TBAs and lay healers that attend common illnesses. During the Portillo administration (2000-2003) a small post was built to host the *centro de convergencia*, but it has never been furnished. It is used two or three times a year during the immunization rounds organized by the Santiago health center. It is also used as a small community hall for special-interest groups, such as the women members of communal banks. There are at least two health promoters, *guardianas de la salud*, initially trained by the Santiago health center during the Arzú administration (1996-1999) as part of the primary health care program launched by its MofH. However, most of the respondents said these guardianas are seldom seen and seldom consulted.

⁴⁰ The water conflict apparently began when the current local mayor, elected by the village in January 2004, told the improvement committee board (the traditional keepers of the water system) he wanted to appraise its past finances. This board (actually three persons) has been in place unchanged for the last 28 years and there are stories that they have appropriated significant funds. The leader of the board is the traditional community leader and in retaliation he began the movement to have the local mayor recalled. At the time of data collection there was palpable malaise and few people wanted to talk about the water situation.

The most readily accessible health facility is Santiago's health center. By the time of the earthquake few people consulted this center, unless they felt very sick. In those days there was great distrust towards non-natives. Several respondents told stories about how their mothers or grandmothers would hide them whenever the health center sent nurses on vaccination rounds. Today the attitudes have changed and many want a health post in their own community and mothers willingly comply with childhood immunizations. As in Santiago, while most women still give birth with TBAs, the younger ones, especially those that have worked at the maquila, are beginning to give birth at the Antigua hospital.

There are neither NGOs nor churches providing health services. Only occasionally there are *jornadas de salud* (one-day health fairs where free consultations are offered) organized by different institutions. The last held in Pacul was over 12 months ago and it comprised eye check-ups and the provision of heavily subsidized reading glasses. During the 1980 the Cooperativa ran a health clinic in Santiago for members as well as non-members (see above). As noted, the clinic opened recently again but villagers did not mention it as a significant source of health care, probably because there are only seven members left in Pacul.

3. EDUCATION

a. Elementary education

Pacul's elementary school was founded around 1950. It had a single teacher until 1983 when two more were hired. By 1990 there were four teachers and currently there are eight, only one of whom lives in Pacul. The original school was destroyed after the earthquake – the Swiss built the first four classrooms of the current school building. In the early 1990s the Lions Club built five more classrooms and by 1996 Fonapaz built two more rooms. There are about 40 students per classrooms, but fifth grade students and those in kindergarten are crammed in the smallest rooms. These two rooms have also poor lightening. There are 218 students enrolled, but the gender gap here is more pronounced than in Santiago: where in the latter it is negligible, in Pacul girls comprise 41% of school children. According to teachers, parents enroll girls as much as boys, but they are less supportive of their schooling. When girls fail a grade parents are more likely to take them out of school. While boys fail grades at the same rate as girls, parents are more willing to give boys more slack. Girls are also less likely to study *básicos*, and according to the school's principal, usually it is only young parents that support girls' post-elementary school education. However, as maquilas (the main off-farm employer in the region) rise their educational requirements parents become more responsive to the educational needs of their daughters.

Since 1994 the school began the bilingual education program and the students receive additional learning material in Kaqchikel. The school has three bilingual teachers addressing the first three grades. While bilingual education is compulsory in the Maya areas, many parents do not support the program⁴¹. They state that kids learn Kaqchikel at home and deny there is any advantage in learning to read and write in this language. For many parents, the goal is for their children to learn flawless Spanish, an essential skill in the labor market and they complain that kids now have to learn to read and write twice: first in Kaqchikel and then in Spanish.

Given that the MofE is unable to meet the educational needs of elementary school children, as in Santiago, the school in Pacul has decided to bring into play parents' contributions. The annual fee, about 20 years ago, was Q8. By 2000 it had gone up to Q20 and currently parents need to pay Q35. While certainly a modest fee, families are still having five or six children, and in this context the fee can become a disincentive. Notwithstanding, the principal claims that teachers have conducted a census in the community to assess school coverage, finding out that most children have been enrolled, at least for one year.

The provision of text books and food has followed the same pattern as in Santiago, but the scarcity of these supplies is more acute in the rural area. This year, for example, 46 children are enrolled in third

⁴¹ The rescue of Maya languages has been part of the political agenda of the Maya movement since the 1980s and it was underlined by the Peace Accords in the 1990s. The general Maya-speaking population is gradually warming up to the idea.

grade and the MofE sent only nine sets of textbooks. Pacul also received a few scholarships last year (Q300 per child, per year), right before the elections. According to some parents its distribution was politically motivated⁴². As in Santiago, in Pacul there is also a *Junta Escolar* and through its effort the community contributed to build the school's kitchen, where snacks or breakfast are prepared.

According to the school's principal many kids need to repeat first grade once and even twice. He thinks it has to do with children working in the fields and not allocating enough time do to their homework. In addition, many of their parents have little if any education and cannot help them out with homework.

b. Secondary education

There are no secondary education facilities in Pacul and students must go to Santiago, Mixco or San Pedro to study. Given the relative isolation and lack of transportation, it is only in the last 10 years that students have begun attending secondary education in larger numbers. As in Santiago, parents are aware that elementary school is no longer sufficient to hold a job in the maquila or elsewhere and some go to great strains to pay for their children's education. The following are segments from interviews that reflect peoples' struggles and also the male bias: in the first three cases girls had less education than their male siblings.

My eldest daughter is working in Guatemala City, earning around Q1400 a month. She is helping me out with the schooling of two of my sons. She used to study básicos in Santiago but dropped-out after the second year as she got tired of traveling to and forth. The eldest boy is studying technical drafting [diversificado level] in Mixco. I know the principal and he is helping us out with a reduced monthly fee of Q225. The other son is studying básicos in Mixco, in the Santa Catalina School, and his school fees are around Q215. I didn't want to send him to Santiago as walking back the road at night has gotten dangerous. I feel the two are getting a good education.

I don't have any help now, as all my children are away. My eldest son became a priest and the other is studying accounting in Mixco [11 grade, diversificado level]. My eldest daughter is working in a tortilla factory in Mixco, making some money so she can go back to básicos in Santiago, as we did not have enough to send her to school as well. My 17 year old son is studying teaching [11 grade, diversificado level] in Antigua and the youngest son, now 11, is studying sixth grade here in Pacul.

I am studying fourth grade bachillerato and it should be said that I went back to school because of the Cooperativa. Don Rafa really talked me into going back to school as no one at home did. I studied básicos many years ago, and then went to study theology. Now I am studying over the week-end in Chimaltenango, along with my younger brothers. My three sisters barely finished elementary school – one of them dropped out in fourth grade - and all are working in agriculture.

What we need here in Pacul is to be modern, civilized. We need now an instituto, an academia [typing school], where our children will learn not only typing but word processing and computers. How could our kids compete if all they can use is a typewriter and other kids can use several software packages? Things are changing slowly, but still moving forwards. Now girls are cherished and you see more of them in schools and also in high schools. Kids have now more opportunities. My parents gave me no schooling – I went to elementary school at night, when the Cooperativa had the night school and that way got my sixth grade. Kids have more opportunities now and only through schooling you can come through and solve your problems – you can access better jobs and need not work under the sun and carry a hoe on your back. We need to have our own instituto, even tele-secundaria, so that more boys and girls can study and our village can progress.

My father had nine children and he could not give us everything we needed. All I could study was elementary school. Same thing with me wife, she studied only two years. We decided to have only two children and give them schooling. We have seen that with more schooling there are more job opportunities and opportunities for another life. My eldest son studies in Mixco, fourth grade accounting [diversificado level]; he also gives me a hand with vegetable production. The girl is still in básicos and travels everyday

⁴² The mayor belongs to the FRG, the political party who governed the country from 2000-2003. While the scholarships are to be distributed by the school authorities, the FRG gave them to its mayors to be used as their political bounty.

to Santiago; during the morning she helps out at the field or with the many domestic chores. I wish I could find a better job, but I can't. With my education there is not much I can do.

4. AGRICULTURE

There are great similarities in the agricultural practices between Santiago and Pacul, and will not be repeated here. The focus of this section will be on differences found between these two towns. An important difference seems to be access to land. The people from Pacul are said to have come many years ago from San Pedro Sacatepéquez and considerable sections of the agricultural land surrounding the village is in the hands of farmers from Santiago. In addition, out of town Ladinos have bought significant amounts of land holdings around Pacul. One of them, in particular is said to have bought around 40 manzanas around Pacul with the purpose of developing small *granjas* [miniscule farms, of around 0.5 to 1 cuerdas] for people living in Guatemala City. This has driven people to rent land in the municipio of Mixco as they complain that land around Pacul is scarce and expensive.

As in Santiago, some people, notably those aided by the Cooperativa, were able to buy land in the 1980s. The Cooperative bought several manzanas and gave two cuerdas to each member; in this land they established a small irrigation scheme. There are conflicting stories as what actually happened to this land. Some claimed that due to existing corruption and the concomitant financial problems at the cooperative, it had to sell its assets and sold members' land. Another, more likely version, is that most members got behind their payments and eventually lost the land; some of these are said to have sold the land that had not been paid, and the new owners had to face unpaid bills at the cooperative. Currently, only Ladinos from Guatemala City are said to be buying land. As in Santiago, land around Pacul has become exceptionally expensive. Renting land costs around Q250/cuerda. When NTX crops started in 1980 farmers were paying between Q50 and Q75, but these crops had better value then. Few people have bought land in the last five years. A woman, for example, reported that her husband sold two cuerdas he had inherited on a hill and bought one cuerda in Tres Cruces for Q30000. The on-going price in that region is said to be Q50000. Villagers know they could get a bank loan to purchase land, but there is a prevailing distrust at mortgages. Farmers are generally afraid to commit to loan payments with their uncertain incomes. In the last few months a group of farmers became legally organized; currently the group is in the early stages of requesting corporate land purchase with Fontierras.

The cropping pattern in Pacul is similar to that observed in Santiago. The introduction of NTX crops in Pacul was also conducted by the cooperative, with the same vicissitudes as in Santiago. An important difference appears to be that the beneficial effects accrued from these seems to have reached a lower magnitude: not only were there fewer farmers involved with NTXs but very few, if any, had long-term proceeds. There were several cases of farmers who became heavily indebted to the Cooperativa, many of whom sold their land in order to settle their financial credit. While this process is not unique to Pacul, it seems to have taken place more frequently than in Santiago. There also appears to be dissimilarity in terms of the proportion of members that either were expelled or dropped out of the cooperative: only a handful of members are currently to be found in Pacul. A possible explanation could be that Pacul, located at a higher altitude than Santiago, is more prone to frost and therefore more susceptible to crop damage and the concomitant economic failure. Notwithstanding, it should be noted that much land in and around Pacul is cultivated by Santiagueños.

With the available information it is not possible to assess if benefits from NTX were actually different in Pacul than in Santiago, but farmers' perceptions clearly are. As a whole, villagers are less inclined to venture in agriculture – NTX or traditional crops – and most have set their hopes in the service and manufacturing sectors. As in Santiago, young people in their 20s prefer to work at the maquilas, men in their 30s and early 40s are in construction and service sector, and it is mostly those in their 50s or older that continue toiling the soil. In a group discussion, for example, men were asked if NTX could be considered a pathway out of poverty to some farmers. While all participants agreed that a few individual farmers had made some money, most considered that this wellbeing was only temporarily and that few – if any – farmers had benefited in the long run.

The only person I can think of that made any money as a member of the Cooperativa is my uncle. He was smart enough to use his earnings to start new businesses and this is how he has managed to built a new house and buy an old pick-up truck. My uncle is not a farmer anymore, only his wife keeps growing some vegetable that she and her daughter sell at the Mixco marketplace. Many members made their good money; and during harvest season they were making about Q4000 [US\$4000] a week. But they didn't know how to spend it wisely – there was a lot of drinking and womanizing then – and more commonly, their crops eventually failed and they were left with huge unpaid bills. I myself had to sell land in order to pay to the Cooperative. For four consecutive times my crops failed and since the early 1990s I have worked as a mason and been involved with different kinds of odd-jobs. I don't ever want to be a farmer again.

Several farmers in Pacul are also growing flowers, most of them on a seasonal basis, as higher prices are to be made for the Day of the Dead [1 November] ceremonies. Some women have shifted from traditional vegetables to potted flowers, arguing that the investment is lower and the margin of profit larger. Cut flowers, on the other hand, have price fluctuations similar to vegetables, but margins of profits, said the growers, are slightly higher.

As in Santiago, there is the perception that only older farmers continue in agriculture, basically because they have no other job opportunities. A 38-year old man commented the following:

I don't know why my father keeps growing snow peas. He is still a member of the cooperative but there is no business there. Pesticide is very expensive now, and you need to apply it in ever larger quantities. He is only growing a small plot of peas, but in the cooperative he is always being told that he should expand, but we don't think that is a good idea. So he is growing some flowers and is chopping some wood for sale. He has no dependents now; it is only him and my mother. That allows him to venture into growing snow peas, but having no family help also puts him at risk, as he needs to go to Tres Cruces and see who he can hire; he spends all this money on labor and selling at Q1.50 he barely covers expenses.

Gender relations in agriculture may be changing in Pacul. Several cases were seen where all males in the household were employed off-farm and the women were left to toil the ground. In some cases men's only involvement were land preparation, but in some others not even that. With the available information it is not possible to know if a feminization of traditional vegetable crops is actually going on, but it would be a topic worth pursuing. Male farmers, however, still consider themselves entitled to recruit their wives' labor when needed:

We worked very hard at our husbands plots when they were growing snow peas. Children did too – it was rare the child that didn't go to the plots right after school. We got up early and did all our chores. We learned all tasks related to snow peas, even used the hoe. Our husbands, however, have not helped us with chores around the house. Some of us are beginning to raise our sons differently and they are learning to do the dishes, do basic tasks around the house, go to the mill and even do some cooking.

My mother and sisters have worked at the family's plots for many years. I do not see what benefit they might have accrued since it is my father who gets all the money, he gets the checks from the Cooperative and he alone decides how the money is to be spent. I don't think he is generous with them. He did not even give my sisters education. My older sister dropped out of school after fourth grade, the other two studied till sixth grade. Only my brother and I did our básicos.

Another salient different in Pacul is the local availability of agricultural wage work. Most farmers complained, in a higher degree than in Santiago, that they need to go to Tres Cruces or to San Juan to find *mozos*, as Paculeños are no longer interested.

5. OFF-FARM EMPLOYMENT

Non-agricultural labor in Pacul has followed a similar pattern as in Santiago. There are, however, two main differences. Because of its small size, local trade in Pacul is much less developed than in Santiago. There are only a handful of shops and the existing ones are miniscule. In Pacul there seems to have been no

local *coyotes* and the development of small-scale whole sale trade never really developed. Currently, around five farmers are trying to organize a firm to export traditional vegetables to El Salvador, “as we are sick and tired that intermediaries stuff themselves, their profits are way too large, while we, who take all the risks growing vegetables, get paid peanuts”. As in Santiago, there are many women (probably about 60) peddling produce but their preferred markets are those in Mixco and San Pedro Sacatepéquez. Transportation to these places is more complicated in Pacul than in Santiago and their schedule is also different: in Pacul women take the bus around 5 am and get back at noon.

The other main difference is that for some reason men in Pacul never found recruitment in the army an attractive option; the attachment and social symbolism the army had in Santiago is not seen in Pacul, where apparently only few men were ever recruited. The option of becoming a security guard, therefore, was not available to most men in Pacul. As in Santiago, during the snow pea crisis in the early 1990s, many men in Pacul went to Guatemala City in search of work, but taking the decision in Pacul was considerably more challenging as men usually had to walk for an hour to get to Mixco and once there could take a bus to the city. No such difficulties were faced in Santiago.

Vegetable packing plants, available in Santiago, do not seem an attractive option to young women in Pacul. Like their male counterparts, they prefer employment at the maquila factories in San Pedro Sacatepéquez. Limited local sources of employment in Pacul are the two livestock farms, each hiring around six men. Some of these workers are also farmers of traditional vegetables and maize in need of a steady income.

It is quite possible that the proportion of traditional weavers in Pacul is higher than in Santiago. In most of the households visited during fieldwork at least a woman, some of them well in their 80s, other barely teenagers, was seen weaving. While margins of profits are known to be low, it is an occupation that is easily combined with traditional vegetable production, child care and other domestic chores. In addition, several men in Pacul vigorously oppose that their wives work at the maquila and weaving is one of the few options they have for making an independent income. A woman in her 80s commented that it was always necessary to have an income of her own and that ever since she quit working in the fields a few years ago she picked up weaving, as she did not deem practical to totally depend on her husband.

In the past few years there have been several robberies and even muggings that have taken place on maquila's pay day. Maquila buses leave workers at Tres Cruces and they need to walk 3 km to reach the village and it is in this route that several women have been robbed. Such misadventures have worked as job disincentives and have kept some young women at home.

As in Santiago, international migration has been an option for only a few. There are currently four Paculeños in the USA, three men and one woman. The first migrated some five years ago. Villagers are not aware if any remittances are sent and they cannot tell how they are spent. A man did tell that his brother-in-law had recently migrated because he wanted to settle his loan with the cooperative. He sends remittances on a monthly basis through the Western Union branch located at the bank [the only bank in Santiago, Banrural]. He also said that young maquila workers are beginning to dream about migrating to the USA and that some are talking about saving their income for this trip. The cost, however, is quite high. Locally known *coyotes* charge Q39000 to send a person to the USA.

C. The Cooperativa Cuatro Pinos as a source of social capital

The role of the cooperative in the construction of social capital and the perception of members, ex-members and non-members regarding its role in conflict resolution and social cohesion were briefly explored in this study. Social capital encompasses the networks, norms, and trust that facilitate collective action for mutual benefit. It is often described in three basic dimensions. The first comprises immediate family members, neighbors, and close friends and is commonly referred as *bonding social capital*. The second dimension consists of interactions among members of demographic groups, such as those among members of the same occupation or religion; these interactions tend to be less frequent and instrumental

and constitute what has been called *bridging social capital*. The third dimension refers to the relations between community members and representatives of formal organizations, such as banks, public officials, health clinics, and extension officers; these ties have been called *linking social capital*. Social capital has been documented as an important asset for improving community decision-making, for leveraging external assistance, for mitigating shocks, and for increasing general trust (Woolcock and Narayan 2000, Durston 2002, Ibáñez et al 2002).

Using the Guatemalan ENCOVI (2000) survey, Ibáñez et al (2002) measured membership in formal and informal institutions and the frequency of household members' collective action in the last 12 months as a proxy for social capital. They showed that the most common type of association are in religious groups, that social capital is concentrated mainly in strong horizontal associations, and that many communities have robust bonding capital. They also observed that participation in bridging organization is considerably less dense. Social capital was found to be higher in the better-off regions than elsewhere and that forms of participation in both urban and rural settings seemed to be driven by poverty levels and community needs. They found that bonding organizations constituted the primary source of social capital for the poor, whereas bridging organizations were a crucial asset for the non-poor. Likewise, that indigenous households were inclined to participate in bridging activities, while Ladinos were more involved in linking activities and that social capital was mostly concentrate among males. They conclude that in Guatemala

Poor communities have a lot of bonding social capital, some bridging social capital, and very little linking social capital. Despite strong internal cohesion, the villages have few horizontal and vertical ties, mainly due to fear, exclusion, and a lack of trust ... logistic regression estimates indicate that age, gender, education, and wealth are the principal determinants of participation in organizations (Ibáñez et al 2002:16).

In a context where bridging organizations are often dominated by privileged groups, it is interesting to assess what effect a cooperative like Cuatro Pinos could have on the poor and rural population. It can be safely stated that the cooperative encouraged to a great extent the formation of social capital in its three dimensions, but that its distribution between members was far from even.

In its beginning the Cooperativa provided all members basic training in cooperative ideology and tried through various means to install a sense of solidarity between members. The cooperative organized different activities between members (soccer tournaments, field trips, celebrations, etc.) and many got to interact with people from different villages on a regular basis. But *bridging* social capital was initially encouraged by the Swiss Group in their efforts at reconstruction. Respondents clearly stated that before the earthquake community-wide activities were limited to religion and that most interaction took place within the large extended-families. There were occasional activities [*faenas*] called upon by the Municipalidad (fixing the road, the water system, etc.) as well as infrequent activities carried out by organized groups. Members of *cofradías* [Catholic brotherhoods], for example, would collectively grow a cuerda of vegetables to collect funds for a specific event; these type of activities were called *cuchubales* and are no longer observed. There was also the idea of work exchange, but on a very small scale and usually involving only family and close friends. Respondents agreed that the Swiss-organized reconstruction squads became first attempt to carry out any kind of community work and that it laid the basis for horizontal cooperation. It also provided the first opportunity many Santiagueños had to interact with people from other communities, excluding market transactions, although these interactions were usually limited to squad representatives.

In addition to supporting these horizontal ties, the Cooperativa also trained many members in leadership and management. As noted, the governing board of the cooperative [*Consejo de Administración*] was formed by 48 members, who were elected every two years. During several years, at least five groups of 48 members were thus trained and several times they were taken to see bank officials, to the Ministry of Agriculture, exporters' offices and other outside institutions to aid in the cooperative's negotiations. In addition, there was a smaller board of directors [*Junta Directiva*] and its members got together every week to assess problems and opportunities at the Cooperativa. These board of directors got to meet public and private officials on a steady basis and on several occasions were taken abroad to visit the cooperative's clients. The cooperative thus contributed to the formation of *linking* social capital, but it was circumscribed

to board members⁴³. The cooperative's director was elected for two years and could be re-elected only once, which was often the case. While the cooperative's management tried to install horizontal ties, several directors showed authoritarian leadership, which hindered to a certain extent the consolidation of bridging social capital among members. While all board members as well as the director himself were elected by all cooperative members, it is not clear to what extent poorer farmers who could not afford the operational expenses involved in being part of this decision making group were actually excluded⁴⁴.

As Woolcock and Narayan (2000) have noted, social capital benefits may accrue solely to the participants of a particular group, thereby denying access to crucial resources to non-participants. That was certainly the case with the cooperative. While the cooperative had an open membership and its numbers swelled in the first five years (see Graph 3), only a fraction of farmers in each community were actually members. By design, all economic and social capital benefits that emerged from the cooperative were intended only for members. There were some benefits, however, that did trickle-down to the whole community, such as road improvement and the provision of basic services, including education (high school and night school). In addition, many job opportunities were created directly and indirectly by the cooperative's introduction of NTX crops. Apparently, there was neither tension nor overt social conflict between members and non-members. When the cooperative began to break down in the late 1990s conflicts were endured internally with no spill-over to non-members. In part, this was due to the fact that cooperative leaders did not become community-wide leaders; their leadership was restricted to members and only members suffered when it collapsed.

As noted, by the late 1990s the cooperative was amidst deleterious management and its corruption procedures were leading towards bankruptcy. As told by several members and ex-members, a corrupt manager found his match in an equally harmful director. Allegedly, in tandem they fired any member that dared to oppose their activities, including many founding members. These were usually older farmers with very good standing in their communities, members that had committed significant amounts of time and effort to the beginning of the cooperative.

Eventually the crisis was overcome but the cooperative's reputation was tainted, and it continues to be tainted among many ex-members and non-members. Trust in the good judgment of the cooperative's leaders and on their integrity has dwindled significantly. During data collection it was not uncommon to hear people say that cooperative leaders had always been corrupt, that all had taken advantage of their position, that their ulterior motive had been personal gain. While current members would not openly complain or distrust the cooperative's leadership others certainly did.

The cooperative has tried to restore its social fabric and the new management held several meetings to ventilate members' frustrations. This catharsis, however, has not reached ex-members, some of which are still hurt by the way they were expelled from the organization.

D. Perceptions of the good life: NTX and economic change

Several studies on the impacts of NTX crops and maquila production have stressed their pitfalls and limitations, arguing that both have little potential for growth and development, and questioning their sustainability. Departing from this view, Hamilton and Fischer (2003) have recently reported that NTX producers from two villages from Chimaltenango perceive that these kinds of crops are associated to an improved family economic situation and that most producers considered that NTX crops offered the most lucrative or stable form of income generation available to them. Our sample from Pacul and Santiago tended to defer from this view. It could well be that given the scarcity of off-farm wage labor for the

⁴³ It would be interesting to assess to what extent ex-directors turned packing plant owners used their cooperative-acquired linking social capital to get clients and be able to operate their business.

⁴⁴ All board members were paid a modest per diem for every meeting attended, but this amount certainly did not compensate for wages paid to cover their absence from the fields.

Chimaltenango farmers interviewed by Hamilton and her team⁴⁵, NTX offers their best economic option. But in a setting where wage employment is more readily accessible perceptions of NTX benefits become less apparent.

Respondents in this study were asked to evaluate overall change in their communities in the last 10 to 20 years (the time period was adjusted to the age of the respondents, aged 20-30 or over 40). All of them thought their communities were doing better. In Santiago, for example, they would mention the newly paved streets, the new schools and the construction of the municipal hall, marketplace and mall. In Pacul most respondents mentioned improvements in the construction of public buildings and in the provision of basic services (piped water and electric power). Some respondents added that while infrastructure and basic services were certainly better, there were new social problems that affected their quality of life, namely youth gangs [*maras*] and the presence of recent immigrants with different lifestyles. As a result of these two processes, social cohesion had deteriorated and trust among neighbors had weakened. It is my impression that similar answers would have been collected almost anywhere else in the country. It should be underlined that these views were not spontaneously related to the presence of NTX crops or to any other economic strategy.

Respondents were then asked about the role of the Cooperativa Cuatro Pinos in these changes. Opinions here disagreed significantly. A few responded that the cooperative had no role at all on any improvement. Most, however, would say that the cooperative had helped members but that whatever benefit they may have accrued had long vanished. Only a few mentioned longer term benefits, such as education, training and the opportunity to learn about different crops. Reflecting about the economic trajectory of his community, a 47 year old mason, occasional driver and non-member from Pacul had this to say:

The cooperative was good and gave good opportunities to its members. I saw how my father- and brothers-in-law were trained, the schooling opportunities their children received. In addition, at the end of the year they always got an extra bonus. But that was then. Later on there was a lot of corruption and prices dropped way too much. At that time I think members were often fooled about prices and detentions, I think it was all a scheme from the directors to make their own personal profit. In the long run, however, no one really made it with these crops. Members had money on their hands but they did not know how to invest it, they squandered a lot, and now are sorry about it. You should have seen it. When snow peas were at Q8, on pay day they would go to the city to drink and party, and would come back two or three days later, with no money in their pockets. Others bought nice clothes and a lot of consumer goods. They did not bother to start a new business, thinking that the good times would last forever. Most did not improve their homes, and those that you see now are the ones the Swiss gave us after the earthquake. Those who made it, the ones that hit the right price, the smart ones bought pick-up trucks, and that is all you see now, old and battered pick-up trucks. Other members did badly and got into debt and sold their land to pay back. Others are still in debt. There are few members now, only a handful is still willing to risk it with snow peas and zucchini. These are mostly older guys whose only skill is agriculture; they do not know any other job. To really get by you need several talents, you must be able to do two or three different jobs. It is the only way to make it.

Respondents were also asked if they felt their own families were now better or worse than 10-20 years earlier. Respondents were equally divided between those that felt there had been no change and those reporting improvements. While the question was meant to assess perceptions of economic change, many mentioned non-economic reasons for their perceived advancement. A 47 year old part-time wage laborer, for example, felt his family was doing better because they had finally been able to buy a *sitio* [land] to build their house using the inheritance his wife had recently received. Three women related their improved situation to the fact that their fathers or husbands were no longer drinking. A successful 42 year old female farmer considered her life had improved significantly because her family was finally able to move out of her

⁴⁵ While Hamilton and Fischer's population is probably similar to ours, two important differences remain: most producers interviewed in their sample worked independently and only a fraction channeled their production through a cooperative. Another important difference is that one of their villages had begun NTX until late in the 1980s, around eight years later than in Santiago. Hamilton and Fischer's results are not disaggregated by village.

mother-in-law's house. When further inquired about changes in their economic status these respondents considered it had improved as well.

Very few respondents directly attributed their present wellbeing to the production of NTX crops. A few credited their improved situation to wage labor (some in the maquila, others in different kinds of services in the city).

I was quite happy at the maquila, I felt I was finally able to put my life together [hacer algo de mi vida]. The pay was good and I was making friends. I had worked before as an agricultural wage worker and at my family's fields, making barely enough to get by. But then my father got really sick and all my potential savings from my maquila salary went to pay for his medicines. Now that I have my daughter [respondent was a single mother] I am back in the fields and I am also helping myself by weaving.

Respondents were asked about the role of NTX crops as a viable pathway out of poverty. The most common answer is that it had been a good strategy but that it was untenable now. While several commented that a few farmers in Santiago had made a sustainable livelihood with NTX crops, most producers and non-producers of these crops thought that "*there is no longer any business in those crops*". In Pacul respondents were more radical and most claimed that in the long run no one had been ultimately successful with these crops. One farmer, still a cooperative member, was often considered the exception, but it was noted that what really helped this farmer was that he was buying rejects from the cooperative and his wife was selling them for a handsome profit at different places.

Respondents were asked to describe the characteristics of successful NTX farmers. There was overall consensus that they had worked hard, had hit the high prices in the mid 1980s, and had invested their earnings wisely. The latter usually meant buying additional land or diversifying into new business ventures. Other characteristics mentioned by some respondents were having a large family that provided a robust pool of unpaid family labor, having access to larger plots of land, having plots shielded from the frost line, and reducing production when prices were low. Some claimed these farmers had been lucky and were able to avoid catastrophic losses, but others argued that they had faced losses as often as others but had been enormously diligent in the face of mounting credit. Indeed, not being able to pay due balances after crop failure or a dramatic drop in prices is what drove many away from NTX and into wage labor or other strategies.

While many current NTX farmers we talked to seem to be in this business reluctantly, three farmers in our sample, all in their 20s, are betting wholeheartedly to these crops. Their cases are all different and two are reviewed:

W is 21 years old and father of a baby boy. He studied six years of elementary school and could not continue into básicos because of financial difficulties his family was undergoing when the snow pea prices collapsed. His father is still a cooperative member, but W has been doing all the farming in the last two years, as his father migrated to Washington DC to work as a gardener; he sends remittances on a steady basis. His father bought six cuerdas, but eventually had to sell three in order to settle a due balance. W is sowing maize [1 cuerda] and growing NTX [2 cuerdas snow peas and 1 cuerda zucchini] and traditional vegetables [2 cuerdas] on both rented and owned land. He would like to rent six additional cuerdas to grow more vegetables, both NTX and traditional, but is wary of the high production costs this would entail. He enlists the help of his mother and wife, who trade the traditional produce. His older brother is working at a maquila and wants nothing to do with agriculture. He hires two permanent wage workers, supplemented by other two during harvest. His main problems are the increased presence of pathogens and pests and the ever increasing cost of pesticides. Prices also vary considerably, making planning close to impossible. This year he got to sell zucchini at Q3.50, only to sell it later at Q0.15 during a whole month. Last year, however, he was able to sell it at Q5 and with the earnings built his house and his mother built a new addition. This year snow peas reached an all high of Q4 and then went down to Q0.25. Currently it sells at Q1.25. His hopes are set into zucchini, but its production costs are very high. Given these price fluctuations he thinks it is best to grow zucchini, snow peas and French beans (planted only during the warmest months of the year) and to back them up with traditional vegetables, whose price fluctuations are deemed less brutal. His family has had two severe crop failures: once they lost Q12000 and the second time Q15000. His father was able to get a second credit due to what he perceived as the cooperative's

very generous lines of credit. In those situations the whole family worked assiduously to make sure there would not be a second crop failure. "The cooperative has been way too patient with members that are behind their payments. As long as they hand in produce, the cooperative keeps on extending additional credit. The problem is that many current members have lost faith in agriculture and are still there only because the cooperative eases things out".

JM is 28 years old is said to be just a thesis short of graduating in business administration from a private university at Guatemala City. His father was a teacher and part-time farmer. The family began growing NTX in 1985 because his grandfather and uncle were cooperative members, and through them learned the necessary skills. JM family marketed NTX to the highest bidder: the uncle would take it to the cooperative or they would take the produce directly to the coyotes. His family is currently growing traditional vegetables [4 cuerdas], snow peas [18 cuerdas], zucchini [6 cuerdas] and radicchio [4 cuerdas]. He seemed to be quite content with his thriving family business and was particularly pleased that his wife, mother and sisters were all involved. He hires eight permanent workers and around 20 more during harvest. He works under contract for an agro-exporting firm in Sumpango, which tends to pay higher prices than the cooperative or other local buyers. He boasted to sell high quality produce and to meet all market quality standards, both in terms of appearance as well as phytosanitary requirements. The firm tracks each lot of produce to its producer and farmers are held responsible for whatever rejection there might be. Aware that most profits end up with intermediaries, a group of around 40 Santiagueño farmers [ten of them women] joined to form an alternative cooperative called ADASS. They have set up a small packing plant and since 2001 have been exporting through a major intermediary. ADSS has learned the exporting business the hard way, and after several almost catastrophic misjudgments, last year they began to make benefits. Last year they were able to sell zucchini for Q9 for around three months. They are still in the process of obtaining all necessary certifications to export snow peas – in the meanwhile they sell to the Sumpango firm.

V. CONCLUSIONS

Badly hit after the San Gilberto earthquake of 1976, a small holders' cooperative emerged in the early 1980s producing new non-traditional export crops. Under the aegis of the Cooperativa Cuatro Pinos, for a decade many farmers thrived as the margins of profits of the new crops by far exceeded those of the traditional staples or cash crops (vegetables produced for the domestic markets). Compared to other NTX producers in the region, cooperative members were shielded from several barriers faced by independent producers, such as access to credit, technical support, and market information. In addition, they often had higher yields and lower production costs.

By the late 1980s and early 1990s yields began to decrease, while at the same time farmers faced deteriorating conditions in production: a dramatic rise in pest infestation, soil degradation and the concomitant decrease in yields. At this time the Cooperativa as well as other exporters faced several detentions and bans on imports because of pesticides residues, all of which greatly reduced the initial profitability of NTXs. While in the mid 1980s members were able to acquire more land, the trend was short lived. Moreover, some of those who bought land had to eventually resell in order to pay their mounting debt, as production costs of the new crops were significantly higher than those of traditional cash crops.

In addition to these agronomic problems, the Cooperativa was facing serious management problems of its own and by 2000 was in practical bankruptcy. Several of its assets were sold and membership went down to less than 600 members, after an all-high 2000 members ten years earlier. While the Cooperativa has made a come back, NTX crops are not the very attractive option that they once were.

An undetermined proportion of farmers are still producing three kinds of crops, maize, traditional vegetables and NYX, but most have reduced the proportion of land under the latter. Farmers in Santiago and Pacul have seized new economic opportunities, and are increasingly supplementing agriculture to wage labor, especially that offered by the maquila industry. As prospects of agriculture as a viable pathway out of poverty dwindles, parents have gradually become more cognizant of the rewards of

education. While six years of education used to be the desired outcome, many parents endure great efforts to send their children to pursue high school education.

Since the introduction of NTXs the participation of women in the labor force increased dramatically, first as unpaid family labor and currently also as unskilled, cheap labor at the maquilas. Increased participation, particularly in agriculture, does not seem to have changed their overt overall standing, and the patriarchal prerogative of men to dispose of their labor has remained largely unchallenged. Currently, women seem not to forego independent economic activities as they did in the past, apparently as a result of the reduction of NXT production. While most maquila workers are single, it remains to be seen to what extent their recently acquired purchasing power translates into more decision making power within their households. In the limited time of this study it was observed that women who are beginning to question men's dominance tend to belong to communal banks organized a women's group where gender awareness is raised.

Households in Santiago and Pacul seem to have a keen appreciation of the vicissitudes of the external markets, whether dealing with zucchini or maquila-made garments. In order to manage risks, they have opted to diversify even more their sources of income, often following gender- and age-specific patterns.

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