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AGRICULTURE AND SOCIETY IN CENTRAL MEXICO: THE VALLEY OF TULANCINGO IN THE LATE COLONIAL PERIOD (1700-1825)

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Abstract

This study provides a first approach to the economic and social history of the Valley of Tulancingo in the late colonial period. In examining the development of this agricultural area of central Mexico, the author discusses the broader transformations that affected the country as a whole during the eighteenth and early nineteenth centuries: population growth, migration, urbanization, and the commercialization of agriculture. On this score, the study participates in the current debate on the best way to characterize the Mexican agricultural sector at the end of the colonial rule. Most modern historiography tends to emphasize that demographic growth transformed the traditional balance between population and resources and was a major cause of economic and social disruption in the countryside. The author combines new evidence with recent findings from the specialist literature, to argue that Tulancingo fully participated in the roster of economic and social changes of the period. The work begins with a description of Tulancingo's population trends and an analysis of the spatial distribution of the population. It goes on with an analysis of the Valley's agricultural economy, describing the complementary rural elements of Indian communities and haciendas, and examining a series of related transformations in landholding, marketing, and social relations. This study will be of interest to anyone concerned with Mexican economic and social history, or the history of agriculture.

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Acknowledgments

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Declaration

All the material contained in this thesis is a result of the candidate's own work and has not appeared in print before. The thesis has not been submitted for a degree at another university.

Measures

Arroba: a unit of weight equal to 11.5 kilos or 25.4 pounds.

Caballería: equal to 42.79 hectares and 105.73 acres. It formed a rectangle measuring 1,104 varas long and 552 varas wide.

Carga: unit of dry measure equal in volume to 181.62 litres. In weight it was equivalent to 161 kilos of wheat.

Fanega: a unit of capacity equal to about half a carga or 90.81 litres (2.5 bushels) for grain.

Fanega de sembradura: unit of measurement of land equal to 3.566 hectares or 8.81 acres.

Hectare: a metric unit of area equal to 2.471 acres.

Sitio de ganado mayor: grazing land for cattle and horses, equal to 1,755.61 hectares or 4,388.86 acres.

Sitio de ganado menor: land for grazing sheep and goats measuring 780. 27 hectares 1,928.38 acres

Vara: measure of length equivalent to 0.838 metres

Source: Cecilio A. Robelo, *Diccionario de pesas y medidas mexicanas antiguas y modernas y de su conversión*, Cuernavaca, 1908. (reprint by CIESAS, 1997).

Archival Abbreviations

AHAM	Archivo Histórico del Arzobispado de México
AHPJ	Archivo Histórico del Poder Judicial del Estado de Hidalgo
AHCRMyP	Archivo Histórico de la Compañía de Real del Monte y Pachuca
AGI	Archivo General de Indias
AGN	Archivo General de la Nación
AHH	Archivo Histórico de Hacienda (special collection of the AGN)

INTRODUCTION

The Valley of Tulancingo, in Central Mexico, is the principal subject of this study. Historically the Valley has been, and remains, one of the demographic and economic cores of the northeastern part of the Mexican plateau. Tulancingo's significant production of grains, cattle, and textile manufactures is well known. What is less known, however, is the extent to which these activities were practised in Tulancingo before the present century and, secondly, the important contribution that the late colonial experience was to have in helping to shape later regional development.

The purpose of the study is to examine the demographic profile and the agricultural economy of the Valley of Tulancingo during, broadly speaking, the last century of the colonial regime in Mexico. We will follow the development of the Valley in both areas throughout that time, identifying the different factors and influences, internal and external, that shaped and modified its structure and functioning. The history to be uncovered has to do with the composition, organization, and processes of agricultural production in the Valley as well as with the communities and peoples that performed such tasks. Attention will be paid to the relationships between population and economy, an endeavour that will lead us to analyze Tulancingo's demographic trajectory and the productive arrangements and performance of the agricultural sector throughout the period of study.

At first sight the study could seem, for its spatial narrowness, rather limited. It is hoped that this impression will be compensated by the wide range of issues to be examined – which include topics on economic and social history – and by considering the history of the Valley within a national context and in comparative perspective.

Besides, the long time span of the study will enable us to follow the evolution of the phenomena under scrutiny during the course of a crucial epoch of Mexico's history that spans the eighteenth and early nineteenth centuries.

The final century of the Spanish rule in Mexico is of special interest and has attracted a good deal of attention.[1] Often described as the Golden Age of the colonial epoch, this was a period when New Spain experienced considerable population and economic growth in several regions and in different activities (agriculture, manufacturing, commerce, mining). Likewise, as a result of population increase and the accompanying expansion of the urban centres, the connections between cities and the regions that supplied them became more complex. Interregional trade and the movement of people between town and countryside also became more visible and active, though scholars generally agree that the integration of the internal economy was still weak.

There is, however, a debate about the final outcome of these demographic and economic transformations, and their connections with other major social and political upheavals of the period. Summing up the findings of the literature dealing with this subject, Garner points out that "economic growth appears to have moved at a rate not much above what was needed to sustain the population", and that it was not uniformly or equally applied to all regions, sectors, or social groups in the colony.[2] As indicated by recent research, over the eighteenth century – and especially in the latter half – there was an increasing number of people unemployed, a decline in real wages and consequently an impoverishment of large groups of the society. Some historians have argued that even the leading sectors of the late colonial Mexican economy,

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[1] For recent global evaluations of the historiographic production dealing with the social and economic transformations of this epoch see Miño, 1992, Morner, 1992; and Tutino, 1992. See also Coatsworth, 1988.

[2] Garner, 1993: 5.

particularly mining, did not experienced the degree of development that was previously thought, pointing to this period as one of decline relative to earlier cycles of prosperity.[3]

Moreover, this was a time when, as a result of the Bourbon monarchy's struggle to rebuild Spain's control over its empire and its acute necessity for revenue, a substantial part of New Spain's wealth was diverted from economic to non-productive activities and to foreign requirements. Throughout the second half of the eighteenth century, New Spain – Spain's richest colony – was required to remit a large proportion of its revenues as well as considerable amounts of bullion raised from compulsory loans an donations in order to cover the costs of Spain's wars against Britain and France.[4] The political and fiscal presence of the state reached almost every corner of the colony, a factor that, coupled with the changing economic climate of the epoch, challenged the economic and institutional arrangements at the local level and undermined whatever autonomy the regions had known.[5] In 1810 the only generalized rebellion of the colonial epoch broke out. The Hidalgo revolt has been viewed as the logical consequence of the tensions accumulated during the previous half-century.[6] Eric Van Young has applied the term "paradox" to describe

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[3] *Apud* Van Young, 1986: 65. Among the works supporting the view of the contradictory character of the late colonial epoch see Ouweneel and Bijleveld, 1989; Coatsworth, 1990; Pérez Herrero, 1989, 1993; and several of the essays in Van Young, 1992a. Approaching the issue from another perspective, Ouweneel (1996) also portrays the later eighteenth century as a period of critical transformations for the rural population of central Mexico. Some interesting remarks qualifying the sense of crisis that emerges from the above interpretation have been put forward by Miño, 1992.

[4] See Marichal, 1990.

[5] Garner, 1993: 249. For an examination of the impact of the Bourbon reforms in New Spain see the collection of essays published by Vázquez, 1992.

[6] This assumption has been recently put into question. Some scholars insist on the complexities of the phenomenon, underlying the danger of establishing a lineal link between the hardship experienced by the bulk of the population in the later colonial period and the rebellion that began in 1810. They also stress the regional variations of the movement, particularly the contrast between its motivations and development in rural areas and in urban centres. See Tutino, 1986; Hamnett, 1986; Van Young, 1988; and Taylor, 1988.

this epoch of the Mexican history, "a period of particularly sharp contradictions and of accelerating change".[7]

Within this general framework, the agricultural sector continued to be the economic basis of the colony. It generated the most income and provided employment for more people than any other economic sector. The agricultural economy also underwent important changes, though the pace and depth of change was not the same everywhere. Historians tend to agree that, as a whole, late colonial Mexican agriculture was successful in responding to the challenge of feeding a growing population. However, much investigation is still needed before the levels and trends in agricultural production for the colony as a whole can be fully assessed. Gross estimates based on regional tithe series – a kind of source much criticized, but still the best indicator at hand – indicate that in some areas there was a substantial increase in agricultural output, particularly in the first three-quarters of the eighteenth century.[8] It has also been established that the extension of production was achieved with traditional means by adding land, labour, and a greater application of existing technology.

This lack of major agricultural innovations – with no changes in productivity or the introduction of technological improvements –, has been ascribed to the prevailing economic environment of New Spain at the time. High transactional costs (due mainly to Mexico's vast and difficult terrain in association with an inefficient system of transportation), a strong, though in decline, peasant subsistence-based

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[7] The term was first used by Eric Van Young in a paper presented in 1986. A more recent exposition of his arguments is contained in his book *La crisis del orden colonial...*, published in 1992.

[8] This was the case of the dioceses of Michoacán (Morin, 1979), Puebla (Medina Rubio, 1983), and Oaxaca (Trabulse, 1979). Growth was faster in Michoacán than in Puebla and Oaxaca. According to Garner (1993: 49), these three dioceses accounted for about 40 % of the total tithe in the eighteenth century The diocese of Michoacán included the region known as the Bajío. Within this region, Brading (1978) analysed the tithe reports from the parishes of León and Silao, finding that also there explosive growth was present. The Guadalajara region is another area where agricultural prosperity has been documented (Van Young, 1981).

sector, and the low prevailing wages in agriculture, were among the various factors that combined for farmers to shift production costs in the direction of extending the land under cultivation and by increased labour inputs, rather than resort to the harder option of increasing productivity.[9]

Changes in agricultural production went along with transformations in the social and institutional framework in which that production was carried out. The historiography of late colonial Mexican agriculture emphasizes the advancement of commercialization in the countryside and the strains and stresses it caused to the system of landholding and the social relationships of those working on the land. Crucial to this development was the increase of rural population and the accompanying urbanization, which spurred the commercialization of agriculture in the cities' hinterlands and "drew all groups of rural society into an expanding network of relations mediated by a cash economy".[10]

Much investigation has been directed at the complementary rural elements of the Indian communities and the Spanish haciendas. Current interpretation stresses that in the eighteenth century, the relation between both elements were not just dominated by haciendas. Indians actively defended their interests and rights to land and were important actors in the economic and political rural society. Thus, despite the encroachments of haciendas, late colonial Indians retained enough land to subsist. Regional variations were considerable but, overall, the formation of haciendas by large scale expropriation of Indian lands took place in an earlier phase of the colonial era.[11] Yet, tensions and conflicts over land and other resources in the countryside intensified in the last century of Spanish rule. Demographic growth in Indian villages

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[9] See the general remarks on this issue by Van Young, 1986: 69-71, Garner, 1993: 81-82, *pari passum*; Miller, 1995: 4-6; and Pérez Herrero, 1992: 125-26.
[10] Van Young, 1981: 1.

took place on a more or less fixed land base, a situation that created large numbers of potential rural workers readily available for seasonal labour, whether on the surrounding private estates (some of which became important centres of population) or in the city. Greater social differentiation and centrifugal political tendencies were yet other factors adding to the internal pressure of the Indian communities. At the same time, the hacienda's expansion of cash crops production posed formidable threats to peasant agriculture. Based on an active capital investment, the large estate attained an increasing control of the growing urban markets and, in general, of the economic life of the countryside.[12]

How does the Valley of Tulancingo fit into the picture outlined above? Despite the considerable amount of research done in the last 30 years on the late colonial rural history of central Mexico – where regional studies amount to a significant proportion[13] –, there has been no examination of Tulancingo's case. Indeed, with the exception of an investigation published over a decade ago on the early stages of the Spanish colonization in the area, there are no academic studies of Tulancingo's colonial history.[14] This neglect may be connected to the fact that Tulancingo's contribution to the colonial economy was small compared with the participation of other larger and wealthier –and hence more investigated – regions

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[11] Gibson, 1964; Taylor, 1972; Tutino, 1976; Brading, 1978; Morin, 1979; Konrad, 1980; Van Young, 1981; Martin, 1985; Nickel, 1988.

[12] These issues are closely examined in, among others, the works cited in footnote 11.

[13] A vast number of studies on agricultural regions of Mexico in the late colonial period have been published. A thorough evaluation of the literature produced between the 1950s and the mid-1980s is given by Van Young, 1983, 1986. More recent historiographic surveys are found in Miño, 1992, and Tutino, 1992. Among the most important works on central Mexico are Taylor, 1972; Tutino, 1976; Lindley, 1983; Martin, 1985; Mentz, 1988. See also Ouweneel, 1996, though this study deals with a larger territory of what is normally seen as a region.

[14] In reality, the investigation of Ruvalcaba (1986) deals with a broader territory of the modern state of Hidalgo in which Tulancingo was only a part.

which underwent spectacular growth in the eighteenth century, for example the Bajío and the Guadalajara regions, or even the declining but still powerful Puebla region.[15]

But Tulancingo's relatively second rank position did not exempt it from the global transformations that affected the rest of New Spain. An examination of the development of the Valley in the later colonial period reveals that the area underwent significant changes that transformed its economic and social profile with respect to previous centuries.

The study has been divided into two parts. The first one is devoted to the examination of the population of the Valley. After describing the natural setting (chapter 1) attention is directed to the analysis of the demographic trajectory of the Valley (chapter 2). The Valley trebled its population between the early eighteenth and early nineteenth centuries. Coupled with this demographic expansion, there was an important process of urbanization, whereby the town of Tulancingo (the provincial capital) became one of the largest centres of population in the northeastern part of the Mexican plateau (chapter 4). Accordingly, the town developed a complex economy with the secondary and terciary sectors raising to a prominent position. Agriculture, however, continued to be the economic basis of the Valley at large. Thus, the countryside remained heavily populated. The population here distributed unevenly among the 9 to 10 pueblos and the various dozens of rural estates that proliferated in the Valley. Within this framework, the large estates stood out as centres of rural population. The connections between pueblos and rural estates were intense (chapter 5), with people moving constantly from one settlement to another, whether for selling goods, seeking a job, or simply to marry. Rather than a self-contained space, the

[15] See Brading,1978; Van Young, 1981; and, for Puebla, Thomson, 1989, and Garavaglia and Grosso, 1986.

Valley had an open frontier that allowed people to migrate, at the time that people from elsewhere came to live to the area.

The second part of the study examines the structure and functioning of the agricultural economy of the Valley. In common with other parts of central Mexico, in Tulancingo the growth of the urban population stimulated the expansion of commercial agriculture in the countryside. Tulancingo's provincial capital depended heavily on the surrounding rural area to supply its market with comestibles and other processed goods. Much of what was produced in Tulancingo's hinterland originated on Spanish estates, whilst other part came from the Indian communities (chapter 6). Indian participation in the economy was intense (chapter 7), concentrating on the production of basic commodities (grain, fruits, vegetables, pulque). However, the Indian participation tended to weaken in most areas in favour of the large scale non-Indian agricultural enterprises. This weakening also affected the crucial sphere of the territorial basis of the pueblos, which, in spite of preserving a land base, became unable to provide land for all their inhabitants. The Indian population became increasingly dependent upon finding work beyond the pueblos, whether in the neighbouring haciendas or in the provincial capital.

The relative decline of the Indian economy left empty spaces that were occupied by private estates. Like their counterparts elsewhere, Valley haciendas were market-oriented enterprises that responded to the new opportunities and met the demands of the growing urban population of the Valley, as well as from the economic upturns of the nearby mining market of Pachuca-Real del Monte (chapter 8). Although concentrated in cereal cultivation, most of them developed a diversified economy that combined arable and livestock farming. Various measures were

introduced to extend production: walls and fences were built, dams and irrigation systems developed, and lands were turned over to arable.

The overlapping transformations outlined above emphasize the need for further examination, in order to establish what were the economic and social conditions peculiar to Tulancingo which helped to facilitate such changes.

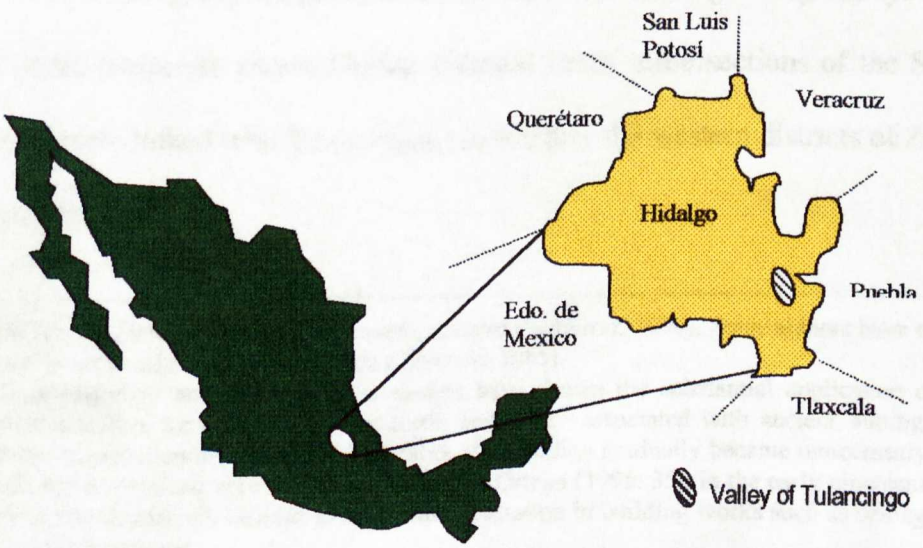
In the historiography of Mexico and Latin America there is a pressing need for more studies of the development of regional agrarian economies, as well as of problems of social structure in the late colonial period, considered by many scholars as the formative period of modern Latin American nations. Furthermore, there is a real need to investigate such problems from a broadly-based comparative perspective. On that score, the Tulancingo case resembles in its general features what happened in other parts of central Mexico in the crucial transitional phase towards Independence. This study brings new insight to the lively and fundamental debate on the processes of economic and social change in late colonial Mexico.

PART I POPULATION

Chapter 1 The natural environment

The Valley of Tulancingo is located in the centre of Mexico, 100 kilometres to the north-east of Mexico City, in the present state of Hidalgo (see map 1). It is a Valley of the Mexican plateau lying at an altitude between 2,200 and 2,400 meters, comprising a territory of approximately 800 square kilometres (310 square miles).[1] The city of Tulancingo is the geographical centre of the area, as well as its economic and political-administrative heart. Also included are the municipalities of Acatlán, Tulantepec and important sections of the municipalities of Cuautepec and Metepec, all interconnected and all easily accessible from the city of Tulancingo. The distinctive identity of the region has long been recognized from different perspectives, though experts differ on its precise boundaries.[2]

Map 1. The Valley of Tulancingo, state of Hidalgo



[1] The highest town of the valley is Acatlán, at 2,446 meters above the sea level. The lowest is the city of Tulancingo, at 2,184 meters. *Apud* Manzano, 1946: 66-67. See also Instituto Nacional de Estadística e Informática, 1992: appendix 4.

[2] The Valley has been classified as a specific region in both physiographic (Manzano, 1946) and ecological (Toledo, 1989) terms. For its present socio-economic structure it is considered one of the zones

The Valley is bounded by a series of mountain barriers of considerable density. Running from the south to the north-west is the Sierra de la Navajas, rising to a peak of 3,124 meters. This name is derived from the so-called Cerro de las Navajas, an important deposit of obsidian, a volcanic rock of exceptional hardness that in Pre-Columbian Mexico was extensively utilized for several purposes, among them to make digging and cutting tools.[3] The western extremity of this mountain range is known as the Sierra de Pachuca. Here developed one of the most important silver producing zones of Central Mexico: the district of Pachuca-Real del Monte, only 30 kilometres (18 miles) from Tulancingo. Since the beginning of the productive operations of the mines in the mid-sixteenth century, Pachuca-Real del Monte significantly affected the development of Tulancingo and other adjoining areas of the modern state of Hidalgo. The mining district was the only industrial centre and also one of the largest urban markets of this part of Mexico.

To the east of the Valley is the Sierra Norte de Puebla, an extensive region of pine forests in its highest parts, and with fruit and maize growing valleys in its lower and more temperate zones. During colonial times some sections of the Sierra Norte were closely linked with Tulancingo, particularly the western districts of Zacatlán and Huauchinango.[4]

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into which the State of Hidalgo was recently divided (Gutiérrez, 1990). Some authors have even classified it as a distinctive ethnic and cultural area (Guerrero, 1985).

[3] Recent historical and archaeological studies have shown the substantial application of hand-made obsidian artefacts for breaking up the earth, and hence associated with ancient mining excavations. With the introduction of iron by the Spaniards, the obsidian gradually became unnecessary for this kind of task, but it remained very useful. According to Ortega (1995: 35), in the early nineteenth century the obsidian was intensively utilized to avoid water filtration in building works such as ceilings, floors, and water tanks of houses.

[4] In his study of the city of Puebla - Zacatlán and Huauchinango's administrative centre - Guy Thomson asserts that, as a whole, the Sierra Norte, "was only loosely integrated with the economy of the central valleys [of Puebla]". Horst Pietschmann, who has looked into the late colonial commercial system of this province, shares this opinion. Thomson adds that the natural resources of the Sierra Norte remained largely unexploited until the present century. It is possible, however, that the inhabitants of the Sierra had alternatives to commercialise its internal production, giving way to commercial circuits and regional markets that historians have not properly explored yet. Indeed, García Martínez (1987: 144-45) has pointed out that the Sierra of Puebla was not completely dissociated from

Completing the circle around the Valley, 30 kilometres (18 miles) north of the city of Tulancingo the mountainside of the labyrinthine Sierra de Tutotepec begins. This is a densely populated Indian territory renowned in the eighteenth century for its resistance to contact with the outside world, and even today one of last refuges of the Otomi population in the state of Hidalgo.

Three main routes link the Valley with the rest of the country. Running to the north-west and opposite to the Barranca (ravine) of Metztitlán, a natural corridor stretches towards the fertile district of Huasca and then descends in altitude broadening into the warmer maize and barley growing plain of Atotonilco el Grande. Due to its proximity to the mining camps of the Sierra de Pachuca and the presence of streams, a number of valuable milling and refining plants were located in this area. Large quantities of ore brought from Pachuca were transformed into silver there and then carried to Mexico City to be coined.

To the south-west, crossing a lesser chain of mountains, a route of pre-Conquest origin leads to Singuilucan, the southernmost district of Tulancingo's colonial jurisdiction. Beyond this point, across an unbroken section of the Mezquital Valley, the traveller reaches the edge of the Valley of Mexico, New Spain's political, economic and demographic core. Lastly, to the south-east Tulancingo is connected to the Apam plain and beyond it to the Puebla-Tlaxcala basin, an important agricultural, manufacturing and trading province of central Mexico. In the colonial period, many goods (pottery, cotton textiles, flour) produced in Puebla and its environs were sold in the provinces of Pachuca and Tulancingo. This trade competed with Tulancingo's

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the development of important colonial centres such as Pachuca and Tulancingo. A closer examination of Tulancingo-Sierra de Puebla's economic relationships could illuminate some aspects of this interesting topic. See Thomson, 1989: 11, and Piestchmann, 1973: 127-129.

own produce, sometimes with negative consequences for the economy of Tulancingo.[5]

Colonial Tulancingo was much like Tulancingo is today in terms of climate. Over the centuries commentators have agreed that the Valley has a very benign climate. Nowadays the average temperature varies between 10° C and 18° C, with a maximum of 25° C during the summer and a minimum of 5° C in the winter. However, freezing temperatures of -5° C have been known.[6]

The rainy season in this part of the country usually begins in May and lasts until mid-October. To judge from some contemporary sources, this situation seems to have been very similar during the late colonial period.[7] Moreover, this pattern of rainfall can be traced back to pre-Conquest times. José Ruvalcaba, in his detailed study on the sixteenth-century Indian agriculture in the area of Cempoala-Tepeapulco-Tulancingo asserts that "If any of the pre-Hispanic factors remained almost unchanged after the Conquest, it was the rain's yearly period of occurrence as well as the temperature".[8]

Streams running off the nearby hills irrigate large areas of the Valley, especially the central part, around Tulancingo and Acatlán. This physical factor coupled with the fertility of the soil and the construction of a complex system of

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[5] In the last quarter of the nineteenth century, Manuel Rivera, a prominent traveller of nineteenth-century Mexico, attributed the decline of Tulancingo's cotton textile industry to the introduction of cloth made in Puebla and coming from abroad (Rivera Cambas, 1883, vol. 3). Industrial modernization behind protectionist tariffs applied during the 1820s took Puebla to a tangible prosperity by the 1850s (Thomson, 1989). By contrast, Tulancingo's textile industry remained stagnant after the wars of Independence and until the introduction of the first mechanized factories in the last decades of the nineteenth century.

[6] Ruvalcaba, 1986: 26.

[7] There are several testimonies of farmers and local authorities on this issue. See Archivo General de la Nación, Mexico (hereafter AGN), Tierras, v. 2568, exp.1. AGN, Intendentes, v. 73, exp.9. AGN, Archivo Histórico de Hacienda (hereafter AHH), leg. 396-1.

[8] Ruvalcaba, 1985: 74.

channels, sluices and dams -some of them of pre-Columbian antecedents-[9] have enabled local farmers to extend agricultural activities all the year round. This has been a distinctive and outstanding factor for the economic development of Tulancingo. By contrast, in the adjoining arid regions of the Mezquital Valley, the Actopan plain, and the foothills of Pachuca, rainfall has largely determined the agricultural activities. This has placed serious limitations on farmers' options and on the volume of agricultural production. Only recently, with the introduction of modern farming and irrigation techniques, have those lands begun to produce crops and vegetables on a large scale.[10]

The principal rivers of the Valley, their tributaries, and their courses have had a profound influence on the development of the diverse economic activities and the distribution of colonial settlements in the area. The longest and most important river is the river Tulancingo, which rises at the south-eastern edge of the Valley. There, several small streams running off the adjacent foothills and from a spring located within the limits of the former hacienda of Hueyapan converged to form the Río Grande (Big River), also known as river Hueyapan. This flows in a westerly direction through the fertile lands of the municipality of Nativitas. At a point located on the western flank of the present city of Tulancingo, the Río Grande meets the Río Chico or San Lorenzo, which rises on the edge of the town of Santiago Tulantepec. The river is properly called Río Tulancingo from the point of confluence and to the north for approximately twenty kilometres (12.3 miles), before turning to the west to leave the

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[9] See Ruvalcaba, 1985. For an overview of ancient Mexico's agricultural irrigation systems see Rojas, 1994.

[10] Despite such unfavourable conditions for arable farming, in the seventeenth and eighteenth centuries the Mezquital Valley was a major pastoral region with some of the most important sheep and goat rearing states of the centre of New Spain (Konrad, 1980; Riley, 1975). Meanwhile the Apam plain progressively concentrated on the profitable cultivation of maguey (Kicza, 1980; Leal, 1982). The principal colonial markets for both products were Mexico City and the district of Pachuca-Real del Monte.

territory of the Valley. On its course, the river receives, on its western flank, water from minor tributaries originating in the foothills close to Acatlán. Farther north it meets the Río Tortugas, flowing from the municipality of Acaxochitlán on its eastern side.

Despite its crucial importance for the economic and social life of the region, the Tulancingo is not and has not been a big river. According to an 1825 testimony, it was about four meters deep and twelve meters wide at the southern environs of the town of Tulancingo.[11] However, in the rainy season it could rise considerably, as happened in 1791 and in 1825 when two floods caused serious damage in the outskirts of the town.[12] As for its tributaries, most of them are seasonal in flow and uneven in depth. Since rainfall is not abundant, averaging about 700 millimetres annually[13], this means that irrigation is vital for prosperous agriculture and other economic activities. The Laguna de Zupitlán, in the municipality of Acatlán, is the major reservoir of water in the Valley. Yet this was only enough to cover the requirements of some adjacent estates and towns.[14] With the increasing demand for both human consumption and agricultural purposes in the last decades of the colonial period, water supply was a major problem.

Tulancingo's meteorological and hydrological advantages are complemented by the high quality of its soil. A fertile and intensively cultivated zone stretches from Hueyapan in the south-east to Acatlán in the north-west. Since the mid-fifteenth century this area has been an important producer of arable crops (maize, wheat, and

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[11] Ortega, 1995: 31.
[12] AGN, Padrones, v. 1; Ortega, 1995: 31.
[13] In recent years that was the average precipitation in the municipality of Tulancingo, the heartland of the Valley. See Instituto Nacional de Estadística e Informática, 1988.
[14] According to Cossío (1946: 109) and Rivas (1982: 52), Zupitlán was an artificial lake built near some springs in order to distribute water for irrigation and human consumption. They do not specify when this construction took place.

barley), fruits (nut, peach, apple, among many others), vegetables (beans, peas, lentils), and flowers.

There are, however, some parts that have not, or cannot, be used in the same way. These are concentrated mainly to the north, where even now the accessibility to water for agricultural purposes is problematic and soils are more difficult to work, compared with the central and southern lands of the Valley. In such places, for example the present town of Zacatepec and some *rancherías* of the municipality of Metepec, farmers combined seasonal and non-irrigated cultivation with rearing livestock, principally sheep and goats. In the colonial epoch, the hills surrounding the Valley were pastoral areas that provided abundant grass for grazing, as well as timber and firewood for the local and regional markets. This last activity was an additional means of livelihood for a number of peasants of the surrounding towns.

Mineral resources suited to the necessities of the local industries complemented the agricultural potential of the region. Obsidian, limestone and chalk for building, milling and sculpture were found close to the provincial capital. Francisco Ortega wrote in 1825:

> In the outskirts of Tulancingo there are several quarries that provide in abundance whatever stone is needed for building, paving and mill stones.

And further he added:

> Towards the east of the town lies a hill called Tezontli [...], which is made of a stone of the same name which is excellent for building because of its lightness, great porosity and binding with lime and sand.[15]

In the surroundings of the Valley there was clay for tiles, brick, and pottery. In the hill Yolo - twelve kilometres east of Tulancingo - silver was found, whilst to the

[15] Ortega, 1995: 35.

north there were small deposits of minerals associated with coal and iron[16], though none were put to use on a commercial scale.

In sum, the favourable physical conditions described above - climate, topography, soil, and sources of water - have constituted long enduring characteristics and extremely influential factors in the history of Tulancingo. During the late colonial period those elements predisposed the Valley towards a mixed economy based upon intensive arable cultivation combined with livestock raising. These agricultural parameters contrasted strongly with those of the neighbouring arid regions located to the south and west which, for the same reason, have been more exposed to the vagaries of the weather.

Furthermore, Tulancingo was well placed to take advantage of the proximity and easy access to two of the principal urban and industrial markets of central Mexico, Mexico City and Pachuca-Real del Monte, as well as being an important interregional trade axis linking the central plateau to the north-east coast of the Gulf of Mexico and to the Huasteca.

[16] Ortega, 1995: 42.

Chapter 2 Population trends

Among the most important features of the history of the Valley of Tulancingo in the late colonial period was the increase of population. This phenomenon interacted in important and complex ways with changes in the economic and social structures. By the close of the eighteenth century, many contemporaries were aware of the growth in population, which manifested itself in a number of significant ways, like the widening of the demand for food and goods and the intensification of disputes over resources, particularly land. In this chapter an attempt has been made to estimate the total population of the Valley and to identify the timing of demographic change. The exposition includes a discussion of the importance of mortality and migration upon the Valley's late colonial demographic trends.

Over the late colonial period, the Valley of Tulancingo, which included the parishes of Tulancingo and Acatlán, contained roughly one third of the inhabitants of the province of Tulancingo.[1] By mid-eighteenth century, 29% of the population lived there. Shortly after Independence this proportion was slightly higher: 33%.[2] This does not mean that population increase was absent. Far from it, in less than a century the number of inhabitants trebled, passing from about 4,725 persons in 1743 to some 15,000 in 1825. The growth rate averaged a robust 2.6% per annum.

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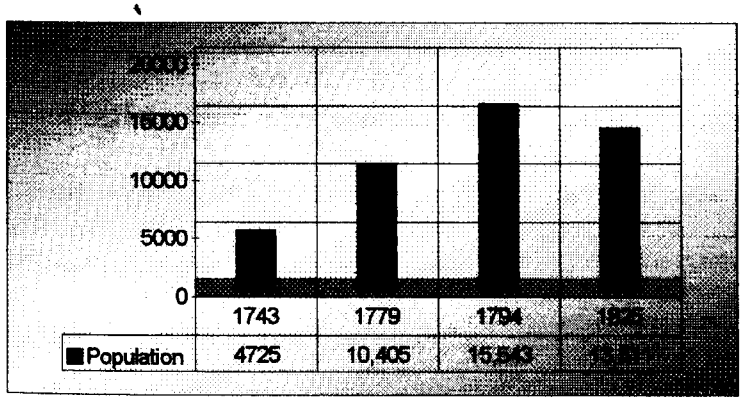
[1] Both parishes or *doctrinas* fell within the limits of the civil *partido* of Tulancingo. This partido, together with those of Singuilucan, Acaxochitlán, Huasca, Atotonilco el Grande, Tutotepec and Tenango made up the colonial province or *alcaldía mayor* of Tulancingo. The parish of Tulancingo (founded by Franciscans *c.* 1528) had as its *cabecera* the town of Tulancingo, where the doctrinero or priest resided. It contained eight *visita* towns, without resident priest but visited on a regular basis: San Lorenzo, Nativitas, Santiago, San Antonio Coatepec, Jaltepec, Metepec, Hueytlalpan and Asunción, along with numerous haciendas and ranchos. The parish of Acatlán (Augustinian, created *c.*1557) had no major *visitas*, providing religious services to many minor settlements and a small number of ranchos and haciendas. Towards 1754 both *doctrinas* were secularised.

[2] In 1825 the Northwest of the province (including the parishes of Atotonilco el Grande and Huasca) absorbed another third (28.9%). The mountainous Northeast's share (which included the parishes of Tutotepec and Tenango) was 23.4%. The south edge of the province (formed by the parish of Singuilucan), contained only 4.36%of the total population. Ortega, 1995: Tabla estadística 1.

It is a difficult and hazardous task to try to determine the fluctuations of this process of population growth and the motors of change. Available evidence is at best fragmentary and often difficult to resolve. In attempting to solve this problem, it has been necessary to undertake calculations and advance hypothetical explanations that, inevitably, will be subject to future refinement. In order to make demographic measurement acceptable for the purposes of modern scholarship, long-term population change was abandoned in favour of discussing the medium and short-run fluctuations evident in civil and ecclesiastical censuses, and some additional parochial data.

A first impression of the demographic trajectory of the Valley of Tulancingo between 1743 and 1825 can be drawn from figure 1.

Figure 1. Population size, Valley of Tulancingo, 1743-1825



Sources:
1743, Estimation based on Villaseñor y Sánchez, 1951, vol.1: 134-35.[3]
1779, "Plano exacto de todas las personas del Arzobispado de México...", AGI, Varios, 38.
1794, Estimation based on "Padrón general...parroquia de Tulancingo", Microfilm. AGN, Genealogía y Herádica, 20659.
1825- Ortega, 1995: Estado 2.

Population increase seems to have been particularly strong between 1743 and 1794. Thereafter a period of slight decline set in. Unless backed up by other evidence,

[3] The source gives only totals of Indian and non-Indian families (825 and 100, respectively). There is no available information about the number of members per family in the Valley at that time. Scholars still dispute the coefficient that should be applied in these kinds of calculations. Working with this same source, López (1963) and Gerhard (1962) put the number of members per Indian family at 5. In

gross figures may provide a distorted view of population changes and they must be treated with caution. For instance, the growth of population from 1743 to 1779, as suggested in figure 1, would have implied an implausible high rate of increase of 3.3 per year. It is important to remember that the figure for 1743 is a rough calculation based on the number of families, and that the non-Indian sector was possibly under-recorded. A larger population size in the opening year would imply a lower, and also more acceptable, rate of increase for the following decades. Similarly, according to contemporary testimonies, the total population in 1825 was about 10% higher than the number given in the civil census of that year. Consequently, the period of 1794-1825 appears to have been more of stagnation than of decline. We will examine in detail each of these two periods. For the moment it is important to stress that although corrections of this type are particularly relevant to evaluate the moments of change and their short-term consequences, overall, the balance of the 1743-1825 period seems unequivocal: information from other sources supports the impression that the Valley experienced strong population growth until the end of the eighteenth century followed by a period of sluggish demographic performance.

The demographic trajectory just described was not atypical: other regions of the colony and, indeed, the New Spain as a whole experienced a similar demographic evolution.[4] In the case of the Valley of Tulancingo, the variations observed can be explained almost wholly by changes in two basic factors: mortality levels and migration. Let us first examine the 1743-1794 period.

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addition, Gerhard multiplied the number of non-Indian families by 6. Using these coefficients we arrived at 4,725 as the approximate population of the Valley in 1743.

[4] Given the remarkable regional divergence in the demographic history of late colonial Mexico, any attempt to calculate an overall rate of growth is hazardous. Nonetheless, some estimations might be presented to illustrate our point: 1742-1795 = 0.84; 1801-1810 = 0.75; 1811-1820 = 0.11. *Apud* Pérez Herrero, 1993: 266. For an overview of the population movements of the colony at large see Márquez, 1993: 37-48 and Garner, 1993: 14-16. Among the places with a pattern like that of Tulancingo were Nueva Galicia, a province that included sections of Jalisco, Michoacán and Zacatecas, and some

Growth, 1743-1794

In evaluating this period, the starting point of our computation is particularly important. In 1743 the population was recovering from the severe epidemics of the preceding decade. A sudden increase in deaths in 1734 was followed by the catastrophic *matlazahuatl* epidemic of 1737-38 (table 1).

Table 1. Burials of Indians, Tulancingo parish, 1732-1742

Year	Burials
1732	125
1733	188
1734	288
1735	168
1736	119
1737	2,443
1738	105
1739	59
1740	47
1741	73
1742	119

Source: Registro de entierros de Indios.
Microfilm. AGN, Genealogía y Herádica, EFA 20654.

What caused the number of deaths to increase in 1734 is not known. It is very likely that it was the effect of an epidemic, as happened that year in many other places in central New Spain.[5] The sudden increase in the summer burials and the high proportion of deaths of young children suggest the presence of an acute infectious disease, possibly measles, as occurred in the nearby Valley of Puebla.[6]

The *matlazahuatl* epidemic, regarded by scholars as a landmark in the demographic history of late colonial Mexico, affected the centre, north, and western parts of the country between 1736 and 1739. A contemporary observer calculated that

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parishes in the Bajío and Oaxaca. See Cook and Borah, *Essays*... I, pp. 310-312, 320-321; Van Young, 1981: 36-39; Brading, 1978: 42; Rabell, 1975: 56-57, and Miranda, 1968: 133-135.

[5] See "Cronología de las epidemias en la Nueva España", in Márquez, 1993: 59.

[6] Malvido, 1993: 91.

as many as a third of the population of the colony was carried away by the disease.[7] The nahuatl term *matlazahuatl* has been used since the seventeenth century to describe the external symptoms of the illness: *matlatl* net, *zahuatl* eruption. In other words, eruptions of spots on the skin like a nettle rash.[8] In Tulancingo the epidemic started early in the spring of 1737, spreading from the provincial capital to other towns and afterwards all across the countryside. By the end of the year, thousands of Indians died in the parish of Tulancingo alone. In the neighbouring parishes of Singuilucan and Acaxochitlán, it was said that most of the Indians died as a result of the disease.[9] This demographic outcome caused important shifts in the patterns of land tenure that will be examined later in this work.

The epidemic of 1737-38 was the worst of the century. Furthermore, there is no evidence of serious mortality crises in the preceding decades. In the early 1740s the population of the Valley might well have been at the lowest level of the century. It is important to bear in mind this consideration when assessing the recovery that took place thereafter. Likewise, additional information about the size of the total population earlier in the century is necessary to evaluate fully the magnitude of the mortality crises of the 1730s.

Since as a result of the epidemics the loss of population was high among both infants and adults, the subsequent recuperation should have been initially slow.[10] However, natural increase and immigration combined to produce a remarkable

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[7] *Apud* Cooper, 1965: 49. Some estimates state that in the province of Puebla 140,000 persons died for the disease (Márquez, 1993: 53), while in Mexico City alone 60,000 perished.

[8] *Apud* Cuenya, 1996: 52. Specialists still dispute whether it was *typhus exanthematicus* or plague. About the prevalent ideas on the etiology of the disease and health policy implemented to fight the epidemic, see Molina, 1996.

[9] AHPJ, Protocolos Tulancingo, box 11, prot. 80. According to this source, the number of victims in Acaxhochitlán was 900.

[10] In the 'normal' years of the 1732-1742 decade, about half of Indian deaths were infants (aged under seven). In 1734 the share of the latter rose to 72%. By contrast, during the *matlazahuatl* epidemic, the non-infant (aged above seven) burials were far greater. For instance, in July, when the crisis reached its

expansion in the succeeding decades. Writing on the aftermath of the *matlazahuatl* epidemic in the Mexican central valleys, Ouweneel remarks that the stagnation that followed upon the event "was soon turned into a growth in population figures".[11] Rapid recovery of the population following epidemics is not exceptional in pre-industrial societies.[12]

The evidence on migration will be examined in chapter 5. An indication of the natural increase can be obtained from the difference between births and deaths over time. Since collection of this type of data is remarkably time-consuming and parochial records after 1750 are more fragmentary, only the quinquennium 1775-1779 in the three major southern towns of the Valley was sampled (table 2).

Table 2. Baptisms and burials in Coatepec, Nativitas and Santiago, 1775-1779

Year	Baptisms	Burials	Net change
1775	40	17	23
1776	53	22	31
1777	40	23	17
1778	29	19	10
1779	36	50	-14
Total	198	131	67

Source: Registro de bautizos y entierros. Microfilm. AGN, Genealogía y Heráldica, 20566.

Overall, the quinquennium finished with a surplus of baptisms. Only in 1779, when smallpox attacked the area, was there an excess of reported deaths over births. Although isolated, this episode significantly affected the final result of what otherwise would have been a period of notable local demographic growth. Once more, this fact underlines the importance –at least in the short to medium term- of mortality crises

peak, the ratio of non-infant deaths was 3:1. This pattern was the same in other parts of the colony. See Malvido, 1993: 83, 91, and Rabell, 1990: 50.

[11] Ouweneel, 1996: 12.

[12] See Wrigley, 1969: 6-74.

upon population growth.[13] On the other hand, the capacity of the population to recover is equally remarkable, for though serious epidemics became more frequent after 1737, the number of people in the Valley continued to increase until the end of the century. It is noticeable from table 2 that baptisms showed no upward trend. This could be taken as an indication that the expansion was already falling off, but it does not seem to have been the case, in the light of information available for the succeeding decades.

In the civil census of 1791, 40 percent of the non-Indians living in the Valley were classified as children (aged under 10)[14]. This proportion of non-adults would be even higher if the number of youngsters (say, up to sixteen years) was added. In other words, the age structure of the area resembles that of populations during periods of rapid demographic growth, when younger age groups are very significant. Evidence of such rapid upward climb is the significant increase of the population of the parish of Tulancingo, which in the years 1779 to 1794 rose from 8,980 souls to 14,150, which represents an annual growth rate of 3.84. This was an outstanding achievement, especially in the face of the subsistence crisis that reduced large sections of the population of the Valley (and of many other parts of central and southern Mexico) to a state of poverty and famine in 1784-86.

In the course of this crisis there were many complaints about the sharp increase in the price of grains, especially the maize, and about the indigence spread over the lower sectors of the society.[15] Some people died, whilst many more dispersed

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[13] For a recent exposition on the substantive importance mortality had upon population change in preindustrial societies and about the alternative approaches employed by historians to examine the issue, see Landers, 1993: 97-110.

[14] An examination of the census showed that individuals from eleven upwards were classified as adults ("man" or "woman" in the source). This age division was the same as that employed by the priest of Acatlán in the parochial census of 1770. Nevertheless, this was not a fixed criterion, for in the 1794 parish census of Tulancingo the age of seven marked the division between the two groups.

[15] In 1786 the price of maize sold to the populace increased up to 10-12 pesos per carga. In 1825 Francisco Ortega stated that the normal price in the lowlands of the district was about 2 pesos per carga

over the lower sectors of the society.[15] Some people died, whilst many more dispersed looking for food and trying to avoid the disease. Indeed, most of the Indian towns of the Valley and the surrounding areas were granted exception from tribute until they recovered from the negative consequences of the crisis.[16] Corroboration of the noticeable increase of deaths is shown in table 3. The sample refers to the Indian population, hypothetically the most affected, and covers an ample area of the northern part of the Valley.

Table 3. Indian burials in Jaltepec, Hueytlalpan, Asunción and Metepec, 1782-1789

Year	Burials
1782	53
1783	40
1784	122
1785	149
1786	57
1787	19
1788	19
1789	37

Source: Registros de entierros de indios.
Microfilm. AGN, Genealogía y Herádica, 20654

Though important, the 1784-86 crisis appears to have been less lethal than that of 1737-38. An indirect testimony of this difference can be obtained from a comparison of the increase in the number of burials in each crisis relative to the preceding 'normal' years. Accepting the premise that in both instances the proportion of deaths that went unnoted was similar, there was a sharp contrast between the sixteen-fold increase which occurred in 1737 and the three-fold increase registered in

[15] In 1786 the price of maize sold to the populace increased up to 10-12 pesos per carga. In 1825 Francisco Ortega stated that the normal price in the lowlands of the district was about 2 pesos per carga and in the Sierras 1 peso per carga. Ortega, 1995: Estado 4. This is a rough indication, since annual prices continually oscillated and within each year there were also important seasonal fluctuations.

[16] AGN, Tributos, v. 69. The towns from the *partidos* of Atotonilco and Huasca also asked for and were granted the same permission.

1784-85. It can be assumed that the subsequent recuperation of the population was ~~less~~ more difficult after the 1737 epidemic.

Other evidence suggest that the crisis of the 1780s was less dramatic and also more short lived in the Valley than in other places. The widespread use of irrigation and the improvement of the weather conditions in 1786 reduced the impact of the poor harvests of the previous year.[17] In May 1786 news about a copious wheat crop in Tulancingo appeared in the *Gazeta de Mexico*, and shortly after an official report stated that, thanks to the use of irrigation, there had already been two excellent maize harvests in the area.[18] In June, the Alcalde Mayor asserted that "up to now there has been no maize shortage in the jurisdiction", adding that even envoys from other provinces were buying corn in the local market.[19]

The customs officer also referred to the availability of grains for human consumption. However, in contrast to the district magistrate, he denounced the fact that it was very difficult for the poor to buy them at the inflated prices created by the manipulation of the market by the hacendados.[20] This problem was particularly acute for the growing non-agrarian population living in the provincial capital. Also for those who, in spite of having access, either personally or by family connection, to a piece of land, lost their harvest in 1785 and therefore had to buy the grain in the marketplace. Likewise, many dependent tenants and owning-occupying *rancheros* found themselves in a very difficult situation. Perhaps because of Tulancingo's agricultural potential, there was no *alhóndiga*, an institution that may have ensured a minimum supply of grain at lower prices. Hunger was certainly around the corner.

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[17] Ouweneel states that, overall, the Anáhuac region, formed by the major valleys and the surrounding mountains of Central Mexico, Tulancingo included, was "much less affected by the harvest failures than its western neighbours, the regions of Michoacán and Guadalajara". Ouweneel, 1996: 14.

[18] *Gazeta de Mexico*, 2 (10), May, 1786. Printed in Florescano, 1981: v. 1, p. 374. The maize crop is referred in AGN, Tributos, v. 69, exp. 100, f. 31.

[19] Francisco del Llano to the Viceroy, June 3, 1786. Printed in Florescano, 1981: v.1, pp. 370-372.

But access to grain was differential. A substantial proportion of the working population was employed in the numerous haciendas of the Valley, thus receiving a ration of maize as part of their salary. Testimonies from a meeting held by the Alcalde Mayor with the major hacendados, show that the rations of maize continued to be given during the crisis and that on some occasions there were surpluses that went on helping the local poor and those who came up from other provinces.[21]

The crisis was more severe and lasted longer in the adjacent jurisdictions of Pachuca, Zempoala, Apam, and other dry areas located to the south and west of Tulancingo.[22] For instance, in the mining district of Pachuca-Real del Monte the shortage of food provoked social unrest. Hundreds died of disease, causing a major disruption in both the mining and agricultural activities. As late as 1788 parts of the Mezquital Valley and the Pachuca mountains were still afflicted by the shortfall of grain and fodder.[23]

The assumption that in the Valley of Tulancingo the population's capacity for demographic growth was only partially impaired in the mid-1780s should be put to the test in future investigations. The evidence on population movement already presented in this section suggests that it continued to grow at least until the early 1790s.

Stagnation, 1794-1825

Demographic trends changed at some point during the second half of the 1790s or, more probably, in the course of the first quarter of the nineteenth century. For the first

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[20] Francisco Vicario to the Viceroy, March 25, 1986. *Ibid*: 368-369.
[21] The meeting took place in May 26, 1786. It is published in Florescano, 1981: v.1, pp. 373-374.
[22] See the reports on different parts of the present state of Hidalgo in *Ibid*: 366-402.
[23] On the social effects of the crisis in the mining towns, see Florescano, 1981: v.1, pp 380, 399-401. About its economic impact and prolonged duration in Pachuca-Real del Monte see Navarrete, 1998.

time in our computations, broad census data indicate population decline: between 1794 and 1825 the number of residents of the parish of Tulancingo diminished from 14,150 to 12,488. This is of particular interest since this parish was by far the most dynamic of the Valley over the eighteenth century. The parish of Acatlán, which estimated population in the early 1790s was some 1,400 persons, was only 1,023 in 1825. In all the Valley was deemed to house about 15,500 persons in the mid-1790s, whilst the census of 1825 listed 13,511.

The image of population decline should not be taken for granted. Once more, problems of faulty information must be considered initially. Francisco Ortega, *prefecto* of Tulancingo, grouped the census of 1825 shortly after it was taken and calculated that about 10%of the inhabitants of the whole district were not registered, hence the impression of a slight population decline when compared to previous counts. If Ortega's calculation is accepted, then the total population of the Valley at that time may have been about 15,000. In his opinion, a census carried out in 1820 was more reliable, but unfortunately it is now missing. Yet, working with the total population of the municipality of Tulancingo copied out by the *prefecto* from such listing, we can estimate at around 16,300 the number of residents of the Valley in 1820.[24] Comparing again the total population level of the mid-1790s with the adjusted figures of the 1820s, the resultant image looks more like one of stagnation than of decline.

Moreover, there are indications that natural increase continued influencing the area (table 4).

[24] According to Ortega (1995: 38) in 1820, the municipality of Tulancingo had 18,490 inhabitants. At that time, the municipality included the parishes of Tulancingo, Acatlán and Singuilucan. In 1825, Singuilucan's share of the population of the municipality was 12 %. Assuming that this proportion was

Table 4. Births and deaths, Tulancingo Valley, 1819, 1825

Period	Born	Died	Net change	Natural increase*
1819	899	260	+639	38.7
Crude rate**	54.48	15.75		
1825, Jan-July	525	404	+121	8.9
Crude rate	38.85	29.9		

Sources: 1819- AGN, Bienes Nacionales, v. 452, exp. 7.
1825- Ortega, 1995: Estado 3.
*Calculated by taking the difference between the "crude birth rate" and the "crude death rate".
**Crude rate: Number of births in a year divided by the population and multiplied by 1000. The total population in 1819 was about 16,500. See footnote 4024.

Though the birth rates shown in the table 4 are plausible,[25] it seems unlikely that in 1819 the population should have experienced a natural increase of 639, or that deaths should have amounted to just about a quarter of the current births. This unacceptable figure can be attributed to considerable under-registration of deaths. The figures for the first half of 1825 approach more to conventional expectation.[26] Of course, no reliable computation can be made from such fragmentary data. Whatever the absolute increase, it seems unquestionable that, at least in the early 1820s, natural increase was present in the Valley, as it was in the rest of the province and in the neighbouring jurisdictions of Pachuca, Zempoala and Apam, among others.[27] However, the demographic effects of this episode was limited for, as discussed earlier, the total population did not increase in size after the mid-1790s.

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the same five years before and deducting the resulting figure from the total population of the municipality, the population of the Valley can be estimated at 16,300.

[25] Although on rather different timings and trajectories, the eighteenth century estimated crude birth rate in various parishes of Central Mexico fluctuated between 50 and 60 per 1000. See Rabell, 1990: 15. Brading and Wu, 1973: 12.

[26] The highest crude birth rates that have been estimated for the different countries of northwestern Europe during the significant demographic expansion that took place between 1750 and 1850, were in the range of 40 per 1000. The average death rates fluctuated from about 25 to 40 per 1000. Anderson, 1996: 220-222.

[27] This observation is based on a survey of the sources quoted in table 64.

Whether 1794-1825 was a period of stagnation, as maintained here, or not, is a question for which there will be no definitive answer until detailed basic information on fertility, mortality and migration is gathered. Whatever the case, the period marked a significant shift in Tulancingo's late colonial demographic evolution. For the same reason, an attempt to explain how and why this demographic downturn occurred must be undertaken.

Before opening the discussion, it is important to recall that Tulancingo was not alone in this transition from demographic expansion to sluggish growth or stagnation. Sharp declining growth rates in the latter part of the colonial period have been documented in other places, for example, the Guadalajara region and parts of the Bajío, Michoacán and Oaxaca. A fall in population occurred in Tula, in the modern state of Hidalgo, as well as in Acatzingo and Zacatelco, in Puebla-Tlaxcala.[28]

The reasons and the precise timing for this slackening in population growth are still under discussion. Some scholars have suggested that, in the long run, the sharp increases in mortality linked to the more frequent and severe outbreaks of epidemic disease and subsistence crises that set in after about the 1750s, reduced the effects of the tendency for high birth rates observed over much of the country.[29] Another view, widely accepted, underlines the relationship between population movements and the wider economic and social circumstances, asserting that by the close of the colonial era Mexico was on the verge of a Malthusian crisis.[30] Richard Garner's recent estimates on Mexico's late colonial economy question this latter assumption, suggesting that the production of basic foodstuffs met the needs of the population. Yet, he urges caution in considering this line of interpretation, given the

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[28] For an illustrative overview of this process see Rabell, 1990: 65-71.
[29] Brading and Wu, 1973: 12; Malvido, 1982; Pescador, 1992: 98-106.
[30] Van Young, 1986: 71-74. A more recent and detailed examination of this topic is in his essay "Los ricos se vuelven más ricos...", 1992a. See also Pérez Herrero, 1993: 266, and Tutino, 1986: 63-74, 143.

structural constraints of the economy: "Although Mexico's eighteenth-century growth precluded a Malthusian catastrophe, it may still have been too narrow or too uneven or too incomplete to escape totally the Malthusian element".[31]

Arij Ouweneel, who has worked on the Anáhuac region, suggests a different approach to the question. According to the tributary data he examined, from 1780 to 1800 there was a sharp rise in the tributary population in much of that vast area of central New Spain. Moreover, he finds no signs of widespread dearth and starvation after 1800. In his opinion, if there had been a Malthusian crisis it would have been earlier in the eighteenth century.[32] Leaving aside the problems of the representative nature of the tributary data for purposes of overall demographic calculations, a problem he himself acknowledges, his observations on the remarkable provincial and sub-regional discrepancies remind us of the difficulties and pitfalls implicit in postulating a general demographic development framework. Above all, Ouweneel's emphasis on migration as a crucial factor influencing the late colonial demographic developments is of particular interest for the case under examination here.

It is not easy to be precise about the place occupied by Tulancingo in this debate. All in all, it exhibits elements of each of the interpretations outlined above. Given the serious information gaps and the impossibility to exhaust, within the limits of a chapter, the intricate question of the interaction of the various factors that contributed to the regional population changes, the following explanation is largely tentative and partial. Further research and the analysis and publication of more evidence, especially of parochial origin, will be especially welcome.

To treat the question of the timing of the change first, it is likely that the turning point towards stagnation occurred in the first decades of the nineteenth

[31] Garner, 1993: 256.

century. The decade of the 1790s was somewhat favourable for the bulk of the population. Apart from a short outbreak of smallpox in 1797, no major mortality crisis occurred during those years. Between 1794 and 1797 a succession of excellent harvests in the province paved the way for the grain prices to drop to one of the lowest levels of the century.[33] In the economic sphere, the commercial agriculture and cotton textile industry - the most dynamic sectors of the eighteenth century, as will be shown in later chapters - were in a buoyant condition, giving employment to a large number of people in both the thriving provincial capital and the countryside.

Circumstances changed greatly in the course of the first quarter of the new century, when a serious crisis and some natural disasters overtook the Valley. Perhaps the principal element in the crisis was the contraction of the principal economic activities of Tulancingo, owing to interregional competition and the final collapse of its major extra-regional market, the district of Pachuca-Real del Monte.

In reality, the crisis was of broader spatial dimensions. In merely five years, between 1801 and 1806, the mining operations in the district were drastically reduced, and so also was the vast demand for foodstuffs, raw materials, labour and other basic commodities.[34] The experience was particularly painful for Tulancingo's textile manufacturing and wheat milling sectors, for whom the long-time competition in the mining market against the goods and produce coming from beyond the region, namely Puebla (including Cholula and Tlaxcala), became more fierce. This was clearly perceived by the contemporaries themselves. Writing in the aftermath of the crisis, Francisco Ortega expressed his concern about the negative effects that the marked

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[32] Ouweneel, 1996: 19. See especially his essay of 1991 on the topic.

[33] Between 1794 and 1796 the price of the maize sold by the church dropped from 12-18 reales per fanega to 8-10 reales per fanega, whilst the barley fell from 24 to 8 reales per fanega. The wheat was sold down at 28 reales per fanega. See the letters from the tithe collector of Tulancingo to the ecclesiastical authorities in Mexico, 1794-1796 Archivo Histórico del Arzobispado de México (hereafter AHAM), box 1786-1, exp. 1.

reduction in the consumption of broad cotton textiles in the mines had upon the local textile industry. Likewise, he saw an unpromising future for the processing of wheat flour, which had to strive against the better quality flour of Puebla not only in the mining region, but also in the local market.[35]

In common with other supplying areas closely linked to the mining centre, in Tulancingo the opportunities of employment and additional sources of income diminished in both the urban setting and in the countryside. This contraction, coupled with the substantial demographic recovery of the preceding century in the Indian pueblos and the parallel reduction of the communal lands, entailed serious problems for the labouring population.

For many people, moving out of the region should have become an option to try to escape from this difficult situation. This is not to say that in the past emigration was absent. The question here is whether it became more intense after about 1800 and if it could have neutralized the effects of the traces of natural increase of the early 1820s discussed earlier. The research effort necessary for measuring this phenomenon could not be undertaken. However, there is evidence that a flow of people left the Valley around that time.

An explorative analysis on immigration towards Mexico City on the eve of the Independence movement, found that from a sample of 430 resident households with at least one member born in another place, one-tenth had blood ties with the region of Pachuca-Tulancingo. Unsurprisingly for us, most of the migrants from Pachuca arrived between 1803 and 1811, a pattern that, very likely, was the same for those coming from Tulancingo.[36] The significant influx of migrants from this latter origin

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[34] See Navarrete, 1992: 69-70, 84-86.
[35] Ortega, 1995: 42.
[36] Toscano and Aguirre, 1973: 7, 13-26. The influx of migrants from Tulancingo to the capital continued over the subsequent decades. In a list prepared by Pérez and Kline (1996: 263) showing the

has also been documented in the parish of Santa Catalina, located on the northern outskirts of the viceregal capital.[37] It would be interesting to know what happened to the migrants. Did their chances of economic opportunity improve by such a risky move? Was there a better job available in the city? Was the move permanent? For those who did not migrate, there were still further complications to come.

In 1809 a succession of frosts followed by a severe drought caused a poor harvest of maize, beans, wheat and other basic dietary items. Grain prices soared up to three-times the average level of the 1790s. Maize, for instance, cost 6 pesos a carga, and wheat reached 7-9 pesos a carga.[38] Shortly after, in 1813, a virulent epidemic struck the Valley. According to the priest of Acatlán, a large number of people died. The extent of the tragedy was such that he had to accede to his Indian parishioners' request to rearrange their communal religious services and to reduce the amount of the *obvenciones* paid to him.[39]

The population was also directly affected by the wars of Independence, especially between 1811 and 1814, when heavy campaigning against an insurgent force entrenched in the nearby district of Zacatlán, was directed from the town of Tulancingo. In that phase of the rebellion, two failed attempts by the patriot forces to capture Tulancingo's provincial capital took place. One of those confrontations was said to have involved hundreds of combatants.[40] Thereafter the rebels restricted their actions mainly to ravaging some haciendas and to threatening the safety of the towns. By the end of that decade the revolt was almost over and no assaults were reported.[41]

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place of origin of the residents of the city in 1842, Tulancingo was ranked seventh within a total of 80 different locations.

[37] Pescador, 1992: 108-111.

[38] From Pérez del Castillo to the Viceroy, AGN, Intendentes, v. 73, exp. 9.

[39] AGN, Tierras, v. 2958, exp. 80.

[40] *Cfr.* Miquel, 1969: 443-444, and Cossío, 1946: 20-24.

[41] Report sent to the viceroy by Juan M. Tobio. AGN, Bienes Nacionales, v. 452, exp. 7.

An exact estimate of population loss during the civil war is not possible. Overall, it appears that the effects of the latter on the 'background' levels of mortality were minor. In this regard, it is significant to see how laconic the contemporary observers were when referring to the number of losses caused by the armed strife, notwithstanding that it was an unprecedented agent of death in the history of their communities. Instead, the migration that the conflict brought with it was a cause of major concern, particularly among the civil and ecclesiastical authorities, since neither the collection of taxes nor the accomplishment of religious communal obligations could be fully controlled in such circumstances.

Judging from the data discussed up to this point, it can be assumed that it was the combined effects of strong emigration -propelled by the unstable economic conditions which arose early in the century and which was exacerbated later on by the war-, disease, and harvest failure that account for the demographic stagnation of the Valley in the last two decades of the colonial era. These kinds of combinations have proved to be highly disruptive in human history.[42]

However, the magnitude of the crisis and its aftermath should not be overstated. The availability of communal lands and the opportunities of employment were seriously affected but not cancelled, and they continued to provide a good part of the needs of the populace. Certainly the majority of the Indian towns faced a net loss of their corporate landholdings and was heavily dependent on the employment on the surrounding haciendas. Yet, some managed to hold a surplus of land and other means of independent communal subsistence and income. In 1804, for instance, the community of Metepec acknowledged that it owned a larger amount of land than that

[42] An illustrative analysis of the disastrous demographic consequences of this type of phenomenon in rural pre-industrial Europe is given by Myron Gutman, *War and rural life in Early modern Low Countries*, Princeton, 1980.

to which
~~what~~, in principle, it was legally entitled. Coatepec rented some small landholdings in order to cover part of its communal expenses. The cabecera of Tulancingo, the most 'powerful' of the Indian towns in the whole province, received the rent of some rural and urban properties, as well as the returns from the mortgages imposed on two haciendas and a house.[43]

Besides, as in other parts of the New Spain, Tulancingo's Indian communities were socially differentiated and well integrated into the market economy.[44] Private landholding, for instance, was a common and valuable asset. This implied that a fraction of the Indian families did not depend solely on the corporate lands of the villages. Apart from catering for their subsistence needs, some used their private properties to produce cash crops, others leased them and many more sold them when needing an extra-income. Those who did not have access to private land ownership, neither to communal subsistence plots, still had a chance to find a job in other activities before migrating.

By the close of the colonial period, the economy of the Valley did not rely exclusively upon the mining demand, however important this was. The rise in population over the eighteenth century, even if it was an impoverished one, created an important seller's domestic market. The town of Tulancingo, which by the 1790s had achieved a respectable size of around 6,500 inhabitants, was an important regional urban centre and also the core of the province's political and administrative life, thus fulfilling other non-economic needs. In addition, for its strategic geographical position, it was a pivotal point in a major commercial circuit between the central

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[43] AGN, Tierras, v. 3027. Further discussion on the economic situation of the *pueblos* of the Valley is presented in chapter 7.

[44] There is a vast literature relating to the complex economic and social structure of the Indian communities in the late colonial period. See Van Young, 1981; Von Mentz, 1988; Ouweneel and Miller, 1990; Pietschman, 1992; Dehouve, 1992, 1993; and Ouweneel, 1996.

Altiplano, the Huasteca and the lowlands of Tampico and Pánuco. Not even the severe crises of the first two decades of the nineteenth century altered these facts.

An indication of the scale at which one of the key sectors of the local economy continued operating, the textile manufacturing, is given by the number of looms that existed in 1825: 152 in the town of Tulancingo and 32 in the rest of the municipality. Although this number was about two-thirds of that reported in the 1790s, the Valley maintained its position as the main producer of cotton goods in the whole central and southeastern part of the modern state of Hidalgo. The partido of Atotonilco el Grande, with 54 looms in 1825, was the second in rank.[45]

All the elements outlined above, account for the fact that in spite of all the difficulties that mushroomed in the first quarter of the nineteenth century, the total population of the area of our concern, though did not increase, stayed at the important levels achieved at the end of the previous century.

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In sum, Tulancingo fully participated in the roster of epidemic, famine and war that afflicted Mexico at the end of the colonial period. Continuous outbrakes of high mortality posed a frequent threat to the population, but it managed to grow substantially from the early 1740s to the end of the eighteenth century. There are indications that natural increase and immigration combined to produce the expansion. After that date, the total population stayed at more or less the same level, notwithstanding some signs that natural increase was still present in the area. Strong emigration arose as the most likely force leading towards demographic stagnation. The reasons for this to happen are yet to be clarified. Subsistence pressures in the

[45] Ortega, 1995: 42.

countryside, the contraction of the alternative sources of income and employment in the non-primary sectors of the local economy (such as textiles), and the social and political dislocations brought about by the civil war, seem to have played an important role.

Discussing the regional differences in the popular reaction to the movement of Independence, Simon Miller has suggested that in the central Highlands "peasants failed to participate in the Insurgency because they had yet to experience the full impact of the demographic recovery". In his opinion, continued access to communal lands and the availability of artisan employment account for this result.[46] Of course, this is a thesis open to debate, as Miller himself acknowledges and, moreover, encourages. At first sight, his explanation seems to provide an appropriate interpretation of that period of the history of Tulancingo: although in decline, lands and artisan employment were available there and it remained as a royalist domain throughout the movement of Independence. However, the case so far points towards the necessity to incorporate other factors in the discussion. In examining the influence of demographic changes, the possible alleviating effects of migration must be considered. The movement of landless peasants may have helped to ease the kind of social tension referred to by Miller. This movement took place in two stages: first, from their communities to the surrounding haciendas and to the provincial capital in the search of job and additional sources of income, and then across jurisdictional boundaries towards areas of industrial activity (e.g. the nearby mining centre, when the time was propitious there) and other major urban centres, namely the city of Mexico.

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[46] Miller, 1991: 131.

An image of people just moving out of the Valley would be incomplete. Internal and interregional migration was an omnipresent phenomenon in colonial Tulancingo and merits further examination. But before dealing with this issue, it is necessary to explore the composition of the population and the way people distributed themselves in the territory.

Chapter 3 Ethnicity

The indigenous background

With favourable climatic conditions, and land and water in abundant supply, the Valley of Tulancingo was inhabited well before the Spanish conquest. Semi-nomadic groups of Chichimeca Pame and Otomí origin were among its initial recorded settlers.[1] Later on, the Valley was the temporary residence of a group of Toltecs who migrated to the centre of what is now Mexico after the decline (about AD 700) of the great city of Teotihuacán. Tulancingo figures in many accounts as the capital of the Toltec branch that came from the Gulf coast before they moved to Tula, which subsequently became their imperial city.[2] Tulancingo remained under the dominion of the Toltec state until its dissolution in c. 1175-1178.

A wave of political and cultural readjustment in central Mexico then followed.[3] The key position of Tulancingo, situated near the limits of the Altiplano and along the shortest route towards the important eastern coastal lowlands and the Huasteca, made it a coveted area for the successive rulers of the country. First, in the thirteenth and early fourteenth century, it became part of the powerful Otomí state of Xaltocan, whose capital was located in the northern border of the Valley of Mexico. Thereafter, it came under the rule and cultural influence of the dominant Nahuatl-

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[1] Carrasco, 1950: 36-37.

[2] Ruvalcaba, 1985: 28. Recent studies have shown that the Nahuatl term *Toltecatl* by origin referred to the inhabitants of Tula, obscuring the fact that two groups of people with different geographic and cultural backgrounds were united there. One group, called Toltec-Chichimecs in some historical sources, came from the north-west. They were mainly hunter-gatherers. The other group, called *Nonoalcas*, came from a place situated in Tabasco on the Gulf coast, establishing themselves in different places and mixing with people of different cultural backgrounds during the course of their long-distance migration towards the Altiplano. This group was said to have been highly civilized. Davies, 1990: 129-130. In the pre-Hispanic tradition the Toltecs were regarded as great architects, artisans, and skillful farmers. Alva Ixtlilxóchitl, 1975: I, 273-274.

[3] One of the best studies on the issue is Davies, 1980.

speaking states of the Mexican basin, particularly Texcoco.[4] Unfortunately, this overall view on the external influences and political situation of ancient Tulancingo is not matched with similar information relating to its internal features. Written sources tell nothing about local society in those centuries. In the sixteenth-century there was a strong local tradition that traced the origins of Tulancingo's population to the Toltec-Chichimec immigrants that came to the area after the fall of Tula.[5] However, this was a tradition held by almost all the indigenous states of central Mexico at the time of the Spanish conquest.

Archaeological investigations carried out within an area of a dozen kilometres around the modern city of Tulancingo show that, overall, the settlement continued through into the early sixteenth century.[6] By that time, the Mexicas, a Nahuatl-speaking group that built the most powerful state in pre-Hispanic Mexico, had taken control of the area, subjugating the predominantly Otomí population. Some historical sources refer to the fact that Tulancingo was a regional centre of importance that normally housed an Aztec garrison.[7]

When the Spaniards arrived, there was a dense population distributed throughout the Valley.[8] The two ethnic and cultural cornerstones of preconquest Tulancingo, the Otomí and the Nahua, were clearly distinguishable. The various local settlements were divided into two halves according to their language and ethnicity: *Tlatocan* in the southern part of the Valley, apparently going back to the Nahuatl-speaking conquerors; *Tlaixpan* in the northern part, inhabited mainly by the Otomi-

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[4] Davies, 1980: 114-120, 144-146. Gibson, 1964: 10-20.

[5] In 1563, for instance, Diego Alexandrino, one of Tulancingo's *caciques* (colonial indigenous rulers) claimed to be a direct descendant of the first Chichimec ruler of the area in preconquest times. See the documents published by Carrasco, 1963: 85-91.

[6] See Muller, 1956-57, and Noguera, 1970.

[7] *Apud* Gerhard, 1972: 335.

[8] Historical demography is especially daunting during this period. Based upon indirect and fragmentary evidence, Ruvalcaba calculates that in 1570, when the decline of the Indian population was already

speaking conquered population.[9] This arrangement gave the basis for the spatial distribution that followed immediately after the conquest. Indeed, it was still at work in the early seventeenth century, having an influence on the modifications made to the original plan of forced nucleation of Indian settlement that took place around that time. The Franciscan historian Juan de Torquemada, who was in Tulancingo in around 1603, described this spatial partition as follows:

> De la cual lengua [otomí], y de la que llamamos comúnmente mexicana está poblado aquel pueblo [Tulancingo] dividido en dos parcialidades: una que llaman Tlahtocan, es de los mexicanos, acolhuas y tetzcucanos, y esta cae en la parte del mediodía. La otra, que cae hacia la parte norte, que se llama de Tlaixpan, es de los que hablan esta lengua otomí y ninguno de ellos se nombra por este nombre, sino por el nombre de Chichimecatl, que es el antiguo que ellos tuvieron, aunque ahora unos y otros hablan la mexicana; pero, en realidad, son diversos porque los unos son acolhuas y los otros chichimecas.[10]

Miscegenation

From the early stages of the colonial rule, the indigenous population was joined by a body of Spanish settlers. A permanent settlement of Spaniards dates from the first quarter of the sixteenth century.[11] Their increasing number and their concurrent spatial expansion significantly modified the Indian character of the Valley. It is important to stress that coexistence and racial mixing were familiar experiences in Tulancingo long before the Spanish advent. The term Indian, used here for the sake of simplicity as opposed to the Spaniards and other groups that appeared after the conquest, must not obscure the pre-existing ethnic and cultural heterogeneity of the

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underway, the parish of Tulancingo housed some 30,000 persons, almost twice its size two centuries later. Ruvalcaba, 1985: 233. See especially the figure on population in p.236.

[9] Lockhart, 1992: 25-26; Carrasco, 1950: 37.

[10] Torquemada, 1969: I, 260-261.

[11] Ruvalcaba, 1985: 111-112.

native population outlined above.[12] From this perspective, the addition of the European component was the main novelty introduced after the sixteenth century. The subsequent changes in ethnicity affected every corner of the Valley, though with strong spatial differences. Ethnic mixture was greater and proceeded at a faster pace in the headtown of Tulancingo than in small towns and countryside.

An early testimony of this spatial contrast was given by a Spanish official, Alonso Pérez, in his careful report written in 1602 after his visit to Tulancingo in preparation for the *congregación.* Pérez pointed to the coexistence of Indians, which constituted the bulk of the town-dwellers, and Spaniards as one of the distinctive features of the provincial capital. By contrast, he recorded no non-Indians living in the other pueblos of the Valley.[13] It is possible that there were some non-Indians residing there, but their number was probably to negligible to record. In those places, the Indian population heavily outnumbered other ethnic groups throughout the colonial epoch.

The explosive demographic expansion of the eighteenth century was accompanied by an equally remarkable alteration of the Valley's ethnic composition. At the same time, increasing *mestizaje* caused the ethnic system of classification as devised in the early colonial period to enter into crisis. Labelling and categorizing the society's members based purely on ethnic considerations became difficult for contemporaries, as it is today for modern scholars, a task complicated by the paucity of reliable statistical information. Historians must rely upon rather treacherous official records. Late colonial listings, whether civil or religious, tend to blur the complex

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[12] A clarifying excerpt on the origin and the misconceptions carried out by the use of the term Indian has been drawn from Eric Wolf's *Europe and the people*, which reads as follows: "Racial designations, such as 'Indian' and 'Negro', are the outcome of the subjugation of populations in the course of the European mercantile expansion. The term Indian stands for the conquered populations of the New World, in disregard of any cultural or physical differences among the native Americans." *Apud* Ouweneel 1990: 2.

and Miller

ethnic and social structure that had arisen after centuries of racial and cultural amalgamation. On the other hand, they are the best available indicators of the tendencies operating in the field at the time.

The eighteenth century witnessed a substantial increase in the non-Indian groups of the population. In the mid-1740s, according to Villaseñor's *Theatro Americano*, the Valley was still heavily Indian, with only a handful of non-Indians living in the provincial capital. This source appears to have left aside the population of the rural estates, which from their inception became important centres of non-Indian nucleation. Yet, judging from later and more complete population figures, it is unlikely that the inclusion of that population in the counting would have altered the numerical prevalence of the Indians around those years.

Things were different at a later stage. By 1779 the Valley had become divided almost equally between Indians and white and mixed-blood groups, a composition that prevailed without major changes for the rest of the century.

Table 5. Ethnic composition of the Valley and its constituent parishes, 1779

Parish	Spaniards	%	Castizos	%	Mestizos	%	Mulatos	%	Indians	%	Total
Tulancingo	2,298	26	834	9	869	10	1,111	12	3,868	43	8,980
Acatlan	217	15	11	1	86	6	23	2	1,088	76	1,425
Totals	2,515	24	845	8	955	9	1,134	11	4,956	48	10,405

Source: 1779, "Plano exacto de todas las personas del Arzobispado de México...", AGI, Varios, v. 38.

If the census categories listed in table 5, as drawn from the source, were to be taken literally, the predominant group was that of the Indians, which constituted 48% of the population of the Valley. The share of Castes (Castizos, Mestizos, and Mulatos) was 28%, while that of Spaniards was 24%. These percentages corroborate the idea that the Valley was a place of a dynamic ethnic and cultural intermingling and, from a

[13] Alonso Pérez's report is reporduced in Ruvalcaba and Baroni, 1994: 19-22.

broader prespective, provide a further testimony of the social transformations occurring in the Mexican countryside at the time.[14]

Quantitative calculations, however, provide only a preliminary understanding of the intricate nature of the problem under scrutiny here. An examination of the spatial distribution of the population according to race reveals the existence of important variations. The vast majority of the non-Indian population (91%) was concentrated in the parish of Tulancingo, whereas that of Acatlán, extending over the northwestern section of the Valley, remained heavily Indian.[15] The main reason for this disparity was that the former parish housed the only urban centre in the province, the town of Tulancingo, which in the last decades of the century and until 1825 accounted for almost half of the Valley's population and over fifty percent of the total number of non-Indians.[16] Besides, most of the rural estates of the Valley, which were the places of residence of a substantial one-third of the non-Indian people, were located in the parish of Tulancingo.

As for the Indians, a number of them resided in the haciendas as permanent workers, but the majority was concentrated in the *pueblos de indios*. Also in this case the provincial capital occupied the dominant position, absorbing around one-third of the Indian tributary population as measured by census. The remaining two-thirds were distributed among the rest of the towns, with proportions that varied from Acatlán's 16% to Metepec's 3%.[17]

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[14] The growth of the non-Indian population was a general tendency in the late colonial period, though with strong regional variations. For a recent overview see Faulhaber, 1993: 101-106. Good studies on the shifts in ethnicity experienced in rural areas are Brading, 1978; Martin, 1985; and Van Young, 1988.

[15] In the more detailed parochial census of 1770, the headtown of Acatlán appeared with an overwhelming 97% of Indian residents. AGN, Bienes Nacionales, leg. 628, exp. 17.

[16] In both spheres the share of the rest of the towns was comparatively modest. In 1794 the percentage of the overall population living in those places was 26%. See Parish census of Tulancingo, AGN, Genealogía y Heráldica, microfilm 20659. In 1791, the towns housed only 5% of the non-Indian population, whereas the provincial capital comprised 54%. AGN, Padrones, 1.

[17] AGN, Padrones, v. 1.

The ethnic classification delineated above was widely used in the late eighteenth century and relied upon a complex and variable combination of socio-legal considerations and on the physical appearance of the population. Besides, the final decision of classifying the numerous individuals of unclear ethnic descent into one or another category was left in the hands of the local officials and priests in charge of carrying out the listings, thus leaving ample space to personal interpretations. For these reasons, none of the aforementioned groups were homogeneous. This issue calls for further comment.

To begin with, the term *indio* was used mainly to imply a member of one of the *pueblos de indios*. As such they were subject to specific legal rights and obligations. For instance, they were entitled to the usufruct of village plots and exempted from military service. On the other hand, they had to pay tribute, the colonial head tax. In common social esteem, together with Mulatos, they were considered inferior to Spaniards and Mestizos. From an ethnic and cultural point of view, in theory there was supposed to be a direct link between the incumbent Indian population and the ancient inhabitants of the country. There were, of course, elements that persisted over the course of time. For instance, the native languages continued to be used, especially in the remote areas of the Valley.[18] Among the higher social ranks, some individuals claimed to be descendants of pre-Conquest lineages. Despite their background, however, eighteenth century Indians barely preserved the fundamental characteristics of their predecessors. As García Martínez rightly points out, any notion

[18] No specific reference to the use of the indigenous languages has been found. Yet, the use of interpreters in the local courts when dealing with incidents where individuals of Indian ascription were involved suggests that many people spoke in their native language. In 1811, the priest of Acatlán referred to the existence of a number of isolated and inaccessible communities whose members rarely came to the towns, never had attended to mass and, one is tempted to think, preserved some of their traditional customs and practices, language included. AGN, Infidencias, v. 116, exp. 1. Still, as discussed below, a basic knowledge of Spanish was common among Indians.

of a pure native population in the late colonial period would be misleading.[19] For Tulancingo there is much evidence of Indians who spoke Spanish, dressed like their non-Indian peers and intermarried with them.

A general survey of marriage patterns in the parish of Tulancingo at different periods between 1740 and 1799 showed that although the Indians had a strong endogamous tendency, cross-category marriages were not rare. Intermarriage rate ranged from 3.03% in 1740 to a significant 16.6% in 1777 and 12.7% in 1779.[20] As for the use of Spanish, many Indians habitually spoke the language, whether well or badly. All through the eighteenth century one finds numerous cases of Indian court witnesses deposing wholly in Spanish, as well as notarial records and legal transactions (wills, sales of properties and goods, money dealings) where interpreters were not required. It is worth noting that during the second half of the eighteenth century efforts by Spanish State to induce Hispanization in language intensified.[21] General policies like the Spanish language training as an adjunct to Christian education in schools financed by the Indian towns were fully implemented in Tulancingo.[22] Of course, as Lockhart has pointed out, all through the colonial epoch, linguistic Hispanization of Indian peoples proceeded meanwhile in non-official and

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[19] García Martínez, 1990: 104.

[20] Registers and testimonies of marriage. Tulancingo parish. AGN, Genealogía y Heráldica, microfilm 20620.

[21] The colonial programme of linguistic Hispanization has long attracted the attention of scholars. For its development in the central valleys see the interesting remarks made by Gibson, 1964: 147-149. A recent and more detailed examination is given by Tanck, 1989, 1994.

[22] The most serious attempts to execute the programme in the Valley took place during the last years of the eighteenth century and the first decade of the nineteenth century. Crucial to this end was the strict control of the *cajas de comunidad* (community treasuries) attained around that period by the colonial state through the *Contaduría de Propios*, for they provided the necessary funds to cover the teachers' salaries and other expenses. The process can be followed through the financial records of the communities of the province of Tulancingo for the 1791-1809 period and the accompanying remarks exchanged between the provincial magistrate and officials of the Royal Treasury. AGN, Archivo Histórico de Hacienda, leg. 396-2.

unpremeditated ways, perhaps with more effective results than the deliberate attempts by the colonial state.[23]

The endeavour to eradicate the indigenous languages in the province strengthened, at least temporarily, after a serious Indian revolt occurred in 1769 in the *partido* of Tutotepec, dependent on Tulancingo.[24] In the aftermath of the rebellion, the central authorities, both civil and religious, commanded the officials and priests in the province to give more emphasis to the teaching of Spanish to the Indians in order to avoid similar events happening again. It was a common belief that a basic command of Spanish by the Indians would help to enforce the control exerted over them.[25] Although these attempts fell short of their objectives and, as noted before, native languages continued to be spoken, they contributed to the advancement of the overall process of cultural Hispanization by which the boundary between the Indian population and the so called *castas* became increasingly unclear. The use of the term *ladino* to refer to Indians who were highly acculturated to Spanish standards is common in the documents of the epoch.[26] On the other hand, in spite of the profound

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[23] See Lockhart's thorough investigation of this topic in his *The nahuas after the conquest*...1992: 260-325.

[24] The uprising took place in the Sierra of Tutotepec, some 48 kilometeres to the northeast of the headtown of Tulancingo. According to official reports, several thousand Indians from a wide area that included the parishes of Tutotepec, Huehuetla, Tenango, and Pahuatlán were involved. The movement was led by a native of the town of San Mateo Tutotepec, who claimed to be the messiah and, accompanied by a woman venerated as the Virgin of Guadalupe, wanted to install an Indian priesthood that was to replace the Spanish clergy. The riot was ended abruptly when an armed force commanded by the district magistrate of Tulancingo surprised the rebels in the remote place where a shrine was being worshipped. Thirty eight men and women were imprisoned and eight persons were wounded. AGI, Mexico, v. 2422. A brief summary on the ideology and political aims of the movement is given by Taylor, 1979: 124. A topic for future investigations would be to explain the reasons why, in spite of the relative proximity of Tutotepec and the very magnitude of the movement, it had no major impact among the Indian population of Tulancingo Valley. A factor to consider is the sharp contrast between the two areas regarding the strength of the Spanish penetration. Over the colonial epoch Tutotepec constituted a remote and, in many parts, inaccessible mountainous area where race mixture and acculturation progressed at a comparatively lower pace, and where Indian communities enjoyed a relatively high degree of autonomy.

[25] An illustrative example was the public letter written in June 1768 by the archbishop of Mexico, where he insists on the matter as part of a set of rules intended to hasten the cultural Hispanization of the Indians. AGI, Archivo Histórico Nacional Madrid, Diversos, 28, doc. 35.

[26] See, for example, AGN, Tierras, v. 3672, exp. 24 and AHPJ, Protocolos Tulancingo, box 7, prot. 57, fs. 32, 46; and box 11, prot. 81, f. 2.

transformations affecting the Indian group, the category was much closer to defining a separate social unit than *español* or *mestizo*.[27]

To complicate things further, in common with what happened in other parts of New Spain, it was possible for people of other ethnic background to reside in the *pueblos de indios* or in the special Indian districts in the towns (usually denominated *barrios*), and even to be inscribed in the official records as Indians.[28] If used without caution, some sources can lead to serious misinterpretations. For example, the author of the 1794 parish census of Tulancingo registered as Indians all the inhabitants of the *pueblos* outside the *cabecera*, leaving the impression that they preserved an almost intact native identity. From this source, it might be believed that the Spanish state's policy of separation between the Amerindian population (*la república de indios*) and the dominant Hispanic culture (*la república de españoles*) had been entirely successful. Yet, from the 1791 civil census and other contemporary testimonies, we know that there were a number of persons from other racial categories living in those settlements. For instance, Coatepec housed 191 individuals of white and mixed-blood ascription, Acatlán 85, Jaltepec 21, and Metepec 7.[29]

Coexistence between Indians and other groups of the society was very close, especially in the urban setting. Daily contact in the streets and public places such as the marketplace, residence in the same neighbourhood and living in shared houses were routine and widespread experiences. However, such inter-ethnic intimacy

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[27] Commenting on the subject, Lockhart (1983: 321) considers that among the Indians of the central valleys "the concept 'Indian' may have been closer to acceptance than at any time in the past, since many were bilingual and the colonial centuries had worn down the microethnicities a little, bringing some awareness of a common broader ethnic tie in contrast to the Hispanic and Hispanized". He himself acknowledges that there were important differences according to place.

[28] Taylor (1985), who studied the region of Guadalajara, and Mentz (1988), in her investigation on the western part of Morelos, found examples of a high proportion of non-Indians living in the pueblos de indios. García Martínez (1987), in his work on the Sierra Norte de Puebla, documents cases of pueblos de indios formed by people of African descent. Ouweneel refers (1996: 233-234) internal conflicts over the governorship of some pueblos of the Anáhuac region, where the incumbent governors were accused of belonging to families of non-Indian background.

applied primarily to the middle to lower ranges of the society. Allowing for exceptional cases, the higher one's social position, the less common was inter-racial mixing.

Corroboration for the alleged high degree of intermixture affecting the Indian population can be obtained by looking at the composition of the barrio of Zapotlán, one of the two Indian outlying units of the town of Tulancingo. The source utilized was the 1791 civil census. Contemporaries considered Zapotlán as a predominantly Indian settlement. However, there were also 210 individuals of white and mixed-blood ascription living within its confines. Far from being isolated according to race, the inhabitants were closely interconnected, whether by kinship ties, by occupational networks or simply by residing in the same or in contiguous houses. Almost one-third of the 46 "non-Indian" households listed in the census were in reality the result of cross-category marriages involving an Indian partner. From the viewpoint of the current system of ethnic classification, the resulting families – which frequently comprised parents, grown children, and other relatives and in laws –, were groupings of people belonging to different categories.

A typical example was Atanasio de la Cruz's family, an "indio tributario" married to a "castiza", who lived with their six "mestizo" children and the wife's sister, a widowed "castiza". Further along the same street, two families shared the same household, though occupying separate buildings. One of the families comprised a Spanish father, an Indian mother, and their Mestizo children. The other family consisted of castizos, Indians, and Mestizos. The employed members of these families were engaged in small trading and transportation. It is imaginable but not documented that there were economic connections between them. All in all, human relations in

[29] AGN, Padrones, v. 1.

places like Zapotlán moved along a spectrum from daily support through mutuality to dependence from the very beginning of an individual's life, regardless of his/her own nominal ethnic category and that of his/her relatives and neighbours.

When the practice of accepting non-Indians as permanent residents in the Indian settlements began, and what their precise legal situation was, are questions that should be answered in future investigations. In 1779, Antonio Soto, a 43 year-old Spaniard, *vecino* of Acatlán, declared that he was born and had always lived in the town. Another *vecino,* Felipe de Jesús, mulatto, had the additional status of tenant, for he had leased some lands from the local community for eighteen years.[30] In times of increased financial pressures and when tensions over the control of land proliferated, as happened in the late colonial period, having an increased number of permanent members in the community was a convenient measure.

In sum, the Indian designation remained important to both the authorities and the individuals involved, particularly for fiscal and legal purposes. It also had important social implications. However, "indio" should be treated with caution in any analysis of culture and ethnicity. In this study the term will be used, unless stated otherwise, in its juridical and administrative character, that is, to refer to the members of the pueblos de indios.

The same assessment can be extended to the mixed groupings of the population. The insistence by the local authorities upon classifying the wide range of people that could fit into those categories by using the traditional ethnic scheme encountered serious practical problems. Late colonial ethnic terms were, in principle, genealogical. Therefore, a precise knowledge of an individual's ancestry for some generations was required. As Lockhart remarks, for the bulk of the population

[30] AGN, Tierras, v. 1468, exp. 4.

reconstructing their genealogical trees was an impracticable task, among other reasons because of the high rates of illegitimacy, and practices such as the concealment of parentage and the lack of well defined surnames.[31] The absence of a fixed criterion and the indispensable means (reliable written records) to come to a decision in cases when uncertainty arose, brought about continuous confusion. Thus, a person could be labeled *español*, *mestizo* or even *indio* depending on his/her wealth, biological markers and even his/her own personal declaration. Consequently, in the Spaniard or "español" category were included people of mixed racial ancestry. The same applied to the other categories.

This is not to say that contemporaries were indifferent to the category in which they were classified. In the case of the town of Tepeaca - similar in many respects to Tulancingo -, Garavaglia and Grosso have demonstrated that humble people paid little attention to their position in the official categorization so long as they were not inscribed as tributary Indians or Mulattos.[32] Fiscal and other kinds of obligations, as well as social prejudices bound up with the Indio and mulatto categories, deterred many people from being identified as members of such groups.[33] If the ethnic hierarchy had become unworkable for many purposes, borrowing Lockharts'

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[31] For a general discussion on this issue see, Lockhart and Schwartz, 1983: 315-327. A more detailed examination and also a good summary of the literature's recent findings on colonial marriage patterns, is McCaa, 1994. Rabell, (1990: 21-22) makes some interesting observations on how the socio-economic circumstances affected the patterns of illegitimacy, thus questioning the line of argument that sees race as a more important factor.

[32] Garavaglia and Grosso, 1994b: 46-47. Tepeaca, like Tulancingo, was the leading market town of a fertile and well-watered valley, eastwards to the city of Puebla. Although smaller in size (in 1792 it had some 3,700 inhabitants), its highly polarized social structure (with a minority of Pensinsulars and criollos at the apex), its ethnic composition (with a slight majority of Indians and an increasing proportion of mixed-groups), and the close biological and cultural contact between the different ethnic groups, resemble the situation prevailing in Tulancingo at that time. Also similar was the economic structure of both towns, which possessed a strong agricultural basis and a dynamic manufacturing sector, centered around the domestic production of textiles.

[33] If marriage preferences are any indication of the prevalent attitudes in this respect, Spaniards rarely married Indians and people of African background. This statement is based on a sample of the marriages celebrated in the parish of Tulancingo in 1740-44, 1750-55, 1770-79, and 1795-99. AGN, Genealogía y Heráldica, Parish of Tulancingo, microfilms 20618, 20620-23.

statement, there still were profound connections between ethnicity and social stratification.[34]

An example of the problems of assigning categories was the case of a bigamist heard in 1741. Nicolás Arauz, the accused, first married an Indian in the parish of Ecatepec, located in the northern border of the Valley of Mexico. Then he moved to Tulancingo Valley, where he got married once more, also to an Indian woman. In both instances he was registered as "indio". However, when questioned about this point after he was arrested, Arauz declared that he was "son of a Spaniard or Mestizo". It is not known whether he actually ignored his family background or he denied being an Indian in order to avoid the problems that could arise from having left his native community. Perhaps he was trying to adjust his social-economic status upwards, a common practice in the epoch. More important for us is the fact that the Spanish officer in charge of the case could not arrive on his own at a definitive answer as to Arauz's ethnic quality. Furthermore, none of the witnesses who were called by the court and who had known the defendant for some time, could accurately describe Arauz's ethnic status.[35]

The reasons for these kind of hesitation can be better understood by looking at the striking external similarities that could exist among the members of the lower

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[34] An indication of this was the already mentioned ethnic identity of the local elite. The problem of race and ethnicity has received careful attention from the specialists. In their pioneer studies, McAlister (1963) and Morner (1967) maintained that there was a positive relationship between race and social status in the colonial society. This position was first criticized by Chance and Taylor (1977), who based on their case study on late colonial Oaxaca, argued in favour of the important role played at that stage by economic factors and stressed the necessity of looking at the colonial society more as an economic class society than a caste one. A period of open confrontation between both positions then followed. Other scholars took part in the discussion (McCaa, Schwartz and Grubessich, 1981, McCaa, 1984), which focused on complex methodological considerations. Recently there is a tendency to come to a middle position, emphasizing the numerous and interdependent variables involved in colonial social stratification and paying careful attention to the differences of time and place (Anderson, 1988, Morner, 1992; Garavaglia and Grosso, 1994b). This change encompasses the utilization of additional sources of information and the incorporation of elements of analysis which were previously ignored, such as the contemporary attitudes and perceptions of race, considerations on property and income, kinship and power, etc. Morner (1992: 432-439) presents a good condensed review of this historiographical development.

social ranks. Consider the case of a group of five men who escaped from the prison of Tulancingo. A summary of the detailed description of the fugitives issued by the authorities is presented in table 6.

Table 6. Description of five fugitives, 1795

Name	Ethnic category	Place of residence	Physical appearance	Dress
José Romualdo	Indian	Atotonilco el Grande	Tall, slim, dark skin (trigueño), smooth-cheeked.	White cotton shirt and long underwear (camisa y calzones blancos de manta) ; gray chamois* short pants (calzones de encima de gamuza color yesca); barefoot.
José Cayetano Mejía	Spaniard	Atotonilco el Grande	Short, dark skin, round face, curly hair.	White cotton shirt (cotón de rayadillo) and long underwear (calzones blancos de manta); reddish turn-up[illegible] short pants (calzones de encima colorados de tripe remedados); straw hat (sombrero de petate)
Nicolás Vastida	Spaniard	Pachuca	Medium build, white, bearded (barba cerrada)	White cotton shirt and long underwear (camisa y calzones blancos de manta); upper chamois short pants (calzones de encima de gamusa); spotted cloak (sábana pinta hecha manga)
José Pablo	Indian	Huasca	Tall, slim, dark skin, aquiline nose.	White cotton shirt and long underwear; chamois short pants ; straw hat.
José Marcelo	Indian	Tulancingo	Medium build, dark skin.	Blue woollen shirt (cotón azul de lana), white long underwear; yellow chamois pants; white and blue striped woollen cloak (sabana de lana blanca con listas azules).

Source: AHPJ, Tulancingo Penal, box 1574-1799, exp. January 1795.

*It is not clear whether the chamois (*gamuza*) from which the upper *calzones* were made, was prepared from the skin of sheep or if it corresponded to the imitation made from wool. An occupational census drawn in 1791 listed several *gamuzeros* and tanners. By contrast, woollens came from other regions.

The men involved came from different places located in the extensive colonial jurisdictions of Tulancingo and Pachuca, an element that makes us think about the ample geographical dimensions of the phenomenon examined here. Leaving aside Nicolás Vastida's physical features, the Spaniard with a somewhat clear European descent, and José Romualdo's naked feet, there were no sharp distinctions between

[35] AGN, Inquisición, v. 1139, exp 2.

the men in question. The way they dressed was remarkably alike, both in the kinds of garments used and the materials they were made of. The Indians' clothing, in principle a cornerstone of cultural identity, reveals a high degree of Hispanization in, for example, the use of shirts, short pants (*calzones*) and, in one case, a hat. Indian influence, however, should have been present, perhaps in the design of the upper outfit. The description is not detailed in this respect. Also regrettable is the lack of information on women's clothing. Lockhart has found evidences of the use of the indigenous *huipil* (a simple straight loose-fitting upper dress), some of them from Pachuca, and other accessories of Pre-Conquest origin among the Indians of central Mexico in the eighteenth century.[36] Overall, the evidence presented in the table provides a further illustration of the advanced stage of the progressive movement towards the disappearance of any sharp distinction between the Indians and the community composed of *castas* and Spaniards.

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To conclude, as occurred in other parts of New Spain, in Tulancingo the final stage of the colonial epoch shows a relative decrease of the 'pure' racial groups in favour of a gradual process of *mestizaje*. Race mixture and acculturation were particularly evident in the provincial capital, but they were also present in the countryside, where haciendas functioned as the principal nuclei of amalgamation. The changing composition of the population put the system of social stratification as devised in the early colonial epoch under increasing pressure. Racial designations should not be seen as indicators of a strict categorization. Labelling responded to a complex combination of the racial mixing between Spaniards, Indians, and people of

[36] See his interesting notes on this matter in Lockhart, 1992: 198-200.

African descent, and the degree of acculturation of the population as perceived by contemporaries. Each ethnic category has to be analyzed and measured in its specific temporal and spatial context in order to establish its precise connotation and to determine the limits within which it should be applied.

The process of miscegenation discussed in this section ultimately became a significant factor in the reduction of the Indian's share of the total population of the Valley and the concurrent demographic expansion of the so called *castas*. More investigation is required on the social consequences brought about by the erosion of the traditional ethnic hierarchy. Likewise, it is necessary to study in detail the relation between economy and stratification. How did the expansion of the urban economy and commercialization in the countryside affected the way the local society was organized? The evidence uncovered here indicates that economic considerations became increasingly important for both the division and identification of the different members of the society. Yet, ethnicity continued to play an important role. The tribute-paying categories, for instance, continued to occupy the lower positions. On the other hand, in no way were they alone there. The exploration of residential spatial patterns in the urban sphere, and of the personal appearance of some individuals presented in the previous pages, attest to the intimate relation that, at certain social levels, existed between Indians and non-Indians. As Taylor has put it, the society was not rigidly stratified in endogamous ethnic groups.[37] Such was the complex social process of ethnic, cultural, and economic fusion that prevailed in late colonial Tulancingo.

[37] Taylor, 1976: 69.

Chapter 4 Town and Countryside: Spatial Arrangements and Relationships

The indigenous background

Settlement patterns result from a combination of physiographic, economic, political, and cultural factors. Given the changing nature of these forces, settlement patterns can also be seen as an ever developing process. The complex settlement pattern that had emerged in the Valley of Tulancingo by the late colonial period, and the relationship of the constituent units one to another, were the product of dynamics developed over the previous centuries.

For instance, some of the principal settlements of the Valley in the eighteenth century traced their origin back to pre-conquest times. Archaeological investigations carried out in the environs of the towns of Coatepec and Jaltepec, and the former *haciendas* of Hueyapan, Zupitlán, Huajomulco, and Huapalcalco, show that these places were inhabited long before the arrival of the Spaniards.[1] This continuity has much to do with the general correlation between the location of settlement and water over time. The major towns of the southern section of the Valley developed at the very bank of the streams of Hueyapan and San Lorenzo. Likewise, the provincial capital was closely tied to the main Rio Tulancingo, which for centuries marked its southern and western borders. Farther to the north, Acatlán had easy access to some local streams, whilst the *laguna* (small lake) of Zupitlán was surrounded by a collection of dwellings, including the somewhat populous colonial estate of the same name.

Among the economic and cultural forces affecting settlement, intensive agriculture and the use of irrigation played an important role, enabling the Valley to

[1] Muller (1956-57) and Noguera (1970) mention those places as important archaeological sites of the Valley.

sustain populations of considerable size since pre-conquest times.[2] Although it is not known how widely intensive techniques of food production were distributed before the sixteenth century, it is significant that the population levels achieved by the time of contact were not surpassed in the colonial era. Finally in this overview of the connections between both epochs, it is worth noting that the indigenous settlement patterns found by the Spaniards when they first came to the area - with a core of major nucleated communities and the arrangement of them according to ethnicity -, laid the basis for the spatial organization that followed immediately after the conquest.

Much investigation is still necessary before the continuities and changes between the pre-Hispanic and the colonial epochs can be fully assessed. The following pages focus on the transformations that occurred in the later part of the colonial era. Yet, attention is first devoted to the initial stages of Spanish rule, when the settlement network acquired its basic structural and functional characteristics. Late colonial Tulancingo consisted of a dominant central town (the provincial capital) and a hinterland of about eight *pueblos de indios* (semi-autonomous rural communities) plus a copious group of private estates (haciendas and ranchos) of different size. Each of these three categories – pueblos, provincial capital, and estates – are treated separately. The central argument is that the eighteenth and early nineteenth centuries was a time when the pattern of settlement network underwent great changes. Population growth, urbanization, and economic specialization were key aspects of the late colonial development and, accordingly, our examination concentrates on them.

[2] On the intensive agricultural techniques in use shortly before the Conquest see Ruvalcaba, 1985: 64-68.

The early colonial period: the Spanish imprint

One of the most significant transformations introduced by the Spanish domination in terms of settlement patterns derived from the demographic collapse of the sixteenth century and the subsequent programme of *congregaciones*, which was carried out across the whole colony. A catastrophic mortality among the native population started directly after the Conquest, lasting for almost a century. The precise extent of the decline is still in dispute, but historians agree that it was one of the worst mortality episodes in human history. In one of the most widely based calculations made to date, Borah and Cook argued that no less than nine-tenths of the indigenous population of central Mexico perished between 1519 and 1607.[3] In order to retain a strong religious and, above all, fiscal control over the severely depleted and dispersed indigenous population, the royal government - following a process initiated earlier by the Spanish missionaries - ordered that those living in scattered satellite hamlets and small towns should be concentrated in denser and accessible aggregates of population.[4] Relying on the surviving indigenous settlement units, the pueblos were organized in a centralized and hierarchical structure, with a well-defined *cabecera* (head town) as its central nucleus and a variable number of *sujetos* (subject towns).

This was a significant alteration to the native settlement pattern. Recent research dealing with the subject makes clear that, although before the Spanish

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[3] Borah and Cook, 1993: 33. The decline appears even more dramatic if the level of population before the Spanish conquest is considered. Based upon a wide range of documentary sources and demographic techniques, these authors calculated that the population of central Mexico immediately prior to the European contact was some 25,000,000 dropping to just one million at the onset of the seventeenth century. A concise and illustrative inspection of this topic is given in Gerhard, 1972: 22-25. It is important to note that the experience was very varied, some areas being heavily affected, whilst others exhibited a higher degree of survival. A recent re-examination of the complex variety of factors that combined to produce both the overall impressive de-population and its spatial diversity is in Newson, 1992.

[4] The theme of the congregations has long attracted the attention of the scholars. On the early stages of the programme see De la Torre, 1952, and Gerhard, 1977. For the latter phase (late sixteenth and early seventeenth centuries), usually termed the civil congregations, see Cline, 1949, and Pérez Zevallos, 1994.

conquest in some parts of central Mexico there was a great degree of urban nucleation, the notion of a dominant central settlement among the constituent parts of the *Altepetl* - the basic socio-political and territorial units in Ancient Mexico - was incompatible with the principles of the indigenous organization. The idea of town and countryside, dominant and subordinated entities, was imposed by the Spaniards.[5]

It has been calculated that about 80 to 90 percent of the Indian population of the Valley of Tulancingo died between 1520 and 1620 from the complex totality of factors connected with the Spanish conquest.[6] The head town of Tulancingo had thirteen *sujetos* (subject towns) immediately prior to the resettlement programme, which took place between 1602 and 1604. In spite of the efforts of the Spanish civil authorities to reduce congregation centres to three, only five small settlements were congregated: San Marcos, a village of just 20 families, was congregated in Nativitas; San Sebastián, and San Mateo were reduced in Jaltepec; and San Miguel and San Pedro's populations were moved to Hueytlalpan.[7] The remaining eight *sujetos*, after protesting and arguing against the measure, managed to stay in their original locations: San Antonio Coatepec, San Lorenzo, Nativitas, Santiago, Jaltepec, Hueytlalpan, Asunción, and Metepec.[8] Together with Tulancingo and Acatlán - this

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[5] It seems that the political-administrative centre of the *altepetl* could change from one place to another, depending on where the ruler (*tlatoani*) had his court. Besides, the rulership was rotational among the constituent parts of the *altepetl*. *Apud* Lockhart, 1992: 17-20, and García Martínez, 1987: 23, 75-79. The Spaniards, writes the Mexican historian (p. 151), conveyed a conception of the space of the Renaissance, which favoured nucleated structures and regarded dispersed ones as inappropriate for the civilized world.

[6] Historical demography is especially daunting during this period. Based upon indirect and fragmentary evidences, Ruvalcaba (1985: 40, 236) calculates that in 1570, when the decline of the population was already underway, the parish of Tulancingo housed some 30,000 persons, almost twice its size two centuries later. In his opinion, Tulancingo's native decimation can be attributed to the combination of three highly disruptive factors: epidemics, rapid and intense penetration by the Spaniards and severe exploitation of the Indian communities, particularly of their labour force.

[7] Tulancingo, Nativitas and Jaltepec were initially contemplated as the towns where the others should be concentrated. Hueytlalpan was added afterwards. The congregation process in the parish of Tulancingo can be examined in detailed in the valuable collection of documents published by Ruvalcaba and Baroni, 1994.

[8] Although with different goals in mind, the Indians, *encomenderos* and the local civil and ecclesiastical authorities concurred to signal the inadequacies of the plan drawn by Alonso Pérez, the

latter a point of congregation of some minor communities-, these were the principal towns in the Valley throughout the rest of the colonial epoch.[9]

The final results of the congregation programme can be seen as a reflection of the Spanish-indigenous interaction in modelling the new society that emerged after the conquest. On the one hand, the design of the conquerors was extensively adapted to the local indigenous situation. On the other, there was a displacement of various native elements by European equivalents or by the new ones that arose from the interplay of the first two.[10]Thus, although the degree of concentration achieved by means of the congregation was far from the original plan, it caused profound and long-lasting changes in the preceding spatial structure of the Valley.

During the late sixteenth and early seventeenth centuries, another outstanding and enduring feature of the colonial rural landscape of Tulancingo took shape: the widespread presence of non-Indian agricultural properties. After a relatively modest beginning, the Spanish colonists and their descendants expanded rapidly, as well as their territorial possessions. The process has been followed by Ruvalcaba, who

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Spanish official in charge of the congregation, asserting that only a handful of small settlements should be moved. Their arguments were varied, but in general they stressed the closeness and easy access of the towns to each other and with the intended places of congregation, the fertility of the lands held by the pueblos that should be relocated, and the insufficiency of plots and water for irrigation in the points of nucleation. Different territorial affiliations and ancient animosities were put forward by the towns of Hueytlalpan, Asunción and Metepec, which belonged to the predominantly Otomí *parcialidad* of Tlaixpa, in order to avoid being gathered at Jaltepec, a town belonging to the parcialidad of Tlatocan, of Nahua descent. In parallel with their legal petitions for staying in their original locations, the Indians resorted to a kind of passive resistance, delaying for months the construction of their new dwellings, in the hope that meanwhile their requests were granted, as actually happened to Metepec and Asunción. See Ruvalcaba and Baroni, 1994: 22-56.

[9] During the eighteenth century San Lorenzo appear as a *barrio* (contiguous dependent unit) of Coatepec, but in 1825 it was listed again as a separate pueblo. Acatlán had four or five sujetos before the congregation, some of them already deserted as a consequence of the severe decline in the native population. One of them, Santo Domingo, is mentioned as a pueblo in 1706, but in the parochial census of 1770 it was only a ranchería. Another one, San Bartolomé, was a also ranchería in 1808. AGN, Tierras, v. 3027.

[10] Far from have been mutually exclusive, both cultures hold elements strikingly close to each other. This fact has been repeatedly stressed by the specialists working on the early stages of the colonization. A centralized political organization, a highly stratified society, the complex specialization and division of labour, and a well-developed an complex calendar of religious fesitivites were among the respective European and Mesoamerican cultural backgrounds that, in a way, helped to ease the difficult relationship between conquerors and conquerers.

demonstrates that from about 1570 onwards, the landholdings of the Spaniards increased both in number and in size.[11] This was partly because of the availability of lands left unattended by the demographically reduced Indian communities and the vicinity of the burgeoning mining district of Pachuca-Real del Monte, which represented an attractive market for the commercial agriculture of the Valley.[12] A wide range of agricultural enterprises appeared in the countryside, some of which became prominent nuclei of population and employment as the time wore on. Many of the *haciendas* and *ranchos* that Tulancingo possessed in the eighteenth century initiated their development in this formative period.

Immersed in a different institutional and economic framework, the occupation of the territory by the Spaniards gave rise to a distinct organization and use of the space from that prevailing before their arrival. An outstanding modification was the opening of the commercial connections between the Valley and the westerly mountains of Pachuca, a territory of peripheral importance before the discovery of the silver minerals by the Spaniards.[13] Thereafter, this nexus became crucial for the economic and social development of both areas.

Looking inside the Valley, the formation and functioning of agricultural enterprises and other small proprietary farms entailed a major change in the nature of the relationship between the Indian towns and the surrounding countryside. To begin with, Indian authorities had no political control over the autonomous Spanish estates and their own satellite hamlets, notwithstanding that they were occupying lands that

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[11] Ruvalcaba, 1985: 199-210. See also Ruvalcaba and Baroni, 1994: 176-177, and endnote 13, p. 182.

[12] The Sierra of Pachuca's rich silver deposits were discovered in the mid-fifteenth century. The exploitation of the ores expanded quickly, attracting population and stimulating the growth of settlement. In the 1570's it was one of the principal mining zones of central Mexico. A recently published study on the early history of this district is Cubillo, 1992.

[13] Dry in the southern slopes, inadequate for farming and not easily accessible in many parts, the Sierra de Pachuca was only sparsely and intermittently populated before the arrival of the Spaniards. For the situation prevailing at the time of contact see Gerhard, 1972: 209-211.

for centuries had been under the jurisdiction of one or other Indian community. As far as the distribution of the land and resources is concerned, competition tended to predominate over mutual co-operation. There is ample evidence of disputes over land and natural resources between the Indian villages and the commercial agricultural units, as well as over the intense demand for Indian labour exerted by the Spanish landowners.[14] This antagonism persisted over the following centuries, although its manifestations varied as the balance between population, lands, and employment changed.

The years between 1620 and the end of seventeenth century constitute a major gap in our knowledge of the colonial past of Tulancingo. No study has been published about this period. It seems that it was a time of consolidation of the spatial arrangements established in the first decades of the seventeenth century. There is no indication that the main hierarchy of towns or their spatial distribution was reversed. Rather, the gradual recovery of the Indian population gave new strength to the once nearly annihilated towns, which were able not only to survive but to consolidate their position in the territory. This was a difficult task, since non-Indian agricultural enterprises continued to expand throughout the countryside, frequently at the expense of the land possessions of the Indian communities. A variegated and complex settlement pattern arose. It is to its main features in the remainder of the colonial period that we must now turn.

[14] Ruvalcaba, 1985: 112-119, 195-202.

The late colonial landscape

In contrast to the previous centuries, it is possible to establish a relatively accurate survey of the settlement pattern of Tulancingo in the late colonial period. Over the eighteenth century and the first quarter of the nineteenth century, the Valley was thickly dotted with some 60 to 70 pueblos, haciendas and ranchos, plus a number of minor satellite communities, all distributed within a radius of approximately 16 kilometres around the town of Tulancingo. By the close of the eighteenth century, population density of the Valley was in the range of 20 persons per square kilometre. Although other similar areas were far more populated,[15] Tulancingo's figure compared favourably to the 12.9 of the Intendancy of Mexico, the major civil jurisdiction to which it belonged.[16] In 1825, the Valley was one of the densest areas of settlement in the "district" of Tulancingo, an ample civil jurisdiction created shortly after Independence that grouped the former colonial provinces of Tulancingo, Pachuca, Zempoala and Apam-Tepeapulco.[17]

Within this setting, the population was distributed widely but unevenly. Throughout the 1743-1825 period, almost 90 percent of the inhabitants of the Valley resided within the boundaries of the parish of Tulancingo. Correspondingly, demographic growth, relative to the Valley's population trends, was largely confined to that parish, the population of which trebled in the same period (see figure 2). The parish of Acatlán exhibited a substantial expansion between 1743 and 1770, thereafter it stood still, closing in 1825 with a slight decline relative to the level of the 1770's.

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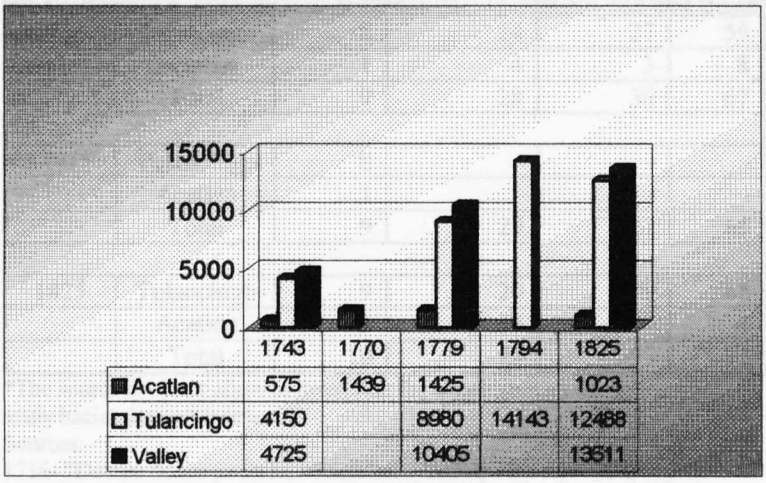
[15] The smaller Valley of Oaxaca had over 150 inhabitants per square kilometre by the 1790's. Taylor, 1976: 66.

[16] In 1803, the most densely populated *Intendencias* were Guanajuato, with 28.8 inhabitants per square kilometre and Puebla with 15.3. Mexico was the third in rank. *Apud* Márquez, 1993: 49.

[17] In 1825 the whole district had 9.8 persons per square kilometre. *Apud* Ortega, 1995: 39.

Figure 2. Population of the constituent parishes of the Valley, 1743-1825



	1743	1770	1779	1794	1825
Acatlan	575	1439	1425		1023
Tulancingo	4150		8980	14143	12488
Valley	4725		10405		13511

Sources:
1743, Estimation based on Villaseñor y Sánchez, 1951, vol.1, pp.134-35.
1770, Acatlán parish census, AGN, Bienes Nacionales, leg. 628, exp. 17.
1779, "Plano exacto de todas las personas del Arzobispado de México...", AGI, Varios, 38.
1794, Tulancingo parish census, Microfilm. AGN, Genealogía y Heráldica, microfilm 20659.
1825- Ortega, 1995: Estado 2.

The marked difference in population size between both *doctrinas* was a direct result of the settlement pattern prevailing in the Valley at that time. With the exception of the *cabecera* of Acatlán, all the major towns, including the highly populated provincial capital, were located in the parish of Tulancingo (see table 7). Similarly, about 90 percent of the principal haciendas and ranchos fell within its limits. This spatial distribution demonstrates that the major sources of wealth and employment were also concentrated there. Therefore, although the relationship is not inevitable, it is very likely that the significant population increase achieved in the parish of Tulancingo and the concurrent stagnation in Acatlán were a consequence of migration: the growth of Tulancingo was partly instigated by immigration coming from Acatlán.

Table 7. Spatial distribution of the major settlements of the Valley, 1716-1825

Year	Parish	Towns	Haciendas	Ranchos	Total
1716	Tulancingo	8	24	27	59
	Acatlán	1	4	3	8
	Total	9	28	30	67
1791*	Tulancingo	8	-	-	-
	Acatlán	1	-	-	-
	Total	9	29	27	65
1825	Tulancingo	9	20	39	68
	Acatlán	1	3	-	4
	Total	10	23	39	72

*The source does not allow to determine the administrative ascription of many haciendas and ranchos.
Sources:
1716- "Detalle de los pueblos, haciendas..."AGN, Tierras, v. 338, exp. 2.
1791- "Relación de pueblos, haciendas...", AGN, Padrones, v. 1.
1825- Ortega, 1995: Tabla 1.

Though illustrative, an interpretation of the distribution of the population based purely on jurisdictional considerations would be simplistic and of limited value. It is more important to view the towns and the rest of settlements as a whole, rather than as separate entities. Indian towns, haciendas, and ranchos were bound together by intense economic, social and political forces. At the same time, there were important differences between them in population size, ethnic composition and, perhaps more important, in their economic and political organization.

Before opening the analysis, it is worth making a brief comment on Table 7. The number of settlements registered there is only a rough guide and should not be taken as a means of determining with precision the changes in the settlement patterns of the Valley in the 1716-1825 period. The authors of the general listings included in the table usually left out the smallest satellite communities, creating the impression of a higher degree of nucleation than that which actually existed. For instance, whereas the 1791 census recorded 29 major ranchos in the whole Valley, in 1794 a more careful ecclesiastical survey listed 60 in the parish of Tulancingo alone. On the other

hand, there was an identifiable and, to some extent, stable core of major settlements, a fact that accounts for the relatively small variation in the figures recorded in the table.

The pueblos de indios

One of the most enduring features of Tulancingo's colonial settlement pattern was the presence of a compact number of *pueblos de indios* (Indian towns): since the early seventeenth century until the close of the colonial epoch there were nine of them. At some time between 1812 and 1825, San Lorenzo, a former *barrio* of Coatepec, attained the status of pueblo, thus increasing to ten the number of this kind of settlement.

This remarkable continuity should not be seen as a sign of a static body of rural communities that survived 'untouched' the passage of the time. Beyond their formal features, the pueblos of the eighteenth century were different in many respects from their early colonial predecessors in their ethnic composition, internal organization, and economic functioning. In this respect, Tulancingo followed a widespread evolution of the pueblos in New Spain. From the growing number of studies completed in recent decades, it is clear that the history of such Indian corporations was characterized by dynamism.[18] Before the end of the colonial era,

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[18] A substantial number of empirical studies accomplished in the last thirty years have made us aware of the changing nature of the Indian communities, a fact almost absent in previous interpretations, which were inclined to stress the elements of continuity. Highly influential in questioning the once widely accepted view that considered the pueblos de indios as stable closed corporate communities, was the now seminal work by Gibson (1964) on the Indians of the Valley of Mexico. Among the recent literature dealing with this problem, the regional approach has proved to be particularly useful. An important conclusion that can be drawn from this kind of investigation is that, in spite of the meaningful variations resulting from the distinct set of social, political and economic conditions, change was a common experience for the pueblos, whether located in areas of intense colonization (Martin, 1985; Von Mentz, 1988; Lockhart, 1992; Van Young, 1992a: 273-302; Ouweneel, 1996) or where their integration into the colonial order proceeded, comparatively speaking, at a more gradual pace (Taylor, 1976; Farris, 1984; García Martínez, 1987; Dehouve, 1994). The 'revisionist' current of argument does not deny the existence of continuities, it is only that it places them within a broader and more complex notion of Indian historical development. For a general survey on the topic see Ouweneel's introduction to the valuable collection of essays on colonial Indian communities edited by Miller and Ouweneel (1990).

many of them were well integrated into the market economy, partially monetarized, and were developing an increased differentiation in their social and occupational structure. Discussing this problem, Bernardo García has argued that, overall, the pueblos of the latter part of the colonial epoch, "were more akin to modern peasant communities than to the corporate political bodies from which they had originally evolved".[19] Indeed, this seems to have been the case in Tulancingo.

In legal terms, *pueblos de indios* applied to socio-political bodies with a territorial basis and other collective possessions, and which performed a number of corporate administrative, fiscal and religious functions. In principle, only the Indians were allowed to live in such corporate bodies. However, as shown previously, a variable number of people of other ethnic origins were included. Overall, however, the *pueblos* remained heavily Indian. A notable exception was the *cabecera* of Tulancingo, where by the late eighteenth century three-quarters of the population were classified as non-Indians.

There were some legal requirements for a community to obtain the status of pueblo. As indicated in Coatepec's request made in 1754 to separate from Tulancingo, it was necessary to be above a given number of families (usually 80), possess an adequate church building and to have the means to guarantee an independent existence. It was also common for the petitioners to stress the advantages that the erection of the new self-governing body would bring for the collection of tribute, a matter of prime importance for the colonial state.[20]

Looking at them as centres of population, Lockhart asserts that *pueblo* (town is the best English translation) was the word used by the Spaniards immediately after the conquest to refer to the Indian polities and settlements of any size. In later times,

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[19] García Martínez, 1990: 106.

the connotation of the term changed, implying principally a small unit.[21] Thus, in the standard terminology of the epoch, *pueblo* was third in rank after *ciudad* (city) and *villa*. The size of the population was an important factor to ascend to a higher position in the urban hierarchy, but other considerations were also brought into play. For instance, in 1792 the *Subdelegado* of Tulancingo claimed that the "pueblo" of Tulancingo deserved the category of "villa" because of its large population, its intense commerce and the large territory which it served as capital.[22]

With the notable exception of the provincial capital, the pueblos of the Valley were small places with populations of less than 1,000 souls. Table 8 sets the size of their populations in 1794.

Table 8. The constituent towns of the Valley ranked by size, 1794

	Population	% of the population of the Valley
Tulancingo	6, 512	42
Hueytlalpan	960	6
Acatlán*	800	5
Coatepec	740	5
Asunción	448	3
Jaltepec	388	2
Nativitas	376	2
Metepec	295	2
Santiago	273	2
San Lorenzo	-	-
Haciendas & Ranchos	4,758	31
Total	15,550	

Source: Tulancingo parish census, 1794. *Loc cit.*
*Estimated population done on the basis of the parochial census of 1770 and the demographic tendencies of the *doctrina* as a whole between that year and 1825.

Available information does not allow the changes of the population size of the towns to be traced over time, with the exception of Tulancingo. None of the censuses

[20] AGN, Tierras, v. 56, exp. 221. The requisites to acquire the rank of pueblo are summarized by García Martínez, 1990: 107, and Dehouve, 1990: 167.
[21] Lockhart, 1992: 14-15.

prior to 1794 made a clear distinction between the people residing in towns and those living in the countryside. The civil census of 1791 allows such differentiation to be made, but only for the non-Indian sector of the population. As for the civil count of 1825, it seems that the population registered under the heading of each pueblo included the inhabitants of the surrounding haciendas and ranchos as well.

Tribute materials provide an indirect but useful guide to the local demographic developments.[23] Coupled with qualitative evidence, it seems that the majority of the pueblos experienced a rise in population over the period of study. Between 1754 and 1808 the number of tributaries of Coatepec almost doubled, increasing from 149 to 288. A considerable rise in the tributary population also occurred in all the Indian villages in the period 1791-1808: in Hueytlalpan, located in the north-eastern part of the Valley, the number of tributaries grew from 220 to 282; in Tulancingo, located in the centre, they rose from 760 to 876, and in the north-western border, Jaltepec witnessed an increase from 117 to 135. A further testimony to this alleged demographic expansion dates from 1804. That year the legal representative of Metepec asserted that the community needed more land than before, arguing that the number of residents had substantially increased since the seventeenth century.[24] Although sometimes overstating their cases, these kinds of observations were repeated frequently among the Indian communities in the latter decades of the colonial period (see chapter 7).

A final comment needs to be made about the persistence of the compact and somewhat reduced number of pueblos in the Valley. We have linked the consolidation

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[22] AGN, Padrones, v. 1.

[23] *Tributarios* were the people belonging officially to a *república de indios*, whether a landholding village in the countryside or special districts in the towns. As such, they had some rights and duties laid down by law. Among the former, the usufruct of village plots and juridical protection. In return, an annual amount, the *tributo*, was paid to the Crown. *Apud* Ouweneel, 1991: 540-541.

of the pueblos after the severe mortality of the early colonial period to their subsequent and enduring, although often interrupted, demographic expansion. A consolidation of the pueblos favoured by demographic recovery also occurred in the neighbouring Sierra de Puebla. However, there García Martínez found a simultaneous process of secession and fragmentation of the old corporations, which resulted in the emergence of numerous new pueblos, particularly in the latter part of the seventeenth century, but also during the following century.[25] There is no indication that a similar process happened in Tulancingo, where only two cases have been documented: the separation of Coatepec from Tulancingo in the mid-eighteenth century and that of San Lorenzo from Coatepec occurred some fifty years later.

In trying to explain the circumstances conducive to such different paths of evolution, the Spanish component arises as an important variable to be considered. The strong and widespread European presence in the Valley may well have promoted a greater political cohesion among the local Indian communities, cushioning the internal disputes that contributed to their fragmentation in the Sierras, where the Spanish penetration was comparatively less strong. Likewise, the dense network of rural estates spread over the Valley, and the consequent fierce competition for the space in the countryside, would have blocked the erection of new Indian settlements. Eric Van Young has explored this issue in detail in the case of the Guadalajara region, finding that the profound internal divisions affecting the pueblos at the close of the colonial epoch was overcome in the face of external threats such as the hacienda and the colonial state.[26]

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[24] AGN, Tierras, v. 3672, exp. 24. The solicitor mentioned that in the early seventeenth century Metepec had only 47 tributaries. In 1808 there were 78.
[25] García Martínez, 1987: 210-225, 274-295, and 1990: 107-108.
[26] Van Young, 1992a: 273-302.

In Tulancingo, another factor closely connected with the transformations occurring in the countryside was the expansion of the urban economy. It is to this phenomenon that we must now turn our attention.

The provincial capital

Recent research on the demographic history of late colonial Mexico has found that, with the overall trend of increasing population, changes also occurred in the spatial distribution of the population. Though the country as a whole remained heavily rural - by the close of the eighteenth century about 90% of the population resided in localities under ten thousand inhabitants -, certain areas experienced a marked tendency towards urban nucleation. The leading cities in provinces like Guanajuato, Querétaro and Oaxaca, and in the Guadalajara region, grew substantially as the eighteenth century wore on.[27] Less known is the trajectory of towns that, although located lower down the list of the urban hierarchy, also enjoyed substantial growth and contributed to the economic and social development of their respective regions. Tulancingo was one of such towns.

A leading nucleus of population

In 1794, 69 % of the population of the Valley lived in towns. Judged crudely, this could be taken as an indication of an extended pattern of population nucleation. However, any notion of urbanization must be confined to the provincial capital, and even here in a loose sense. Tulancingo's overall dominance within the hierarchy of towns immediately stands out, whether contemplated in absolute or percentage terms.

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[27] See Brading, 1978, Taylor, 1972; Van Young, 1981; Super, 1983.

The numbers are unambiguous. Tulancingo's growth went on apace over the eighteenth century, passing from about 2,000 inhabitants in the early 1740's, to some 4,000 in 1754 and to 6,512 in 1794. Thereafter, along with the whole Valley, it stood still, closing in 1825 with an official number of residents of 6,583.[28] Between the early 1790's and 1825 Tulancingo's share of the Valley's population rose from 42 to 48 percent, dwarfing all local rivals. By the end of the eighteenth century, it was almost seven times larger than the second biggest town, Hueytlalpan, which contained only 6 per cent of the total population (see table 8).

Furthermore, by 1825 Tulancingo was the largest urban centre within a radius of approximately 60 kilometers, an area that included the celebrated *reales de minas* of Pachuca and Real del Monte, usually considered in the historical literature as the major centres of population in this part of Mexico (see table 9). It was comparable in size to the town of León, located in the Bajío, one of the most dynamic regions of New Spain during the eighteenth century.[29]

[28] The 1740's figure is a rough estimation based on Villaseñor, 1951: v. 1, pp. 134-35. The figure for 1794 and 1825 were drawn from the already quoted censuses of those years. The number of inhabitants in 1754 is quoted in AGN, Inquisición, v. 937.

[29] In 1781, León was deemed to house some 5,507 persons (Brading, 1978: 41). In 1790 San Luis Potosí was with 8,571 inhabitants the eleventh city in the New Spain. *Apud* Pescador, 1993: 117.

Table 9. Major towns of the district of Tulancingo ranked by their population size, 1825

Town	Jurisdiction	Population
Tulancingo	Tulancingo	6,583
Atotonilco el Grande	Tulancingo	3,465
Huasca	Tulancingo	3,410
Tepeapulco	Apam	3,337
Apam	Apam	3,233
Mineral del Chico	Pachuca	2,572
Pachuca	Pachuca	2,415
Tutotepec	Tulancingo	2,259
Real del Monte	Pachuca	1,900

Source: Ortega, 1995: Tabla 1

Along with its considerable size, Tulancingo was distinguished from the other towns of the Valley by its complex ethnic composition. Already in 1726, the "considerable" number of Spaniards and other non-Indian residents was referred to as a prominent feature of the town.[30] In 1754 Felix Tinoco, a parish priest, stated that the townspeople, some 4,000 souls, comprised a minority of Spaniards and a large proportion of people from different ethnic backgrounds ("gente de todas calidades").[31] This latter remark is of particular interest, for it explicitly alludes to Tulancingo's multi-ethnic character, a trait that became more pronounced as the century approached its end. In the early 1790s, the *subdelegado* (district magistrate), basing his statement on the civil census carried out in 1791, asserted that two-thirds of the local population was of non-Indian ascription. With between 4,073 non-Indians, according that census, and 4,771, as recorded in the parish census of 1794, the town contained over half of the Valley's population of that category. Moreover, no other place in the whole province contained such a number of white and mixed-blood population. The town of Atotonilco el Grande, with 1,233 non-Indians, was the second in rank. Within the

[30] The remark was made by the defence lawyer of the Count of Orizaba when asking for a general survey of the town to be made. AGI, Mexico, v. 682.
[31] Letter from Felix Tinoco to the Holly Tribunal, July 1754. AGN, Inquisición, v. 937.

boundaries of the Valley, Coatepec occupied the second position with only 191.[32] Although Tulancingo's share of the Valley's Indian population was comparatively smaller, accounting for one-third, individually considered it far outnumbered any other town.[33] Table 10 disaggregates the population of the *cabecera* and the rest of the Valley according to race.

Table 10. Proportion of the population of the Valley living in the town of Tulancingo, 1791

	Non-Indians*	%	Indians (tributaries)	%
Tulancingo town	4,073	54	622	33.5
Rest of the Valley	3,637	46	1,234	66.5
Total	7,710	100	1,856	100

Source: AGN, Padrones, 1.
* Spaniards and castes (Castizos, Mestizos and Mulattos)
**Percentage of the population of the Valley of each category.

The urban economy

Tulancingo's physiographic advantages, economic structure and functioning as commercial entrepôt and provincial capital help to explain its position at the apex of the regional urban hierarchy. Thus, one of the principal reasons why Tulancingo housed such a large number of people, was the attractive employment opportunities available. By the late eighteenth century the town had developed an elaborate economy, which combined productive, service and marketing functions, whereas the rest of the towns retained a definite rural flavour. This economic distinctiveness is clearly perceived by contrasting the occupational profile of the towns. An occupational census drawn at the beginning of the 1790s, listed 87 different occupations in the provincial capital, only nine in Acatlán and less than that in the

[32] AGN, Padrones, v. 1.
[33] In 1794 there were 1,741 Indians residing in the provincial capital. Hueytlalpan, with 960, Acatlán, with about 800, and Coatepec, which had 740, came immediately after.

other towns. Although 44% of the capital's registered male urban labour force employed in agriculture, this percentage was above 83% in each of the remaining towns (see table 11).

Table 11. Male leading occupations in the constituent towns of the Valley, 1792
(percentage of the total male labour force registered in each town)

	Tulancingo	Santiago	Nativitas	Metepec	Jaltepec	Hueytlalpan	Coatepec	Asunción	Acatlán
Agriculture	44.22%	100.00%	83.33%	100.00%	87.85%	98.82%	95.12%	100.00%	97.07%
Textiles	5.62%	-	-	-	-	-	0.81%	-	-
Dress	3.98%	-	-	-	-	-	0.81%	-	-
Leatherwork	2.81%	-	-	-	-	-	1.22%	-	-
Woodwork	2.22%	-	-	-	-	-	0.81%	-	-
Metalwork	1.76%	-	-	-	-	-	-	-	-
Mining	0.39%	-	-	-	-	-	-	-	-
Other industry	5.16%	-	-	-	-	0.39%	-	-	-
Services	11.17%	-	-	-	-	-	-	-	-
Dealing	7.32%	-	-	-	-	-	1.22%	-	-
Transport	8.16%	-	16.67%	-	11.21%	0.79%	-	-	-
Admin/prof/ Church/milit	3.07%	-	-	-	0.93%	-	-	-	2.93%
Food&drink	3.00%	-	-	-	-	-	-	-	-
Arts&entertainment	1.11%	-	-	-	-	-	-	-	-

Source: "Lista de los ministerios y oficios que ejercen los individuos de la jursidicción de Tulancingo", December 1792, AGN, Padrones, v. 1.
Note: The main groupings of activities were taken from Thomson, 1989: 67.

I have included in the primary sector the individuals registered as *jornaleros* (day labourers), a loosely defined category of workers that, in principle, could be engaged in any activity. If this category is withdrawn from the 'agriculture' heading, the proportion of the people employed in that sector in the capital would be much lower, only 23.5%. Yet, there are references that the term was used interchangeably with *operario del campo*.[34] In Hueytlalpan and Asunción, where agriculture was the basic activity, over 95% of the registered labour force was classified as *jornalero*. Arriving at an answer to this problem is complicated by the fact that urban and rural

[34] See, for instance, AHPJ, Tulancingo Penal, box 1574-1799, exp. 1799.

activities interlocked closely together. Besides, many of the *jornaleros* residing in the urban centre moved constantly from one occupation to another.

Inaccuracies in compilation and the incompleteness of the records must be also borne in mind when using occupational censuses to examine the local economy. The census omits all reference to women, a crucial sector of the working population whose role can only be reconstructed through the use of other records. The counting of certain occupations was also incomplete. For example, whereas the census lists a total of 68 weavers in the town of Tulancingo, a detailed examination of the 1791 civil census yielded a total of 130 weavers, and excluding Indians. We have no way of knowing precisely what accounts for this difference.

Problems of interpretation are likely to arise if one attempts to delineate urban and rural employment sectors privileging the primary occupations of heads of households at the expense of secondary and other lower-status and temporary forms of employment. Many households and individuals participated simultaneously in different activities. For instance, a muleteer's wife was also engaged in the cultivation of fruits and vegetables, and both dabbled in petty retailing.[35] To cite another example, Micaela Vargas, resident of Tulancingo, made her living from spinning, weaving, and taking in washing from other households.[36] At the other end of the social scale it was also common to have more than one occupation and source of income. Domingo Méndez de Castro, a prototype of the wealthy landowner in Tulancingo, commonly appears in the official records as *labrador* (farmer). However,

[35] AGN, Inquisición, v. 1139, exp. 2.
[36] AHPJ, Tulancingo Penal, box 1806-1826, exp. 1806.

he was concurrently involved in trading and held the office of Alguacil Mayor (bailiff) in the town. He also prospered from money-lending.[37]

Membership of a particular trade does not guarantee that an individual followed that occupation, or continued to follow it through his working life. Those who had not a stable employment moved between town and country carrying out whatever tasks that could produce them an income. An exemplary of this is the case of Manuel Hernández, a 25 year-old who first worked as domestic servant. After leaving his parents' home, he alternated periods of work as muleteer and labourer on different haciendas of the Valley. A friend asserted that Hernández "no tiene oficio alguno, sino que se mantiene sirviendo en donde se le proporciona".[38] Needless to say, workers of this sort hardly appear in formal records. In spite of these problems, occupational data, when combined with alternative information, help to shed light on the basic characteristics of the urban economy.

As stated previously, the eighteenth century was a period of economic expansion for the provincial capital. The older agricultural complex, built on the commercial production of fruit and vegetables and the cultivation of basic staples such as maize, continued; but the manufacturing sector came to occupy an outstanding position as the century approached to its end. In 1792, over one-fifth of the registered labour force of the provincial capital was engaged in domestic manufacturing and other crafts. Tailoring, shoemaking, woodworking and earthenware were important employers in the town. However, the key factor in Tulancingo's late colonial urban development was textile manufacturing. The growth of textiles was closely associated

[37] The economic profile of Méndez de Castro was drawn from his will made in October 1728 (AGN, Tierras, v. 2569, exp. 1) and additional notarial information (AHPJ, Protocolos Tulancingo, box. 11, prots. 80, 81.).
[38] AHPJ, Tulancingo Penal, box. 1574-1799, exp. 1799.

with the fortune of Tulancingo's main external market, the mining region of Pachuca-Real del Monte. It also benefited from the expansion of the local demand.

In 1791 the *subdelegado* described the town as a flourishing textile centre. He estimated more than 200 cotton looms in operation that year.[39] Spinning and weaving of ordinary cotton textiles (*mantas*, *rayadillos*, *paños de rebozo*, *cordoncillos*) assumed a governing importance among the local productive activities. According to the group of cotton masters and officials who established the first cotton-weavers' guild of Tulancingo at the end of the century, some 300 weavers, numerous apprentices, and many men and women who did not belong officially to the trade, were engaged in the industry.[40] Demand and production declined in the first decades of the nineteenth century, partly because of the contraction of the mining market and the severe competition in the textile trades from Puebla and Mexico. An official counting made around 1825 found only 152 looms in Tulancingo and some dozens more in the rest of the municipality.[41] The pattern of the textile manufacturing also coincides with the Valley's population changes, with a peak in the 1790's followed by a tendency towards stagnation in the first decades of the nineteenth century.

Commerce constituted a second major ingredient in the growth of the town. Tulancingo's commercial ties routinely extended to places situated at around 40 kilometers, but some staples and goods were traded over greater distances, giving rise to a complex market network that transcended local and regional boundaries. Particularly intense was the exchange of goods and services between the provincial

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[39] AGN, Padrones, v. 1, Introduction.

[40] The petition to form the guild was made in 1796 by two master weavers, examined and registered ("matriculados") members of the cotton weaver's guild of the City of Mexico, and nine officials. The viceregal permission was issued in April 1799. The petition reveal that, among other aims, the guild aspired to exercise control over the increasing number of unexamined autonomous outworkers labouring at their homes, whether with their own looms or looms leased from other persons. AGN, AHH, leg. 451-142.

[41] Ortega, 1995: 42.

capital and the surrounding countryside. As the urban population increased, so did its demand of agricultural goods, most of which were produced within the limits of the Valley. At the same time the country-dwellers came to the town to purchase the commodities and manufactures that they did not produce. The town also functioned as centre of distribution of many agricultural commodities intended to the above mentioned mining market.

Tulancingo's demand for raw cotton linked it with different regions: some of them were close, like the Sierra de Meztitlán and the Sierra Norte de Puebla, others were distant, like the coastal provinces of Pánuco and Cosamaloapan, in Veracruz.[42] The supply of livestock for meat and beasts of burden involved a large trade circuit too. Although livestock breeding aimed at the local market was widespread in the Valley, it did not suffice to meet overall demand, so it had to be complemented with introductions of animals from other regions, sometimes as far as Querétaro.[43]

Other places with which Tulancingo had substantial trade connections were the cities of Mexico and Puebla, from where periodic entries of raw materials, manufactures, imported goods and other commodities took place.[44] Some of these products were consumed in the provincial capital and the rest of the Valley. Others were on its way towards farther destinations. Tulancingo was, as a contemporary termed it, a "key" point in the trading network between the Mexican central valleys,

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[42]AGN, AHH, leg. 451-142. It would be useful to examine with precision the interregional trade between Tulancingo and Cosamaloapan. The case is of interest among other reasons for what it can tells us about the economic effects that the expansion of manufacturing centres of second category like Tulancingo had beyond their own regions. It is well known that many textile centres of that type came into existence over the territory of New Spain during the eighteenth century, but little has been written about the cumulative effects of the demand of raw materials thus created.

[43] Important deliveries of horses from that province took place in the 1740s. AGN, Inquisición, v. 891, fs. 266-ss. Pánuco played a prominent role in the supply of meat. In the 1790s and early 1800s, for instance, the lessee of the municipal meat supply monopoly (*abastecedor de carnes*) of Tulancingo, Atotonilco, and Huasca was a wealthy landowner and livestock breeder from that province.AGN, Alcabalas, v. 325, exp. 14.

[44] On the various goods introduced from Mexico and Puebla see AGN, Alcabalas, v. 325, exp. 16, and v. 12, exp. 11.

the intermediate zone of the Sierra Madre Oriental located at the conjunction of the modern states of Hidalgo, Puebla and Veracruz, and the northern lowlands of Veracruz.

The whole set of trading operations and the movement of goods involved in the commercial networks sketched out in the previous paragraphs required the services of highly specialized personnel, which, yet again, concentrated in the provincial capital. In 1792, 120 of the towns' heads of households engaged in market activities, of which the main were retailing and wholesale.[45] Outside the *cabecera*, only Coatepec was reported to have some *tratantes*. As for transportation, four-fifths of the registered muleteers of the Valley resided in the urban centre. Another handful of them lived in Nativitas, Jaltepec and Hueytlalpan.[46]

The third main feature that distinguished the town of Tulancingo from the rest of the settlements of the Valley was its role as centre of administration and service. Since the early colonial period, it was the seat of the Spanish secular and ecclesiastical government of the whole province, as well as of the Indian *cabildo*, whose jurisdiction extended over the *pueblos de indios* of the Valley, excluding Acatlán. It was also the place of residence of ecclesiastics, office-holders, and many landowners and farmers, whose extended households, including family and servants, formed a market for the services and goods offered by local artisans and merchants. Only there was it possible to be seen by a doctor, to be operated by a surgeon, to receive the advise of a lawyer - there were two of them -, or to notarize a document. Tulancingo also possessed permanent barbers, *boticas* (pharmacies), bakeries and *tabernas* (inns). Although the exact number of these establishments is not known, their presence

[45] Fifty two persons were registered as *tratantes* (retailers) and fourty-three as *comerciantes* (merchants). The source additionally lists 6 *tenderos*, 6 *viandantes*, and 5 *tocineros*.
[46] According to the census, there were 113 muleteers in Tulancingo, 15 in Nativitas, 12 in Jaltepec, and 2 in Hueytlalpan. In Tulancingo there were 8 *trajinantes* (carriers of goods) and 4 *cocheros* (carters).

attested to the broader service and consumer-based late colonial economy of the town.[47]

Summing up. Tulancingo's urban growth during the eighteenth century brought about changes in the complex relationship between town and countryside. On the one hand, it resulted in what can be termed a 'bifurcation' of the economy of the Valley. Although without losing its agricultural base, the secondary and tertiary activities became increasingly concentrated in the provincial capital. Trading and manufacturing, pillars of the Valley's economy, were eminently urban activities, of which there was little evidence elsewhere. The country, by contrast, reinforced its role as the centre of agricultural production.

On the other hand, the connections between both spatial units strengthened. As we have seen, the urban economy was dominated by cloth manufacturing and other crafts, and these, together with food processing, ensured that most urban employment depended on the products of the countryside. For the same reason, the town still responded to the cycles of rural life, as witnessed during the agricultural crisis of 1786-1787 examined in a previous chapter. Thus, more than a process of contrasting specialization, we should look at it as one of inter-penetration of the urban and rural spheres.

On a larger canvas, Tulancingo was opened to wider influences. The provincial capital performed an important role in a wider interregional network that made it less dependent on its immediate hinterland. This fact also lessened its traditional dependency upon the fortunes of the Pachuca-Real del Monte mining market. Tulancingo's late colonial development was, thus, influenced by the

[47] A rough indication of the importance of these occupations in the early 1790s can be drawn from the number of people engaged in them: there were 23 bakers, 7 butchers, 6 barbers, 4 *taberneros* (landlords), and 3 apothecaries.

combination of the domestic and regional markets, as well as the changes occurred in the national context.

People in the countryside: the rural estates

Haciendas and ranchos (rural estates) comprised the third main type of settlement of the Valley. In the late eighteenth century they absorbed around one-third of the Valley's population. This large proportion of people living outside the towns remind us of the importance of the countryside as place of residence. It is also indicative of the prevailing productive arrangements and the state of the technology employed in the agricultural sector, both of which relied heavily upon the human work force.

The number of rural estates seems to have remained quite stable over the period of study. Although, as stated before, any calculation of their number is risky, listings on agricultural properties and information drawn from censuses indicate that during the eighteenth century and the first decades of the nineteenth century, there were around 60 major haciendas and ranchos in the Valley (see table 7). They were the dominant type of settlement, heavily outnumbering the Indian towns by a ratio of around 6:1. The implications this had for the distribution of the factors of agricultural production -land, labour, and capital -, as well as the structure and mode of operation of the haciendas, are investigated in later chapters. Attention here is focussed on their importance as nuclei of population.

It should be noted in passing that scholars have paid little attention to the demographic characteristics of the Mexican hacienda and its place within the system of rural settlements. This neglect is the more remarkable for, as García Martínez stresses in a suggestive recent survey of the subject, the existence of a permanent nucleus of settlement was an essential feature of the haciendas, as well as an element

that differentiates them from other agricultural properties like the *estancias* and small ranchos.[48]

There is at present no practicable way of determining with precision the number of people living on each rural estate. Once more, contemporary information that was gathered (with a set of interest alien to the concerns of modern scholars) is our best guide at hand. Besides, the interpretation of the sources is problematic given the complex pattern of internal colonization of the great estates, some of which, for instance, included several semi-autonomous and widely dispersed small communities. In the census summaries the inhabitants of these hamlets were sometimes counted together with those of the parent estate, giving the erroneous impression that there were large concentrations of rural population in places where scattered settlement prevailed.

The most cursory examination of the civil and ecclesiastical censuses of the second half of the eighteenth century reveals that the landed estates varied greatly in size. The vast majority had fewer than one hundred inhabitants and many had just a few families. Only a handful of them, with populations above 200, rivalled the average town. Although the size of a given estate, in terms of population, must not be taken as a determining factor in assigning it to the category of hacienda or rancho, there was a marked tendency for the haciendas to be large and ranchos small. For example, thirteen out of eighteen estates listed in 1791 with more than 50 non-Indian residents, were haciendas. Meanwhile, three-quarters of the estates whose population did not exceed that figure were classed as ranchos.[49] Because of the small size of the

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[48] García Martínez, 1993: 332-33. García also draws attention to the continuity of the haciendas as places of residence, asserting that during his investigations he has identified roughly 2,250 of such localities with a history of between 150 and 250 years. *Ibid*: 235.

[49] AGN, Padrones, v. 1. Unless otherwise stated, the subsequent discussion in this section is based on this source. The overlap between haciendas and larger ranchos is illustrated by the important ranchos of Santiago el Molino and Ventorillo, which were in the same size range as the haciendas of Totoapa,

communities they held, the latter properties may be considered economic rather than social units. Differences in the amount of arable land, the nature of production, use of labour, and certain practices associated with the pattern of land-tenure, were among the set of factors that combined to produce such contrast between haciendas and ranchos. Since few ranchos held permanent communities of considerable size, and also because information about them is scantier, our exposition deals mainly with the major estates.

Generally speaking, haciendas were large landholdings and labour-intensive units of agricultural production that required high levels of capital investment and labour input. With respect to this last element, the great estates employed permanent and temporary workers to fulfill the agricultural operations. Small properties also employed wage labour, but they generally did not have populations of resident labourers of any size. Although the work force was provided mainly by town-dwellers, many permanent workers resided on the hacienda. Apart from the administrative personnel (the administrator, and, in many haciendas, the *mayordomo*), a large proportion of the individuals whose occupation is recorded in the census were *sirvientes* (servants).[50] Additionally, in some of the largest estates, there appear a number of *arrieros* (mule drivers), *trajinantes* (peddlers), and, in two or three cases, skilled artisans (weavers, carpenters, shoemakers).[51]

Another significant fraction of the inhabitants of the great estates, again according to the census, consisted of tenant farmers (*arrendatarios*, as they were

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Apulco and Zupitlán, all ranging between 100 and 160 non-Indian inhabitants. At the other end of the scale, the haciendas of Tesoquipa and San Antonio stood together with the dozen ranchos with twenty or less non-Indian dwellers.

[50] In its most general sense, the term *sirviente* was used to signify almost anyone working on the hacienda. The 1792 occupational census used *sirvientes* to refer to people employed as personal servants or engaged in domestic services. The word was also used to designate field labourers living in the hacienda.

[51] For purposes of simplicity, in the remaining part of this section I make no distinction between the different categories of workers (administrative and manual, specialists and unskilled) in the haciendas.

ordinarily called) and their families. It was a widespread practice among Valley estate-owners to rent part of their landed properties, whether in the form of ranchos or small plots.[52] Thus, for example, the large hacienda of Zacatepec, situated in the northern part of the Valley, maintained over the period of study at least a dozen ranchos and various plots under tenancy. In 1796-97, Zupitlán, an important hacienda which lay few kilometers to the north of the provincial capital, leased out between five and eight ranchos and a number of *sitios* (pasture lands) to different individuals.[53] The *arrendatarios* of Tulancingo included wealthy landowners who, as part of their diversified economic activities, rented holdings from other estates, employing peons to look after those possessions. However, the kind of tenants that interest us here (for they did reside within the confines of the haciendas), comprised small to medium-ranked farmers and, above all, a mass of smaller peasants who cultivated the plots they acquired on tenancy themselves.

The population of resident labourers and tenants of a given hacienda, when combined, could amount to several hundreds. Consider the case of the two largest haciendas of the Valley, in terms of the size of their populations. In 1791, Zacatepec was reported to have some 800 inhabitants. Hueyapan, a thriving estate that dominated the southeastern corner of the Valley, housed around 300. These figures are on the conservative side for, as the reader will recall, the Indian population was not included in the census.[54] On the basis of this raw data, these haciendas could be

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[52] Renting lands was widespread over central New Spain. Good illustrations of the importance of the system in the adjacent jurisdiction of Pachuca are found in Konrad, 1980: 169-171, and Velázquez, 1988: 37-49. See also Brading, 1978: 73-76 and Van Young, 1981: 226-235.

[53] For Zacatepec see, AHPJ, Protocolos Tulancingo, box 14, prot. 96, and AGN, Padrones, 1. For Zupitlán see AGN, Tierras, v. 1277. It should be stressed that many leasings were based upon verbal or informal agreements, that is, without legal sanction. Consequently, the actual number of leaseholdings within an estate was in many cases higher than that which may appear from the number of officially recognized renters.

[54] Most of the major haciendas housed a number of unskilled Indian workers and their families. Their presence can be traced through the tribute rolls, for despite living outside their native communities,

taken as large nucleated settlements. Thus, Zacatepec would have ranked third and Hueyapan ninth if they were included in the list of the ten leading towns of the Valley (see table 8). Absolute numbers, however, can be deceptive.

A more appropriate assessment of the standing of the hacienda as nucleus of population, as well as a better understanding of settlement in the Valley's late colonial countryside, is achieved by looking at the above mentioned types of rural dwellers (permanent labourers and tenants) separately, for they were distributed differently in the territory. Although the number of individuals of each category will remain unknown until detailed listings of particular haciendas are discovered, a broad estimate of the total number of families of each group can be obtained by means of a careful examination of the entries per household that make up the body of the census. Such entries, however, provide only a vague indication of the spatial distribution of the population within the haciendas. This shortcoming, coupled with the absence of detailed contemporary descriptions and maps, and the wide spectrum of size and internal organization of the properties, prevent any generalization about the haciendas' internal pattern of settlement. Fragmentary evidence drawn from inventories and other notarial records indicate that resident labourers normally lived inside the *casco* (the administrative centre of the hacienda, comprised of the main house and other buildings), whilst tenants, following the distribution of the rented holdings, tended to disperse in a series of small "islands", some of which were located on the very margins of the hacienda.[55]

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many Indians continued to be subject to the payment of tribute. In 1808 Zacatepec had 24 tributarios. Zupitlán held the largest number: 47 tributarios enteros and 12 medios. AGN, Tierras, v. 3027.

[55] Not all the tenants settled away from the *casco*. There is evidence that, for instance, some resident workers had the additional status of *arrendatario*. See AHPJ, Protocolos Tulancingo, box 14, prot. 97. It was not unusual that the rented holdings marked the limits of the hacienda. Some even served as a means of assuring possession of territories under dispute. This was the case of the ranch of Santo Domingo, given in rent by the owner of Hueyapan in a tract of land that has long being claimed by the community of Acatlán. AGN, Tierras, v. 2570, exp.1.

Viewed from this angle, the haciendas of Zacatepec and Hueyapan turn into complex settlements composed of a demographic core and a group of scattered satellite communities. The dimensions of the nuclei cannot be determined with any degree of precision. It would be tempting to assume that since approximately one-third of the families of each estate were leaseholders,[56] the remaining two-thirds lived in the *casco*, but there is no documentary basis to sustain this speculation. Apart from the already mentioned fragmentary nature of the information, it must be stressed that the number of resident workers and tenants varied through time. Moving beyond the unsolved question of statistical accuracy, the point to make here is that the existence of a copious number of tiny communities of tenants, dependent on, but separated from the original haciendas, suggests a process of population dispersal affecting the late colonial countryside.

On the other hand, even if the resident populations of Zacatepec and Hueyapan were estimated as just two-thirds of the total of each hacienda recorded in the census summary, that is, between 500 and 200 non-Indians, respectively, they continued to be important centres of population, always judged according to the Valley's standards.[57] Moreover, not all the estates with sizeable populations relied so heavily on the strategy of multiple leasing. For example, Santiago el Molino, Totoapa el Chico, and Apulco, which figured prominently among the top ten haciendas of the Valley, had only a small number of tenants, their respective communities being

[56] In Zacatepec 52 out of a total of 155 non-Indian household heads were listed as tenants. The proportion in Hueyapan was slightly higher: 21 of the 58 households fell into that category. AGN, Padrones, v. 1.

[57] By way of contrast, the haciendas in the Guadalajara region ranged between 200 and 1,000 inhabitants. See Van Young, 1981: 264. García Martínez (1993: 345) states that large "poblados de hacienda" were rare in the valleys of Mexico and Puebla, both of them, incidentally, close to Tulancingo Valley. He points to the zone stretching from Atlacomulco (Morelos) to Chapala (Jalisco) as that with the largest number of such kinds of settlements.

comprised mainly by resident labourers and their families.[58] Haciendas like these were not just the dominant economic institutions in the countryside, giving employment to a large number of people and producing most of the foodstuffs directed to the market, but also assumed the character of, using Van Young's expression, surrogate pueblos. People heard mass in the hacienda's chapel, and, in the case of Zacatepec, they also counted on the services provided by a carpenter, a shoemaker, a weaver, and a small retailer.[59] Some large haciendas even performed administrative functions that were traditionally associated with the pueblos, assuming the responsibility for paying the tribute of their resident Indian labourers.

Concentration versus dispersal

We are left, then, with the contradiction between a pattern of population dispersal, according to the distribution of the tenantry, and forces favoring nucleation, according to the dense aggregates of resident workers living inside the *casco* of the great estates. Of course, the growth and flowering of the provincial capital, as well as the demographic expansion of the remaining pueblos of the Valley, must be included in the discussion.

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[58] In terms of their populations, which, as stated before, were in the range of 100 and 160 non-Indians, these haciendas stood third, fourth, and sixth, respectively, after Zacatepec and Hueyapan. In Totoapa el Chico, 15 out of 27 of the household heads were resident workers (the *mayordomo*, two muleteers, and twelve servants). There were only four *arrendatarios*. In Santiago el Molino, a prosperous "rancho" that held one of the three wheat mills that existed in the Valley in the late eighteenth century, 35% of the heads of households were servants. The remainder families were headed by muleteers, peddlers, and a weaver. As for Apulco, 18 out of the 23 heads of households were resident workers, three were widows, and just two of the families had the status of *arrendatarios*. Although it is not possible to establish a single pattern of family employment, there was a tendency among the employed male members of the families to have the same occupation as the father.

[59] In subsequent centuries, some of the "pueblos-empresa" – borrowing the term used by Von Mentz (1988: 83) when referring to the large communities of rural workers and their families that developed around or inside prosperous agricultural enterprises, and attained the legal status of pueblo. Zacatepec and Tortugas, this latter an important rancho of that hacienda in the eighteenth century, are examples of this.

It is hazardous to estimate the difficulties attending any examination of this topic. In one of the best regional analyses made to date, Nancy Farris has elucidated the complex combination of physical, economic, and socio-cultural factors influencing the evolution of settlement in colonial Yucatán. Her study is equally effective in its treatment of the dynamic nature of the process, in which temporal and spatial variations are constantly addressed.[60] It would require considerable research to complete a similar investigation about Tulancingo. The following interpretation is partial – it deals with only some aspects of the natural, demographic and economic variables of the equation – and, therefore, subject to future refinement.

Any attempt to explain the variations of settlement patterns in late colonial Tulancingo should consider the interplay between the physical environment and the predominant mode of food production. Scattered settlement prevailed where water was relatively scarce and the land was not particularly rich. This phenomenon was manifest in the broad stretch running between 10 and 20 kilometers to the north of the town of Tulancingo, where only two pueblos – Metepec and Hueytlalpan – and few estates were located.[61] Agriculture was a hazardous and seasonal activity, for it depended mainly upon the fluctuating climate and rainfall. Zacatepec's extensive temporal and grazing lands, along with the numerous body of thinly distributed tenant farmers and sharecroppers, were dominant features in that portion of the Valley.

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[60] Farris' approach is, however, primarily cultural and institutional rather than economic. In colonial Yucatan, she argues, settlement patterns depended on "whatever balance prevailed between the sociocultural forces favoring population nucleation and the pull of the physical environment, which tended towards dispersal". Farris, 1978: 188.

[61] Although in the early seventeenth century, according to the reports and other documents produced during the period of the civil congregation, the Indian communities of this area possessed some fertile and irrigated lands (see Ruvalcaba and Baroni, 1994), things appear to have altered in the subsequent centuries. A land survey conducted in 1716, found that those pueblos possessed only "tierras de temporal". AGN, Tierras, v. 338, exp. 2. From the same survey we know that in the surrounding estates agriculture was less important than livestock-raising. Another testimony that illustrates the relative unattractiveness of the area dates from the early nineteenth century, when the community of Metepec complained to the viceroy saying that most of their lands were unsuitable for cultivation. AGN, Tierras, v. 3672, exp. 24.

By contrast, in the centre-south, the natural environment was propitious for the development of higher concentrations of population. With few exceptions, the largest settlements – whether estates or pueblos – concentrated in the rich belt stretching in a northeastern direction along the margins of the main Rio Tulancingo and its tributaries.[62] These streams, together with various springs, were major sources of water for the intensely cultivated fields of the area, which also benefited from a complex, though technologically unsophisticated, irrigation system composed of channels, ditches, and dams. Rural estates were economically diversified, though emphasis was placed on the cultivation of cash crops, principally maize and wheat, but also of lentils, beans, and broad beans.

Here a remark must be made about the correlation between the labour-intensive farming and the predominance of dense aggregates of populations in the centre-south of the Valley. Care of cash-crops involved several tasks (ploughing, seeding, watering, weeding, harvesting, threshing, and cleaning), for which a large amount of labour was necessary. In cases where commercial agriculture and stock-raising were combined, the work on the hacienda lasted all year round. Securing a source of labour was, thus, essential, whether in the form of resident peonage or as day and seasonal workers hired from the nearby communities.[63] Equally labour intensive was the market-oriented production of fruits and vegetables that flourished on the outskirts of the populous provincial capital.[64] By contrast, as several studies on the topic have shown, extensive agriculture and livestock-raising required a smaller

[62] The marked difference in the density of settlement between this and the northern section of the Valley is portrayed in a map drawn in around 1791 which is affixed to the census undertaken that year.
[63] As Farris rightly asserts, intensive agriculture "both require and permit a higher degree of nucleation than milpa and other forms of extensive agriculture". Farris, 1978: 190.
[64] There is no systematic information about the productive arrangements that prevailed in the numerous *hortalizas* (orchards) of Tulancingo. Overall, it seems that the majority were family enterprises that sometimes hired peons for their cultivation.

amount of labour and so they could, and generally did prosper, in areas of scattered settlement.[65]

Environmental factors and techniques of food production help to explain the Valley's settlement pattern as a whole, but they do not account for the pockets where population dispersal coexisted with nucleation, as in Zacatepec and Hueyapan. In considering the possible answers to this question, the relationship between demographic change and the distribution of agricultural resources, particularly of land, comes immediately to the fore.

The growth of population in the Indian pueblos and the impulse of large-scale commercial estates were simultaneous developments of the eighteenth century. As the century progressed, the conjunction of both forces put significant pressure upon cultivable land. Without detailing the evolution of land tenure in the Valley, an issue that is investigated in chapter 7, evidence shows that although communal landholding remained relatively important, the pueblos were afflicted by an inelastic stock of lands to distribute among their increasing population. Renting lands from the private estates was for many 'landless' peasants an option to secure a way of subsistence, even if it entailed leaving their native communities. The properties with available lands, and whose owners were willing or forced by the circumstances to lease them out (whether as a mode of holding operation or as a source of revenue for their estates), became the kind of mixed estates of resident peons and tenants examined before.

Another part of the explanation can be drawn from García Martínez's essay on the demography of the colonial hacienda. In his opinion, the proliferation of dispersed, small settlements linked to the hacienda was the consequence of the combination of two opposing forces. On the one hand, as mentioned before, the

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[65] About labour in grazing haciendas in areas close to Tulancingo see Konrad, 1980; Velázquez, 1988;

demographic growth in the countryside and the tendency of an ample sector of the rural labour to settle on the great estates, and, on the other, the effort of hacendados to limit the increase of population on their estates to no more than what was absolutely necessary for the efficient functioning of their estates. This conflict, reasons García, was solved through the foundation of new semi-autonomous settlements, either inside or outside the haciendas.[66]

The above interpretations, of course, neither exhaust the considerable diversity of internal colonization of the great estates, nor do they elucidate the complex rationale of the leasing system.[67] Yet, they provide a first insight into the crucial problem of identifying the forces that shaped the Valley landscape and influenced the distribution of the population.

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Viewed as a whole, the information presented so far about settlement patterns in Tulancingo points to the fact that that population concentration and scattered settlement were not opposite but complementary and concurrent processes. In other words, urban and agrarian developments were closely interconnected. Although the causes of urban growth are complex and elusive, urbanization in the Valley would not have been possible without a strengthening of the agricultural sector. As the number of urban dwellers and the proportion of people engaged in non-agricultural activities rose, so did the demand for food produced in the countryside. Numerous agricultural properties producing for the market benefited from this development, though, in turn, their own consumption of resources increased too. Under the prevailing technological

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and Riley, 1975.

[66] García Martínez, 1993: 353-354.

[67] A succinct and clear exposition on the intricate question of the system of tenancy is offered by Miller, 1995: 30-32.

conditions of the late colonial period, it was necessary to keep a large number of people engaged in the primary production. Part of the rural workforce resided in the landholding villages, whilst another was distributed among the numerous rural estates of the Valley. The third type of rural dwellers referred to in the previous pages, the *arrendatarios*, though enjoying a more autonomous status and following a different pattern of spatial distribution, were equally linked to the demographic and economic transformations of the period.

Chapter 5 An Open Environment: Migration And Spatial Interaction

All through our examination of the demographic history of Tulancingo, the image of people moving around the Valley has come up again and again. The phenomenon has manifested itself in a variety of ways: as countrymen moving to the provincial capital; as the traffic of rural workers between towns and haciendas; as peasants leaving their pueblos to become tenants in the countryside; and in the movement of those who, at the turn of the century, crossed the frontiers of the province to establish themselves in Mexico City. This spatial mobility, it has been argued, had profound effects upon the demographic, economic, and political life of the Valley. The subject of migration, then, deserves further attention.

Our approach to the issue, however, is not exhaustive. A detailed study of the process of migration lies beyond this research. The purpose of this section is merely to outline the basic features of migration in late colonial Tulancingo, identifying the places of origin of the migrants, the distances they travelled and the intensity of the migratory flows. In so doing, this analysis will provide a further testimony of the territorial and functional integration of the constitutive settlements of the Valley, as well as of their contacts with other regions.

The principal source utilized was the marriage testimonies of the parishes of Tulancingo and Acatlán in selected periods of the eighteenth century.[1] The testimonies generally recorded the places of origin of the partners who intended to get

[1] Separate registers were kept for the three ethnic categories of Indians, Spaniards and castas. Unfortunately, parish records are incomplete, so, except for the 1740-44 period, it was not possible to assemble data for the three categories in each of the years we chose as sample. The observations presented in this section are based on the following years: for Indians, 1740-44, 1755, and 1770-79; for castas 1740-44 and 1770-74; for Spaniards 1740-44, 1795-99. Additionally we gave a glance at different years between 1720-1740 and the 1790's for each category. Without denying the limitations that the fragmentary nature of the data represent for purposes of any general conclusion on migration, it

married, for those born in other ecclesiastical jurisdictions were required to declare so in order for the corresponding bans to be displayed in their parishes of origin. Thanks to this practice, it is possible to trace certain migrational movements and their variations.[2] True, migration associated with marriage was only a fraction of the total number of movements made in the area, but it still provides a valuable picture of the complex dynamics of colonial population movements in this rural corner of central Mexico.

Internal migration

In the summer of 1790, José Antonio Ortega, a nineteen-year old Spaniard, and María Guadalupe Licona, Spaniard, one year younger than her fiancé, were preparing for their wedding. In order to inform to the parish priest of their intention to enter the matrimonial state, they travelled from the hacienda of Totoapa, their place of residence, to the town of Acatlán, located about five kilometers to the south. The prospective spouses had met in the hacienda, but both of them had links with other places in the province. María was born in the town of Huasca, fifteen kilometers to the west of Totoapa, she grew up on the *barranca* of San Pablo, and later on she came to live in Totoapa. José, by contrast, had always lived in the hacienda, his birthplace, but his father was from Tulancingo town and his mother from Acatlán.[3]

Personal and family migration histories like those just described were not rare. All through the eighteenth century people moved between the different settlements of the Valley: from town to town, from town to countryside, and between the rural

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should be emphasized that our objective is to present only a first, and mainly qualitative, assessment of the issue, not a detailed statistical analysis of it.

[2] For a review of studies using marriage registers to trace migration see Swann, 1982: 92. See also the studies by Greenow, 1981, and Pescador, 1992: 107-111.

estates. The territorial boundaries of towns, haciendas and ranchos were permeable in both directions, enabling people to meet, mingle with, and even marry members of other communities. The relationships thus established could result, as in our example, in marriages involving individuals from different places of origin.

Neither distance, nor topography were major obstacles for the Valley's migrants. In the early seventeenth century various witnesses declared that the bells of the church of Tulancingo headtown could be heard ringing in all its subject-towns. The guardian of the local Franciscan monastery stated that all towns were easily accessible and close to the *cabecera*. According to the Alcalde Mayor, it took one hour to get from Tulancingo to any of the other towns of the Valley.[4] Circumstances did not vary in the succeeding century, when only the bad condition of some stretches of the roads was said to pose problems to travellers.[5]

In the light of these considerations, and leaving to one side the social and legal constraints upon territorial mobility, it is not surprising to find an almost infinite range of geographical combinations in the marriages involving partners of different birthplaces. In other words, migration within the Valley took place in different directions, between distinct categories of settlements, and it covered equally different distances.[6] Data assembled in Table 12 clearly illustrate this.

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[3] Informaciones matrimoniales, Archivo parroquial de Acatlán, AGN, Genealogía y Heráldica, microfilm 21209.

[4] Ruvalcaba and Baroni, 1994: 27, 35. The Alcalde Mayor would have made his calculation thinking of travelling by horse or cart. Going on foot from, say, Tulancingo to Metepec, 25 kilometres apart, in less than half a day is unthinkable.

[5] This remark was made by the Subdelegado of Tulancingo in his "Introducción" to the census of 1791.

[6] In his study on migration in eighteenth century Yucatán, Robinson (1981: 164-165) found a similar complex and undifferentiated pattern of migration within each parish, save the fact that the largest proportion of migrants normally migrated to the cabecera.

Table 12. Samples of migration fields in the Valley, 1740-1799

Birthplaces of grooms	Birthplaces of brides	Approx. distance between the birthplaces (in km)
Asunción, p	San Antonio, p	23
Zacatepec, h	Tulancingo, p possessions	21
Sn. Antonio, h	Jaltepec, p possessions	21
Zupitlán, h	Tezoquipan, h	18
Hueytlalpan, p	Tulancingo, p possessions	14
Acatlán, p	Tulancingo, p possessions	10
Nativitas, p	Tulancingo, p possessions	9
Tulancingo, p	San Antonio, p	8
Metepec, p	Apulco, h	7
Sn. Javier, h	Huatenco, h	-
Sn. Nicolás, h	Tlacomulco, h	-
San Antonio, p	Sn. José, r	-
Tezoquipa, h	Sn. Eusebio, r	-

p- pueblo h- hacienda r- rancho
Sources: See footnote 1.

The movements we are dealing with here were small in scale and uncoordinated. Apart from the persistence of intercommunity movement and the major attraction exerted by the largest settlements, particularly the provincial capital, no other significant pattern emerges from our exploratory examination of the parish registers. It is very likely, however, that a more systematic survey of these sources would reveal some underlying trends that have escaped our notice.

A final comment on internal migration. It is interesting to note that migrants comprised all sorts of people, men and women, Indians and non-Indians, rich and poor. This is not to say that the participation of each social group was identical, for existing knowledge on historical migration makes clear that there were substantial differences among them.[7] Occupation was another important variable influencing the characteristics of the movements.[8] The point here is to translate our findings about the widespread experience of geographical mobility and inter-communication within the Valley into a better understanding of the structure and functioning of the economy and society of the area. By no means are we dealing with isolated rural communities, oblivious to what was going on beyond their geographical frontiers. Rather, they comprised a system of interlocking entities related to one another and to the wider economic and social space in which they were set. We shall have occasion to see how, together with people, there was an intense traffic in goods, capital and information across the Valley.

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[7] Studies on migration in Britain during the early modern period have found that better-off people moved shorter distances than the poor. The extreme examples of this pattern of mobility were the vagrants. Literature also pays particular attention to changes occurred to migration fields over time. More recently, the emphasis in research has switched from mobility towards stability. See R. A. Houston, "The population history of Britain and Ireland, 1500-1750", in Michael Anderson, ed., *British population history. From the Black Death to the present day*, Cambridge University Press, 1996: 149-157. As for colonial Mexico, research in the last decades has radically modified the once widely accepted view that the Indian population living in corporate villages was essentially immobile. Among the many publications dealing with the issue see Farris, 1978; García Martínez, 1987; Robinson, 1988; Ouweneel, 1991; Pérez Zevallos, 1995. For a broader perspective on the different types of migrants and patterns of colonial migration, see the essays on Mexico published in Robinson, 1990.

[8] Longer-distance and frequent migration involved seasonal and semi-skilled workers. Shepherds are good examples of this. Let us quote the case of an Indian who was born in Pachuquilla, a small village situated about 37 kilometres to the west of Tulancingo, in territory of the province of Pachuca. While still a child, he moved to the parish of Tulancingo - we do not know whether along with his family or not -, residing first on the hacienda of San Javier and subsequently on various ranchos of the partidos of Metepec and Hueytlalpan, working as a shepherd. Eventually he returned to San Javier, where he married an India. Informaciones matrimoniales, Indios, AGN, Genealogía y Heráldica, Parroquia de Tulancingo, microfilm 20620.

Immigration and regional interaction

Marriage registers provide valuable information on the spatial connections between the Valley of Tulancingo and other parts of New Spain. Here marriage records of the parish of Tulancingo at selected periods of the eighteenth century are used for such an examination.[9] As shown in previous sections, this parish comprised almost nine-tenths of the Valley's population, it housed the largest settlements, and it was the economic and administrative core of the area. Besides, its marriage registers are more complete than those of Acatlán.

A total of 1,311 marriages were analyzed, 206 of which were unions with at least one partner from a place of "origin" located outside the Valley.[10] Although the frequency of this type of union varied significantly over time and according to race, it did not cease to occur at any moment. In other words, spatial exogamy was a common and enduring social phenomenon. This fact, together with the wide range of places of origin of the marriage migrants, reveals, as will be shown in this section, that regional interplay was an important feature of late colonial Tulancingo.[11]

Migration fields and patterns

The Valley's residents married outsiders all through the eighteenth century. Scanning through the marriages recorded at different moments between 1720 and 1799 in the constituent parishes of the Valley, one can hardly find a year in which those sorts of

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[9] For the sample periods see footnote 1 of this chapter.

[10] Here 'origin' is derived from the person's birthplace or previous place of residence at the time of marriage contained in the marriage registers. A concise exposition on the connotations of this word, as well as on the temporal and geographic limitations marriage registers place for reconstructing colonial migrational patterns at large, is given by Greenow, 1981: 119-120. Greenow rightly points out that, "the conclusions drawn about [marriage migrants] should not be assumed to be characteristic of the general population", for besides such migrants were only a segment of the society, marriage registers capture just a fraction of the various spatial movements that an individual could undertake in the course of his/her life-cycle.

unions were absent. The same general survey shows that the parish of Tulancingo was the most exogamous. As mentioned before, nearly one-sixth of the 1,311 marriage registers that were examined from this parish involved people from outside the Valley. Although the average intake of marriage migrants cannot be calculated from our fragmentary data base, it is clear that it varied through time. For instance, whereas in the 1740-44 period, spatial exogamy amounted to a third of all marriages, between 1770 and 1774 it accounted for less than a tenth.[12]

Disaggregating the marriages by race reveals equally important variations. Spatial exogamy was weaker among the Indian population and stronger among Spaniards, with the *castas* standing somewhere in between. Similar to what happened with the population at large, exogamy rates among the different racial groups changed throughout the eighteenth century. Among Indians the proportion of inter-regional marriages passed from 23% in the quinquennium 1740-44, to 9.3% in the mid-1750's, and 3.8% in the 1770's. For the *castas*, the share of such unions was 39.68% in 1740-44, and 4.8% in 1770-74. Spaniards appear to have remained more prone to marry migrants. In the first half of the 1740's, inter-regional marriages among this group accounted for a high 45.8%. Although this proportion diminished by the close of the century, in 1795-99 it stood at a significant 34.3%.

Whether or not there was a decline in the frequency of inter-regional marriages as the century progressed, as suggested by the figures presented above, is a question that will be answered only after a more systematic investigation of the marriage registers is undertaken. The high rates of the 1740-44 period were very

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[11] This experience was not peculiar to the colonial epoch, for, as discussed previously, the Valley was a point of confluence of people from different origins and cultural backgrounds long before the Spanish conquest.

[12] Figures for exogamous marriages in colonial Mexico range between 15-20%. *Apud* Robinson, 1981: 154. The possible reasons for Tulancingo's relative high level of exogamy in the early 1740's are discussed below.

likely associated with the effects of the severe mortality crises of the 1730's. Thus, rather than looking at such rates as indicators of the overall levels of spatial exogamy in the first half of the century, they must be assessed in relation to the extraordinary circumstances of the late 1730's and early 1740's.

In that period, given the large number of persons who were killed in the preceding years, the Valley offered lands, employment and, to judge from our data, greater opportunities for people from outside to marry into the local populations.[13] Of course, migrants responded not only to the pull of the host region, but also to changes in the conditions at home. Whatever their motivations, from the timing of the migrants' arrival, it is possible to establish that there occurred an above average intake of migrants following the epidemic of 1737. In the period 1740-44, 47% of the marriage partners who were born outside the parish had migrated there within seven years of marriage, that is, between 1738 and 1744. By contrast, the proportion of 'recent' arrivals (up to seven years before marriage) in the sample periods of the rest of the century, was no higher than 26%.[14] In all likelihood, as suggested when discussing Tulancingo's overall population trends, migration to the Valley after 1737 contributed to the demographic expansion of the subsequent decades.

Tulancingo parish interacted with many areas in New Spain. Our inquiry about the origins of the 206 marriage immigrants that make up our sample for the 1740-

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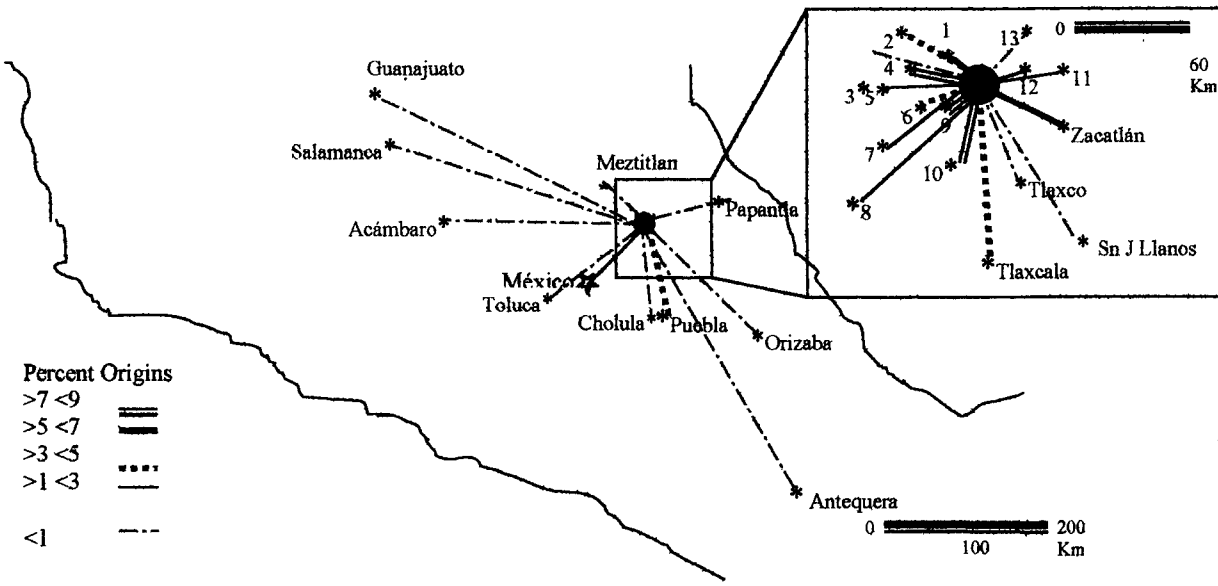
[13] An increase in the movement of marriage migrants following severe epidemics has been noted in Nueva Galicia (Greenow, 1981: 140). Another common occurrence of post-epidemic periods in different parishes of Central Mexico and the Bajío was the rise in the number of marriages. See Rabell, 1990: 63.

[14] In 1740-44, the proportion of recently arrived marriage migrants among Indians was 46%, 36% for Castas, and 60% for Spaniards. In all three cases, the rates shrank to less than half in the succeding periods for which information is available. In the 1770's the Indian rate was only 22.7%, and the Castas' 14.3% (this latter during the period 1770-74). The Spanish rate in 1795-99, was 26%. Information for the second half of the century is, however, less consistent. In around half of the records of the Indian and mixed-blood population that were analyzed, and in a quarter of the Spaniards', the number of years that the outsiders had spent in the parish before marriage was either omitted or recorded by the priests in vague terms such as "residente desde niño(a)" or "criado(a) allí". In 1740-44, these sorts of omissions and references for the whole population accounted for only 7%.

1799 period, yielded a total of 70 locations belonging to 29 different provinces.[15] The farthest point was the city of Antequera, in central Oaxaca, 380 km away. Also distant were Guanajuato and Salamanca, in the nearer north of Mexico, as well as Acámbaro, all of them at between 250 and 320 kilometres from Tulancingo. Orizaba, Papantla, and Toluca, at a distance of 120 to 190 km from our focal point, also provided some migrants. Yet, arrivals from the above origins were sporadic, most migrants having originated in settlements within approximately a 110-kilometre radius of Tulancingo (Map 2).[16]

Map 2. Sample origins of marriage migrants, Tulancingo parish, 1740-1799



[15] Additionally, there were a handful of arrivals of people from abroad: four men from Spain and one from Cuba. Since our analysis deals only with migration within New Spain these cases are not considered here.

[16] The tendency for the number of migrants to be inversely related to the distance between origin and destination was widespread in colonial Mexico. See Swann's remarks on this respect (1990: 176).

Migrants came from all directions, principally from places located between the south and northwest. Working with the main source regions, the valleys of Puebla and Tlaxcala, located to the south, occupied an outstanding position. Spouses from the city of Puebla, Cholula and some towns of the districts of Huejotzingo and Tepeaca, accounted for 6.31% of marriage migrants. The share of the province of Tlaxcala was 8.74%, the city of Tlaxcala alone absorbing a significant 3.88%.[17] An additional 9.22% of the immigrant partners were listed as having moved from the Valley of Mexico and the contiguous districts of Texcoco, Teotihuacan and Otumba, on Tulancingo's southwestern flank.[18]

The level of spatial interaction, as measured by the frequency of exogamous marriage, increases as we move closer to Tulancingo. A clear indication of this is the fact that 66.52% of the migrants came from locations situated within a circle of 20-75 km radius. Interaction with the western province of Pachuca was particularly heavy, 14.08% of the marriage partners coming from there. The semi-arid and maguey-planting provinces of Apam and Zempoala to the south also served as popular origins (15.05%). Other important sources of inter-regional interaction were the eastern mountainous districts of Zacatlán and Huauchinango (10.68%). Finally, two towns lying on the fringes of Tulancingo Valley, Huasca to the northwest and Singuilucan to the southwest, contributed with 13.59% of the marriage migrants.

The results of the analysis of migration data in the parish of Tulancingo indicate the existence of a varied and extensive in-migration field. The large number of migration origins listed, their ample spatial distribution and the considerable distances travelled by some migrants, offer proof. On the other hand, if the frequency

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[17] The remaining 4.86% of marriage partners travelled from other major towns of that province: Huamantla, Tlaxco, Santa Inés Zacatelco, and Apizaco.

[18] Of this figure, Mexico City and Otumba accounted for 2.43% each, Texcoco 3.4%, and Teotihuacan 0.97%.

of the inter-regional marriages is taken into consideration, the same migration field reveals a highly localized nature. In addition to the above mentioned fact that two-thirds of the marriage migrants were drawn from an area of approximately 20-75 km around Tulancingo, it should be added that a group of just seven towns located within an even smaller radius, 20-45 km, accounted for a substantial 40.3% of all the outsiders who married into Tulancingo's population.[19]

It is clear that distance had a great influence on the level of interaction between Tulancingo and other parts of New Spain. Even so, it was not the only force moulding the parish's migration fields. Various cases attest to this. For instance, Real del Monte, the principal source of marriage migrants at the level of individual pueblos, was farther than Singuilucan and Apam, the second and third origins in rank, respectively. Similarly, more migrants originated from Atotonilco el Grande than from Acaxochitlán, though this latter was half the distance away from Tulancingo. At the regional level, migration rates for Puebla-Tlaxcala were greater than those of the Valley of Mexico and its environs, albeit both regions were roughly equidistant from Tulancingo.

The causes of migration

A thorough examination of the several regional flows that made up Tulancingo's migration field lies beyond this study. Still, some observations about the causes of migration and suggestions for future investigations should be made. It is important to bear in mind the provisional character of the migration field delineated in the previous pages. Besides the fact that only certain periods of the century were sampled,

[19] The top seven towns were, in descending order, Real del Monte (8.74%), Singuilucan (7.77%), Apam (7.28), Zacatlán, (5.83%), Huasca (5.83%), and Zempoala (4.85%).

contemporary recording of marriages was rarely consistent or complete, so over and under-registration of certain areas cannot be ruled out.

That the influx of people to Tulancingo was continuous refers to the existence of equally enduring forces attracting migrants to the area and driving them away from their homelands. Given the kind of sources utilized in this study, a critical variable to be investigated is that of the conditions affecting the availability of appropriate partners, both in Tulancingo and in the migrants' communities. An examination of the social rules and practices governing spatial exogamy and their possible variations according to place and time might tell us more about the distinct rates of regional interaction uncovered here. Clearly one of the associated tasks will be to calculate and compare the migration rates of the different destinations within the Valley of Tulancingo over the whole century, paying particular attention to the racial element. Fragmentary evidence, shortly to be discussed, indicates that the localities with a higher proportion of mixed-blood inhabitants were also the most dynamic with respect to spatial exogamy, a phenomenon noted in other parts of colonial Mexico.[20]

The image of communities that were accustomed, perhaps even willing, to incorporate people from outside, would have been perceived as a positive trait by the prospective migrants to Tulancingo. But that was only one among the various factors drawing people to the area. Economic opportunity played an important role too. The dynamic agricultural sector of the local economy exerted a great attraction. Almost a

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[20] As shown before, the Spanish and mixed-blood sectors of the population of the parish had higher rates of spatial exogamy than the Indians. In addition, it was the "españoles" who extended their marriage fields the most: all the individuals who traveled over 120 kilometres to Tulancingo were of that racial group. As discussed below, Tulancingo's provincial capital, the settlement with a higher proportion of non-Indian population over the period of study, drew marriage partners in greater numbers and from a much wider field than the other towns of the parish. Higher rates of spatial exogamy among non-Indians have been documented for some parishes of Durango (Swann, 1982: 123-124), the parish of Santa Catarina in the Valley of Mexico (Pescador, 1992:109-111), and in Nueva Galicia (Greenow, 1981: 130-32). Resembling also Tulancigo's case, Greenow found that in the different parishes she studied, the official parish centre tended to be more open than other pueblos. *Ibid*: 142.

quarter of the sample migrants whose place of residence at the time of marriage is known, settled on the agricultural estates of the Valley, where they possibly worked as labourers or became tenants (Table 13). Working on an hacienda was not only a way of getting an income, but for many it also meant to secure a basic supply of food in times when droughts and food-shortages were recurrent.

Table 13. Place of residence of migrants at the time of marriage, 1740-1749

Location	Proportion of the marriage migrants residing in the location
Tulancingo headtown	49.87
Haciendas	13.83
Ranchos	9.57
Subject towns	7.45
Outside the parish	3.19
Not specified	16.09

Source: See footnote 1.

The principal magnet of the area was, however, Tulancingo's provincial capital, which collected about half of the total number of outsiders who married into the parish. A further illustration of the capital's strong pulling force is the extension of its marriage field, which extended far beyond the remaining settlements of the parish, to Guanajuato, Toluca, Oaxaca, Veracruz and Spain. All but one of the marriage migrants whose origin was over 120 km away, including those from abroad, established their residence there.[21] The position of Tulancingo town at the apex of the regional system of settlement (we saw that, in the early nineteenth century, it was the largest urban centre for miles around), its demographic profile, and its complex and dynamic economy, account for its high levels of spatial interaction. It was a primary regional centre of production (both agricultural and of manufactures), consumption and distribution, and also contained most of the civil and religious services provided

[21] The exception was a man from Orizaba, who settled in an hacienda of the Valley.

for the province at large. Hence, Tulancingo's capital attracted people of different sorts and from all parts of the occupational spectrum, from unskilled labourers and unlucky peasants, weavers and artisans, to prosperous provincial farmers and merchants.

An eloquent testimony of how Tulancingo was perceived, at a given moment, as a place for potential economic and social betterment, comes from a brief comment contained in a letter written in 1718 by Juan Francisco Flores, a Spanish merchant who resided in the town. Although his commercial operations were based there, he had links with other places, in particular with Zempoala (32 kilometers to the southwest of Tulancingo), where his wife, also a Spaniard, was living. In his letter Flores make clear his desire that the couple should establish their permanent residence in Tulancingo, drawing a contrast between both places and stressing that Zempoala "no ofrece posibilidades para sustentarse y vivir con decencia".[22]

It is of interest to note that this remark was formulated early in the century, when Tulancingo had still to experience the demographic growth and the associated economic transformations of the succeeding decades, from which it emerged as a more developed 'urban' centre and, in some respects, a more attractive destination. In the only description of the town that has been found, dated in around 1791, the *subdelegado* of Tulancingo stressed Tulancingo's careful urban layout, its large and busy weekly market (*tianguis*), and its capacious church, which, he added, was crowded every Sunday with the large number of people who came to hear mass from all over the parish.[23]

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[22] From Juan Francisco Flores to Antonia Zamorano, August 1718. AHPJ, Protocolos Tulancingo, box 7, prot. 57. Zempoala was a small town and capital of a province of the same name located in the Mezquital Valley. The cultivation of maguey and pasturage were the main economic activities of the region in the eighteenth century. See Villaseñor, 1951: vol. 1, p. 142. See also the interesting remarks on the local economy made by the local *subedelgado* in 1792. AGI, Mexico, v. 1675, fs. 239-240.

[23] AGN, Padrones, v.1.

The converse to attraction, borrowing David Robinson's statement, was the rejection of the migrant's homelands.[24] Studying this latter phenomenon is undoubtedly one of the most difficult tasks for the historian of the host communities, for it requires knowledge, however general it might be, of the changing environments of the immigrants' places of origin.[25] The more we know about such origins – whether at the local, parish, or regional level –, the more we will advance the understanding of Tulancingo's migratory movements and of the wider spatial setting of the Valley was.[26] A notion of the utility of such a widening of the scope of analysis can be obtained from a cursory examination of the migration associated with the mountains of Pachuca, a major source of migrants to Tulancingo.

About one-eighth of all the migrants to Tulancingo originated from the mining towns of the westerly district of Pachuca.[27] Following a common pattern of the colonial silver mining industry, in the eighteenth century the district alternated periods of prosperity and stagnation.[28] It is common knowledge that mining bonanzas meant more employment and business, and that the impact of the expansion of a mining camp was generally registered in areas located many miles away. Mining zones promoted geographical mobility and acted as major regional foci of immigration. A

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[24] Robinson, 1990: 15.

[25] One of the most serious attempts made to date to correlate inter-regional population movements in eighteenth century Central Mexico, is Arij Ouweneel's essay (1991) on the Anáhuac region – a region formed by the three major valleys of the central highlands and the surrounding mountainous areas –, where he deals with the demographic fluctuations and possible links of 51 different provinces.

[26] It should be noted in passing that some of the areas with which Tulancingo interacted the most are still awaiting a historian. This is the case of the colonial provinces of Zempoala, Apam and Actopan, in the modern State of Hidalgo. I am referring here particularly to the lack of works dealing with the social impact of the important economic changes that affected those areas in the later colonial epoch. We know a good deal about the commercial expansion of the pulque economy in Zempoala and Apam. See, among others, Kicza, 1980; Bellingeri, 1980: 27-32; and Leal, 1982. Actopan is known to us mainly through studies centered on the large grazing haciendas that dominated the area. See Konrad, 1980, and Riley, 1975. The three areas had strong functional links with the mining area of Pachuca and Mexico City.

[27] Three major *reales de minas* flourished in the area: Pachuca, which was also the capital of the colonial province of the same name, Real del Monte, and Atotonilco el Chico. Also part of the district was Omitlán, a small northerly town that was surrounded by several refineries.

contraction of the mining activities had the opposite effect. In terms of the movements of the population, diminishing opportunities to improve, or at least to maintain, individual or family livelihoods, led many natives to migrate and persuaded immigrants to return home or to move elsewhere.[29]

The timing and dimension of the movement of people from the district of Pachuca to Tulancingo seem to have followed the above mentioned pattern. Between 1740 and 1744, coinciding with a difficult period of the local mining economy, the district provided 14.28% of the migrants who married into Tulancingo. This movement involved Indians, Spaniards, and *castas* alike (table 14).

Table 14. Marriage migrants from the district of Pachuca-Real del Monte, 1740-1744

Racial group	Total of marriage migrants (number)	Migrants from Pachuca-RM	
		number	% of row
Indians	50	7	14.00
Spaniards	40	7	17.50
Castas	50	6	12.00
Total	140	20	14.28

Sources: See footnote 1.

Available information does not allow us to trace the changes of the overall levels of this migration stream over the rest of the century. Still, there are indications that the influx of people from Pachuca decreased in periods when the mining activities expanded. Working with the Indians and *castas*, in sharp contrast with the early 1740's, in the 1770's the number of people who left the mining district for Tulancingo was minimal and, from a statistical standpoint, insignificant. We cannot exclude the

[28] For a survey on the evolution of Pachuca-Real del Monte mining industry in the late colonial period see Navarrete, 1992, and Ladd, 1988.

possibility of faulty information inflating the magnitude of this drastic drop of Pachuca's share in Tulancingo's inter-regional marriage market. Yet, more probable, the reduction was associated with the resurgence of the district in the 1770's, when, spurred by the operations of two large mining enterprises, labour and the services provided by the resident population and from the surrounding areas were in great demand. Tulancingo itself witnessed an increasing pressure for the Indian villages of the province to send men to do forced labour in the mines.[30]

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The previous examination on marriage migration in late colonial Tulancingo has done no more than to expose the general features of the phenomenon. Much more work will need to be done to fill in the details of such a complex issue. Still, it is now clear that the Valley was a dynamic space with communities interacting between them and with the exterior. The levels of interaction of the settlements of the Valley varied significantly depending upon size, economic structure, and racial composition, among other factors. Thus, the rural and predominantly Indian towns exhibited lower levels of social interaction and smaller migration fields than the large provincial capital or the rural estates. Leaving these distinctions to one side, the exploration of Tulancingo's migratory flows confirmed the conception formulated in earlier sections that the Valley was a system of interdependent elements rather than a group of solitary entities.

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[29] A good, concise examination on the current knowledge on the relationships between population movements and the dynamics of the mining economy in colonial Mexico is given by Swann, 1990: 144-146.

[30] See Navarrete, 1992: 160-162. In 1775, there arose a strong dispute between the manager of the Vizcaína, the major mining enterprise in Real del Monte (and one of the largest of New Spain), and the official of Tulancingo in charge of sending Indians to the mines. The former accused the latter of delaying the dispatch of the Indian drafts, in spite of the fact that such official knew the "gravest necessity" of labour affecting the Vizcaína at the time. AGN, Minería, v. 106. The use of draft labour

Migration would have played an important role in shaping the demographic evolution of the Valley. Thus, the level of urban growth achieved by Tulancingo's provincial capital in the eighteenth century was, in all likelihood, influenced by the movement of people from the surrounding countryside. In our interpretation we must not forget that the countryside also attracted migrants. The outflow of country dwellers to Tulancingo town was partly compensated for by movement from the town itself and by immigrants from beyond the Valley. In other words, we are dealing not with a process of de-population of the rural areas of the Valley, but of a shift of population between rural and urban locations that resulted in the increase of the relative size of the latter. Part of the explanation of this increase can be found in the expanding nature of the urban economy. Another should be ascribed to the difficulties faced by a large group of the rural population who, because of the demographic and economic developments in the countryside, had no land to live from and therefore had to work for wages.

One can also hypothesize that the demographic expansion of the Valley in the eighteenth century responded, to a degree, to immigration. Together with the data discussed in this work, there are additional clues underpinning this assumption. After examining the demographic variations within the Anáhuac, Ouweneel points to the province of Tulancingo as part of an important in-migration area, which he himself designates as the Northern *Faldas*.[31] Furthermore, based on a series of studies dealing with the Valley of Puebla and its relative demographic stagnation throughout the eighteenth century, the Dutch historian suggests that Puebla may well have been a

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in the mining industry was a legal practice. In Pachuca it was practiced from the second half of the sixteenth century. See Cubillo, 1991: 209-220.

[31] This area comprised 12 provinces, Tulancingo included, and covered most of the centre and east of the modern state of Hidalgo. Ouweneel, 1991: 532, 537-38, 551.

major source of emigrants for the *Faldas*. [32] Our findings on the migrational links between Tulancingo parish and the Valley of Puebla, and Ouweneel's observations on the connections between both provinces, reinforce each other. However, as far as the influence exerted by immigration on Tulancingo's population growth and the importance of the Valley as an inter-regional recipient of migrants, nothing conclusive can be said until specific calculations on net migration (the total movement out of the area minus the number who entered it) are undertaken.

[32] Studies on the Puebla region in the eighteenth century have characterized it as an area of out-migration. Although the rate and timing of the emigration varied from place to place, scholars agree when pointing to the relative stagnation of the economy of the region as a major force driving people away from their communities. For an analysis of the economic development of the region in that century see Thomson, 1989, and Garavaglia and Grosso, 1996: 161-192. An overview of the provincial demographic trends is given by Cuenya, 1987, and Thomson, 1989: 149-157. Studies on specific locations are, Thomson (1989: 158-187) for the provincial capital, Calvo (1973) for Zacatelco, Malvidos(1993) for Cholula, Brinckman (1989) for Tecali, and Garavaglia and Grosso (1996) for Tepeaca.

PART II THE AGRICULTURAL ECONOMY

Chapter 6 The production of crops and livestock

Local agriculture provided virtually all the food and drink consumed by the inhabitants of the Tulancingo Valley and the bulk of the raw materials used in manufacturing. Population growth and the accompanying urbanization, along with the established mining industry in Pachuca, provided Tulancingo farmers with increased opportunities of producing for the market during the late colonial period. There were always peasants who produced crops mainly for household consumption, but the subsistence sector did not dominate agriculture and few farmers were completely divorced from the market. The need to pay tribute or rent and also to obtain goods that were not produced at home compelled the humble peasant to cultivate cash crops and to raise animals for sale. The dominant position of the primary sector within the local economy is further illustrated by the fact that over nine-tenths of the male labour force outside Tulancingo's provincial capital laboured in agriculture. Even in the urban centre a large fraction (44.22%) of the labouring population obtained their income directly from agricultural employment (See table 11).

Different forms of agriculture were practiced in late colonial Tulancingo. Physical factors, such as relief, climate, and soil, interacted with social and technological elements to define the spatial expansion of different types of crop farming and stock raising. Grain farming and the cultivation of fruit and vegetables were well developed in the densely populated and well-irrigated centre and south of the Valley, whereas stockbreeding prospered principally in the outer, drier fringes and in other inner pockets of grazing land. Within this general frame of geographical

specialization, many farms, especially the great estates, combined arable farming and stock rearing.

The institutionalized systems of landholding and methods of obtaining and transferring the rights to land found throughout central New Spain were present in the area. Indian village land remained firmly established, though far from unscathed, under the protection of royal ordinances and the active self-defense of the Indian communities. In spite of these circumstances, non-Indian landholding developed and it came to preside over the increasingly free market of land of the late colonial period. The resultant agrarian structure was a complex compound of different types of rural production units that included pueblos de indios, haciendas, and ranchos. It is the Valley's agricultural production and the productive units involved in it that form the substance of this chapter and the following chapters.

The Valley of Tulancingo was an important centre of agricultural production. Situated at an altitude of around 2,200 meters, its mild temperature, hydrological regime (with a combination of seasonal rainfall and natural irrigation channels) and the availability of arable and grazing lands, made up a propitious natural environment for the production of a wide variety of foodstuffs. The town of Tulancingo and its environs are referred to in the *Theatro Americano* (*c.* 1746) as a place that was notable for the "great fertility of the land and the abundance of water, grains, and livestock".[1] Still, partly as a result of the conditions affecting New Spain's internal trade, demand was limited and therefore the range of agricultural commodities produced in the Valley, as in the adjoining regions, was narrowed. Writing in the early nineteenth century, Francisco Ortega, author of the detailed *Ensayo estadístico* of the district of Tulancingo, lamented that, "Although this land is appropriate for the

[1] Villaseñor y Sánchez, 1951: I, p. 134.

cultivation of various and valuable products, farmers have concentrated only on producing basic necessities, which they hope that they will be able to sell".[2]

Maize and wheat, crucial to the diet, flourished accordingly. The cultivation of maize was much more widespread, both for its importance as the staple food of the poor and as fodder for animals. It was also hardier than wheat and well suited to the local climatic conditions and range of soils. Table 15 provides a rough indication of the overwhelming predominance of maize among the grains produced in the *colecturía de diezmos* of Tulancingo. This ecclesiastical jurisdiction comprised the two parishes of the Valley, Tulancingo and Acatlán, plus those of Singuílucan, Huasca, and Atotonilco el Grande. Separate tithe reports for the parishes of Tulancingo and Acatlán were not found.

Table 15. Grain production in the colecturía of Tulancingo, 1823
(tithe returns in cargas)

Grain	Total
maize	1505.0
barley	268.0
wheat	180.0
broad beans	7.0
potato	6.5
flat pea	5.0
beans	2.5
lentil	0.5
chilli (arrobas)	14.0
nuts (thousands)	165

Source: Ortega, 1995: Estado 4.

In common with most areas of the Mexican Altiplano, in Tulancingo Valley corn was planted from late March until May, and usually harvested in December or

[2] "Aunque este suelo se presta al cultivo de muchos y preciosos frutos, la atención de los labradores se ha dirigido únicamente a los de primera necesidad, que son de los que esperan tener consumo." Ortega, 1995: 40. It should be remembered that the district of Tulancingo was a vast civil jurisdiction created out of the former colonial provinces of Tulancingo, Pachuca, Apam, and Zempoala shortly after Independence.

January, although the harvest could come as early as late August.[3] Maize was usually cultivated without irrigation, but various haciendas and some pueblos also farmed the crop on irrigated lands.[4] Irrigated lands were also used for the cultivation of wheat and vegetables.

The yield ratios of the grains varied considerably depending upon climate, soil, and the type of seed utilized. As to maize, Ortega calculated that on the rich soils of the district's temperate zones 200 to one was the common yield.[5] According to reports of some productive haciendas, this proportion appears to have been lower in the Valley. The expected yield on the hacienda of Totoapa was 100 to one in 1742. In 1796, the administrator of Zupitlán planted 35 fanegas and obtained 2,549, representing a ratio of about 73 upon one fanega sown. In the following year things were very similar, when 3,020 fanegas were gathered from 42 sown.[6] These yields were under the average return of 400 to one that, according to Ortega, prevailed in the hot places of the district.[7] However, the corn produced in temperate areas was of better quality and could be stored for longer periods. This attribute, together with a close and easy access to the local urban market and to the mining towns of the Sierra of Pachuca, placed the Valley farmers in a favourable position to commercialize their produce.

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[3] AGN, Civil, v. 1646, exp. 12, and Tierras, v. 1277. The reference on maize ready to be harvested in August refers to the hacienda of Totoapa. AGN, Tierras, v. 2569, exp. 2.

[4] The production of irrigated maize on haciendas is referred to by Francisco Xavier Vicario in a communication to the Dirección de Alcabalas (Central Customs House), 25 March 1786, AGN, Civil, v. 1817, exp. 7, and by Manuel Pérez del Castillo in a report to the Viceroy, 26 August 1809, AGN, Intendentes, v. 73, exp. 9. The reference on maize produced by irrigation in Indian towns (Natívitas and San Antonio) dates from 1772. AGN, Tierras, v. 2323, exp. 1.

[5] Ortega, 1995: 41.

[6] For Suptilán see AGN, Tierras, v. 1277. For Totoapa, AGN, Tierras, v. 2569, exp. 2. Statistics about yield ratios in colonial central Mexico are scanty. Still, in broad terms, the above figures on Tulancingo tally with the data available for other regions. Working with the records of sixteen haciendas for selected periods of the eighteenth century, Ouweneel (1996: 113-115) found an average maize yield of between 80 and 100 units per unit of seed. In León Brading (1978: 65) found 80 to one the common yield. It is common knowledge among specialists that the Mexican yields were high compared to the European standards. For an interesting inquiry about this question see Miller, 1995: 53-60.

Wheat spread quickly through the region after its introduction by the Spaniards shortly after the Conquest.[8] Directed primarily for an Hispanized clientele, its cultivation took place chiefly on the non-Indian rural holdings. Still, as shown in the next section, the grain was also farmed on Indian plots and the best flourmill of the Valley was in Indian hands from the sixteenth century until the beginning of the nineteenth century. All in all, wheat cultivation was a crucial sector of the economy of the area. Moreover, the Valley was the most important wheat production centre for many kilometres around. Wheat did not prosper either in the adjoining drier and colder provinces of Zempoala, Apam, Pachuca, and Actopan, located to the south and west, or in the more humid and hotter jurisdictions of Zacatlán and Huauchinango, to the east.[9]

Compared to maize, wheat production required higher capital investment, particularly for the construction and maintenance of both irrigation and, where they existed, milling facilities. It also required the plough and consequently draught-power and convenient flat lands. Against these disadvantages, wheat was a valuable source of income for many farmers because of the relatively high price it commanded.[10] Another advantage of wheat over maize was that it required lower inputs of labour per

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[7] Ortega, 1998: 41. The "tierra caliente" of the district of Tulancingo comprised the municipalities of Tutotepec and Tenango, where other tropical fruits like cotton and sugar cane were also cultivated.

[8] For a detailed account of the process of introduction of wheat in the region see Ruvalcaba, 1985.

[9] See the information on the prevailing agricultural production of those areas contained in the reports made by the respective local authorities in the 1740s, published by Solano, 1988. For the last decades of the colonial epoch see the accounts of the district magistrates and other reports on the state of the agriculture in their respective juridictions published in Florescano, 1981, v. 1, and Florescano and San Vicente, 1985. Some useful notes on the economic structure of the provinces in question are found in the reports of the *Subdelegados* made in connection with the suppresion of the *repartimientos de comercio*, AGI, México, v. 1675. See also the "General noticia de todas las jurisdicciones de esta Nueva España, temperamentos, frutos...(1784)", and Urrutia's "Noticia geográfica del Reino de Nueva España y estado de su población, agricultura, artes y comercio", published in Florescano and Gil, 1973.

[10] See the comparison between the prices of wheat and maize for Mexico City between 1721 and 1821 in García Acosta, 1995, Fig. 1, p. 186.

unit of production. Once the land was ploughed and seeded, few tasks were required until after harvest.[11]

In general, wheat was sown in the autumn (October-November) and was ready for harvest between late spring and during summer (May-July).[12] The seed ratio of this grain was lower than that of maize. Ortega recorded a yield of 30 to one in good soils. The hacienda San Joseph produced a yield ratio of 25 to one in 1769. The hacienda of Hueyapan had a yield of 28 to one in 1775.[13] Whether these ratios were typical of the whole Valley is unknown. More information is needed before any hard conclusion is achieved. However, given the multiplicity of factors acting upon the local production of grains (climate, soil, seed), it seems reasonable to assume that yield ratios were not the same everywhere. Studies dealing with this issue about other parts of New Spain have found that yields oscillated considerably in time and place.[14]

Barley did well on the soils of the Valley. It was grown in the Spanish estates by itself or, more frequently, with maize or wheat, and used for animal feed. Other crops of importance produced in Tulancingo included *haba* (broad beans), flat pea (*alverjón*), lentils, beans, and chilli. Fragmentary evidence indicates that Indians and non-Indian farmers alike cultivated them. The introduction into the area of broad beans, flat peas, and lentils (legumes of European origin), dates from early colonial

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[11] For a succinct description based on contemporary reports about the tasks involved in the cultivation of wheat see Swan, 1977: 144-45. Ouweneel (1989: 408), who has studied carefully the late colonial agricultural practices in central Mexico, states that "maize-growing used a much more complicated, meticulous administrative schedule". Its cultivation required a closer supervision and more care than wheat.

[12] The information on the seeding and harvest times in the Valley of Tulancingo were drawn from AGN, Tierras, vols. 1277, 2568, and 2569; AHPJ, Protocolos Tulancingo, box 8, prots. 66, 70; AGN, Intendentes, v. 73, exp. 9. A note on the months when wheat was reaped in Tulancingo appeared in the *Gazeta de Mexico*, 30 May 1786, published in Florescano, 1981: v.2, p. 374.

[13] AGN, Tierras, v. 2323.

[14] Brading, 1978: 65-66; Ouweneel, 1996: 113-115.

times.[15] Already by the beginning of the seventeenth century, they were common crops on the Indian communal lands.[16]

Data is not specific regarding the local use of these products. In the European tradition, broad beans and flat peas were used primarily as forage crops, but human consumption was also common, a practice also evident in Mexico.[17] Beans and chilli, basic to the native diet, were consumed heavily, and constituted an important part of the hacienda production – apparently more for autoconsumption than for the market – and, principally, Indians grew them. By the end of the eighteenth century, all of the above mentioned legumes figured among the products sold by the Indians in Tulancingo's marketplace, with beans and chilli occupying an outstanding position.[18]

Horticulture was widespread and the major source of fresh fruits, vegetables, and flowers for the growing provincial capital. Although horticulture developed in most of the towns of the Valley, it was particularly strong in the western fringes of Tulancingo town, an ample sector known as *Las hortalizas* where the River Tulancingo provided an accessible source of water for irrigation. The sector was in the hands of small farmers, many of them Indians, who, on the basis of a low-cost family production, secured the control of the urban market. In 1792, the official number of *hortelanos* residing in Tulancingo town was 55, 2.16% of the registered male labour force. This figure should be reviewed upwards, since Indians were under-recorded and the census registered only family heads.[19]

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[15] Ruvalcaba, 1985.
[16] Ruvalcaba and Baroni, 1994: 19-39.
[17] *Apud* Swan, 1977: 153-155. In some of the haciendas studied by Swan flat pea was used for fattening swine. According to a Mexican agricultural manual quoted by the American historian, in the late nineteenth century, *alverjón* was eaten by humans. As for *haba*, Gibson (1964: 319-320) reports that it was among the few European plants adopted by Indians for their own use.
[18] "Cuaderno de las introducciones hechas por los indios en esta plaza.., 1792. AGN, Alcabalas, Indiferente.
[19] The practice of horticulture in Tulancingo is examined with more detail in the following section. The production of fruits and vegetables continued as an important activity in the town of Tulancingo throughout the eighteenth century and beyond. For contemporary references see Villaseñor, 1951: I, p.

Although of secondary importance in relation to the crops examined before, the *maguey* grew well on the dry and relatively low-quality soils of the Valley. In the eighteenth century, maguey was grown mainly to obtain *pulque*, a popular alcoholic drink whose trade, if carried out on a large-scale, was highly lucrative. Maguey leaves were used as fuel and roofing material. Additionally, following an ancient indigenous tradition, certain parts of the plant were used for medicinal purposes and for human consumption, whilst the plant fibers were employed to weave clothing and baskets.[20]

Little systematic evidence concerning the dimensions of the maguey fields is at present available. Random references suggest that some estates had considerable plantations of the crop. In 1742, over a quarter of the lands of San Antonio de los Ahuehuetes, a hacienda of about 320 hectares, were reserved to the cultivation of the maguey. In 1809 the inventory of the hacienda of Hueyapan, one of the largest in the Valley, listed 310 hectares of "tierras de magueyal".[21] Indian peasants also cultivated maguey, obtaining *aguamiel* for their own consumption and for trading.[22] Although much of the maguey was apparently grown in small private plots, the community of Tulancingo owned two ranches and some fields devoted to that end.[23]

It seems, then, that the Valley possessed magueys that, if the absence of complaints about shortages is any reliable indication, normally kept the area supplied with the beverage. The development of the sector was, however, confined by local demand. Tulancingo produce could not compete in more distant regional markets against the higher quality pulque of the contiguous provinces of Zempoala and Apam,

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135, and Ortega, 1995: 37. For the second half of the nineteenth century consult Rivera, 1883: v. 3, p. 220.

[20] For an overview of the various uses of maguey see Leal, 1982: 79-82.

[21] Ahuehuetes inventory, AGN, Tierras, v. 2569, exp. 2. Hueyapan inventory, AGN, Tierras, v. 2558

[22] AGN, Indios, v. 58, exp. 175.

[23] AHPJ, Protocolos Tulancingo, box 17, prot. 109. Further discussion of the Indian production of pulque is deferred to the following section.

New Spain's major pulque-producing centres. Indeed, some *pulquerías* (pulque taverns) of the Valley sold pulque from these latter jurisdictions.[24]

Livestock was reared on many estates as well as by the Indian population, whether privately or collectively. Especially abundant were sheep and goats, followed by cattle and horses. Cattle and horses, together with mules, were of particular importance, for they furnished agriculture with indispensable factors to operate. As a rule, the main purpose of animal husbandry in the great estates of Tulancingo was to provide them with stock for draught, freight, and transport, which formed, as Brading has observed, the equivalent of modern machinery.[25] Animals also provided manure, a key element for maintaining soil fertility. In addition, livestock products– meat, milk and cheese – supplied household needs and constituted an important means of additional income. Animal by-products were important too. Hides and skins were the raw materials out of which a wide range of goods (garments, containers, straps, saddlery) employed in productive and commercial activities were made. Tallow was sold to make candles and soap.

Although the two activities cannot be separated, it can be said that livestock raising was second in importance after crop farming. In 1823, computed by value, livestock production accounted for 31% of the tithe for the *colecturía* of Tulancingo. The remaining 69% resulted from the cultivation of cereals, fruits, and pulque.[26] True, tithes reflect only Spanish agriculture and, in this particular case, our data refers to the distribution of the agricultural production of a territory of which the Tulancingo Valley was only a part. However, in the light of all that has been said about the

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[24] From the prest of Acatlán to the viceroy, April 1811. AGN, Infidencias, v. 116. According to the tithe reports, in 1823 the farmers of the *colecturía* of Tulancingo supplied 13% of the overall production of pulque of the civil district of Tulancingo. The *colecturía* of Pachuca, which included the Zempoala region, accounted for 77.5%, whilst Apam's, a region that was severily affected by the wars of Independence, stood at 9.5%.

[25] Brading, 1978: 77.

agricultural economy of the Valley and the information presented below, there is the strong presumption that the local tithe collection had a similar structure, that is, one reflecting the strong preponderance of cereal cultivation.

A rapid inspection of the patterns of land use also reveals the secondary position of livestock raising. There were only few properties specializing in livestock production. In a survey made in 1716, only 6 out of a total of 61 rural estates fell into that category.[27] Owing to the lack of information, the number of livestock estates in subsequent decades cannot be determined with precision, but, as will be discussed in chapter 8, the general tendency was for the acreage under cultivation to expand.

The quantity and composition of livestock maintained on an estate varied considerably depending upon factors such as the extension of the farmland, the kind of crops that were cultivated, the volumes of the harvests, the distance from the market, and the soil's livestock carrying capacity. In some cases the total number of animals kept on the farm could achieve considerable proportions. In 1796, for example, Zupitlán owned 204 oxen, 119 cows and calves, over 400 mares and colts, around 100 mules, and over 2,000 sheep. In 1809, Hueyapan maintained 160 oxen, 26 bulls, 83 cows and calves, 37 threshing horses, 33 mares, 16 colts, over 1,000 sheep, a dozen mules, and several goats.[28] Although important, these numbers are minimal when compared to those found on the imposing hacienda of Santa Lucía, in the Mezquital Valley, or on the northern Mexican haciendas.[29]

Moreover, to judge simply from the number of references, in Tulancingo the majority of the estates possessed what can be considered as moderate animal

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[26] Ortega, 1995: Estado 4

[27] "Detalle de los pueblos, haciendas y ranchos de la jurisdiccion de Tulancingo", AGN, Tierras, v. 338, exp. 2.

[28] Zupitlán summary returns, 1796-97, AGN, Tierras, v. 1277. Hueyapan inventory, 1809, AGN, Tierras, v. 2558.

inventories. Good examples are the ranches of San Francisco, which in 1738 had 40 oxen, 100 cows, 400 sheep, and some mares, and, further down the scale, San Miguel de los Cerritos, which in 1801 maintained 17 plough teams and 12 mules.[30] One of the elements that hampered the production of livestock in the Valley was the relative low quality of the local pasture. The contractor that supplied the Valley and the partidos of Huasca and Atotonilco with meat during the 1790's, a stockbreeder from the province of Pánuco, ascribed to that factor the rapid loss of weight of the animals he brought to the area.[31] Some additional references confirm that livestock from other regions was introduced into the Valley during the course of the century.[32] Whether such entries resulted from an insufficient number of locally produced animals or from the importance of Tulancingo as a provincial market for meat, in other words, because of inter-regional commercial competition, is a theme that should be addressed in future investigations.

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In the late colonial period, the Valley of Tulancingo possessed a diversified agrarian economy. The production of food crops (maize and wheat) predominated. There was also gardening, livestock breeding, and pulque cultivation. Although these activities were present throughout the Valley, some areas of specialization can be recognized. The cultivation of vegetables and fruits was typical of the towns, the provincial capital being the major horticultural centre. Crop and animal production

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[29] For Santa Lucía see Riley, 1974, and Konrad, 1980. For the grazing northern estates see Chevalier, 1966, and Harris, 1975.

[30] AHPJ, Protocolos Tulancingo, box 11, prot. 80; box 17, prot. 19.

[31] AGN, Alcabalas, v. 325, exp. 14. Livestock-raising was a major economic activity in the colonial province of Pánuco, a lowland zone which extended southward from the villa of Tampico across the floodplain of the Pánuco river, ending in the foothills of the Sierra Madre Oriental, some 130 kilometres to the north of Tulancingo. See Escobar, 1996 and 1997. See also the contemporary descriptions published in Solano, 1988, v. 1: 236-38, and Florescano and Gil, 1973.

dominated in the countryside. Maize, wheat, barley, beans, and other crops thrived in ample sections of the south, centre and northwestern parts of the Valley. Stock raising developed principally in the drier Valley floors of the north and northeast, but also along the roadsides and on the hillsides of the central region useless to commercial agriculture.

Without a precise knowledge of the volume of agricultural output and the levels of the demand for agricultural and livestock products in the Valley, little can be said about the progress of agriculture in the area. From the largely impressionistic picture of the previous pages, Tulancingo emerges as a regional economy striving for, if not always achieving, self-sufficiency. Studies on the internal economy of Mexico in the later colonial period tend to emphasize how high transportation costs and limited financial and technological resources hindered the easy exchange of produce between regions. Each region tended towards self-sufficiency, leading often to the production of low-quality goods on poor-grade soils often under unsuitable climatic conditions.

This line of interpretation helps to explain the presence of the relatively low-quality pulque and livestock producing sectors of the Valley. But the same weakness, in conjunction with the prosperous local production of wheat and, to a lesser extent, vegetables, can also be seen as a result of the complementary specialization of neighbouring economic areas. Looking at the larger territory in which the Tulancingo Valley was set in, one cannot help thinking that, gradually, a single, integrated inter-regional economy was emerging. To the south and southwest of the Valley there was a region specialized in the production of pulque. The extraction of minerals was the dominant activity in the area located to the west, and to the north there extended an

[32] Entry of horses from Teocaltiche, October 1740. AGN, Inquisición, v. 885.Mules introduced from

important livestock-raising territory. This geographical specialization was possible because each region was taking advantage of the local environmental conditions, producing a surplus that could then be exchanged elsewhere. If we were to talk about the forces that stimulated the formation of this economic space, the mining market of Pachuca and the urban market of Mexico City should be placed at a prime position, though their influence differed from place to place, and time. As for Tulancingo, the long-established connection with Pachuca provided a crucial economic stimulus for the development of the commercial production of grains.

Chicontepec, January 1785, AGN, Alcabalas, v. 326, exp. 16. s

Chapter 7 The Indian sector

The participation of the pueblos in the agricultural economy

The Valley's nine to ten pueblos and its sixty to seventy haciendas and ranchos were the major units of agricultural production, harbouring vast and diverse agricultural systems. Generally speaking, pueblos, hacendados, and rancheros had direct use of their holdings, whether large or small. Another stratum rented land.

Indians occupied an outstanding position within the Valley's commercial agriculture. Besides controlling land and other resources outside of Spanish estates, they produced a wide variety of the foodstuffs that were consumed locally and exchanged in other immediate markets. Indeed, a substantial proportion of the vegetables and meat consumed by the Indian population came from their own landholdings.[1]

A strong and ancient indigenous base continued to determine much of late colonial Indian agriculture. Maize remained the main staple, followed by beans, chilli, and a wide variety of vegetables and fruits of American origin. Maguey was also important for its nutritional value, for the production of pulque, and for its revenue-producing potential. Yet, the Indian population was also actively involved in the production of diverse products of European origin, particularly wheat, pulses, and fruits. Finally, most of the Indian villages and many natives who possessed small plots located outside the towns, owned small herds of sheep and swine.

Any attempt to calculate the volume of the Indian agricultural produce is bound to be largely conjectural and should be treated with extreme caution. As for

[1] Commenting on the subject, Ortega (1995: 40) writes that "all the Indians cultivate and raise their own animals". This should not lead to forget that, as discussed before, one of the consequences of

maize, the only crop for which available information allows us to make an estimate, a contemporary calculation maintained that the annual average harvest of an Indian family was of 25 fanegas.[2] If any weight can be laid on this estimate, and taking the number of families of Indian ascription (1,797) residing in the Valley during the late 1770's,[3] we come to about 45,000 fanegas of maize produced yearly within the Indian economy during the last quarter of the century. This figure appears exceptionally high when compared to the approximately 9,000 fanegas harvested by the major haciendas of the Valley between 1785 and 1786, the only period for which information about the aggregate output of the large grain producers has been assembled.[4] However, given the adverse conditions that affected the cultivation of grains during those years – some hacendados declared that their harvests were ruined, others did not sow the fields –, it seems reasonable to assume that in normal or good years the amount of maize produced by the large estates was higher, and, accordingly, that the share of the maize supplied by Indian producers was smaller.[5]

In addition to its enormous dietary importance, the maize constituted a major economic resource for the Indian population. It was a key medium of exchange by which it was possible to obtain currency, a commodity in heavy demand in the Indian

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population growth in the eighteenth century was the increase of the number of landless Indian villagers, many of whom came to depend on the market to supply had to acquire their foodstuffs in the market.

[2] Ortega, 1995: 40. Each family was said to consume weekly one-half fanega of maize.

[3] Padrón exacto de las personas de este Arzobispado...,1779. AGI, Varios, v. 38.

[4] Meeting held by the Alcalde Mayor and the hacendados of the Valley, 19 May, 1786. AGN, Civil, v. 1646, exp. 12. The 9,000 cargas is an approximation based on the statements of hacendados about the harvests of their respective properties.

[5] Information on some individual estates supports this assumption. In 1796-97, for instance, the hacienda of Zupitlán alone gathered almost 5,000 fanegas of maize. Examining the supply of maize of the urban market of Guadalajara, Van Young (1981: 86) found that the Indian contribution amounted to about 25% of the total corn introduced yearly into the city between 1753 and 1784. In the 1750's, the yearly flow of maize into the city was about 45,000 fanegas, the local population being about 10,000 inhabitants. Incidentally, our estimation of 45,000 fanegas of maize produced by the Indians in Tulancingo in the late 1770's corresponds to a total population of the Valley of slightly over 10,000 souls.

world.[6] Growing and selling maize for money far antedates the period under examination here.[7] The practice persisted, perhaps even intensified, in the last century of the Spanish rule. Although concrete references about market operations of that sort are difficult to come by, information at hand suggests that Indian cultivators routinely attended the weekly market of Tulancingo headtown and also went to the mining towns of the Pachuca mountains to sell corn, among other products.[8] In all likelihood, the funds thus obtained should have been used to buy foodstuffs and goods that were not produced by the peasants themselves, as well as to help finance the miscellaneous expenditure of the Indian communities.

In a society in transition towards a monetary economy, there were spheres other than the commercial one in which maize proved to be a valuable asset. Certain civil and religious expenses and duties were settled, at least partially, in corn. The normal payment per Indian tributary in the eighteenth century included one-half fanega of maize, though this could be converted into cash.[9] The salaries of the secular teachers (*maestros de escuela*) of the communities of Tulancingo and Coatepec were fixed and paid in maize, until a mandate issued in 1808 ordered that such expenses be

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[6] The payment of taxes, civil and religious obligations, rents, and debts, together with the active involvement in commercial transactions, were some of the mechanisms whereby the Indian population was constantly driven into the realm of money dealings. Indian testaments of the eighteenth century show men and women, even humble ones, possessing some money during the course of their lives. Cases like these may be examined in AHPJ, Protocolos Tulancingo, box 7, prot 58, and box 18, prots. 112, 114. An interesting examination of the introduction and subsequent expansion of the use of money in the Nahua economic world is in Lockhart, 1992: 176-85.

[7] Lockhart, 1992: 56-57; Ruvalcaba, 1985: 88-89.

[8] About the presence of Indians in Tulancingo's marketplace see AGN, Indios, v. 40, exp. 84. The attendance to the mining district of Pachuca is mentioned in AGN, Tierras, v. 3672, and AGN, Indios, v. 42, exp. 34.

[9] Since the seventeenth century maize in royal tribute was commutable at nine reales fanega. Gibson (1964: 52, ff.75) asserts that this conversion of the tribute maize into cash followed upon numerous abuses and frauds perpetrated by the persons in charge of collecting the tax. The official annual tribute in the province of Tulancingo, for most of the eighteenth century, was fixed at 2 pesos 1 real per tributary. There were, however, important variations from place to place, and payments in kind continued to take place. In the 1770s, for instance, some towns of the partido of Tutotepec usually paid their tribute in cotton *mantas*. AGN, Tributos, v. 24, exp. 8.

defrayed in money.[10] The community of Acatlán customarily discharged part of its religious obligations with crops and fruits, maize included. This procedure lasted until the mid-1810s, when the recently appointed parish priest persuaded his Indian parishioners to substitute the payments in kind for cash.[11]

Another use of corn was to help settle personal debts. In 1718, Bentura San Juan, a former Indian governor of Tulancingo headtown who was jailed for a debt of 176 pesos resulting from incomplete tribute deliveries, obtained his liberty after coming to an agreement with the Spanish authorities that included the payment of 6 fanegas of maize, appraised at one peso each.[12] A similar utilization of maize was doubtless present in the lower circles of the Indian society, especially taking into account the very limited range of assets that the poor could apply to cover familiar and personal liabilities. Unfortunately such operations generally went unrecorded. Last but not least, sharecropping and rentals of lands in maize were widespread and well-established practices in the Valley in which the Indian people were actively involved.

In stark contrast to maize, only some pueblos cultivated wheat. In the late colonial times, it was reported principally in the towns of the Central Valley: Tulancingo, Santiago, Coatepec, and Nativitas. Here it was frequently cultivated in

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[10] AGN, Tierras, v. 3027. The change was part of a general reorganization of the finances of the Indian towns undertaken by the Spanish authorities towards the end of the century.

[11] Shortly after, the Indians rejected the change. AGN, Tierras, v. 2958, exp. 80 How the issue was resolved remains unknown.

[12] Bentura got a two-year period to liquidate the debt, pawning his house and three parcels of land, among other properties. AHPJ, Protocolos Tulancingo, box 7, prot. 57. In Tulancingo, as in many jurisdictions of New Spain, the Indian *gobernadores* were in charge of the collection of tribute within the towns and were held responsible for the final tribute deliveries made to the Spanish collector, usually the alcalde mayor or, after 1786, the subdelegado of the jurisdiction. The amount of tribute to be paid annually was computed as multiples of the tributary population of each pueblo and its payment usually took place in three installments. Difficulties concerning final tribute deliveries frequently arose from deficiencies in tribute assessments. Thus, it was a common occurrence that in spite of the large numbers of tributaries who died or moved out of their towns following the attack of virulent epidemics or famines, the Spanish authorities continued to demand the full amount of tribute from each town until a new tributary census was undertaken. For an account of the late colonial procedure for collection of tribute see Gibson, 1964: 206-11.

combination with maize.[13] As discussed earlier, the Central Valley had the most favourable conditions (soils, water) for the plant to grow. A seventeenth-century source mentions some native production of wheat in Metepec and Hueytlalpan, but it was seemingly of secondary importance.[14] In the succeeding centuries, the scarce cultivation of wheat in that area was in the hands of Spanish farmers. Indeed, the costly requirements of wheat farming in draught-power and irrigation were crucial for the ascendancy of the great estates in this sector of the agricultural production of the Valley as a whole. Other factors to be considered are the economic convenience and cultural preference for the cultivation of the traditional American crops among the bulk of the indigenous peasants.

Indian wheat planting was undertaken mainly on small privately owned plots. Eighteenth-century notices mention several properties of this type spread over Tulancingo headtown and its environs. Presumably, after the royal tribute came to be demanded in cash in the early seventeenth century, the need to cultivate wheat in communal lands diminished significantly. Only one eighteenth-century example is known: Tulancingo (1716).[15] It is mainly prominent individuals within the Indian society who appear in the records in possession of lands suitable for the cultivation of wheat. Examples of this are found among the Méndez and San Juan families, the source of many town officials in the eighteenth century. To quote but some cases, in 1718, Don Bentura San Juan owned three tracts of irrigated lands that could produce four and one-half fanegas of wheat.[16] A fertile tract of land devoted to the crop

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[13] In 1772, some residents of San Antonio and Nativitas declared that the rotation of maize and wheat was commonly practiced in irrigated plots. AGN, Tierras, v. 2323, exp. 1.

[14] See the statements by the Indians of such towns published in Ruvalcaba and Baroni, 1994: 25-26.

[15] The lot in question was located in the town of Tulancingo. Part of it was sold in June 1716 to Juan Lira, a Spanish resident of the town. AHPJ, Protocolos Tulancingo, box 7, prot. 55.

[16] AHPJ, Protocolos Tulancingo, box 7, prot. 57. It was a common practice in those days to appraise arable lands according to its quality and use. Thus, many plots described in late colonial notarial records (wills, inventories, commercial transactions) do not have dimensions, Instead, they are referred

appears among the possessions listed in the 1789 will of Don Juan Antonio Méndez. In 1798, another member of the Méndez family, Don José Mariano, sold a parcel used for wheat located in the barrio of Zapotlán, in Tulancingo town.[17]

The Indian community of the town of Tulancingo was the owner of one of the three flour mills that existed in the Valley in the late colonial period. The other two were owned by local hacendados. The Molino de Santiago, as it was called, was built during the late sixteenth century, following a *merced* (royal license) granted to the Indians of the town in 1565.[18] It was situated to the south of the *cabecera*, in the vicinity of the subject town of Santiago (hence the mill's name), on lands adjoining the Tulancingo river. This was a very advantageous location, not only in terms of securing the supply of running water, but also for the proximity of the urban market. Different witnesses who were called in 1796 to give their opinion about the convenience of building a fourth mill in the Valley, concurred that Santiago was potentially the best mill of the area.[19] As far as the mill's producing capacity is concerned, an eighteenth century observer estimated that it had the potential to grind all the wheat that was produced in the Valley.[20] In sum, the Molino de Santiago possessed the necessary elements so as to be an important agricultural enterprise, as it possibly was in the early stages of its development. A partial glimpse of the state of the mill at that time is found in the survey of the pueblos of the Valley conducted by

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to in terms of the amount of grain that could be produced on them, say, six fanegas of maize, three fanegas of wheat, and the like.

[17] Juan Antonio Méndez, will.1789. AHPJ, Protocolos Tulancingo, box 16, prot. 107. The reference on José Mariano Méndez's sale transaction was drawn from the same collection, box 17, prot. 108.

[18] *Apud* Ruvalcaba, 1985: 144-45. In its initial stages, the Molino of Santiago belonged to the *parcialidad* of Tlatoca, one of the two political entities into which the Indian community Tulancingo was divided by that time. In 1565, Tlaixpa also received a merced to build a *molino*, but it seems that it was never constructed. The Tulancingo municipal corporation was reorganized as a single entity in the course of the seventeenth century.

[19] AGN, Tierras, v. 1271, exp.3.

[20] This opinion was expressed by the Subdelegado of Tulancingo in a letter sent to the viceroy April, 1796. AGN, Tierras, v. 1271, exp. 3.

Alonso Pérez in 1602, in which the mill was said to be under the Indians' control and functioning as required.[21]

In the latter colonial period things were different. It appears that for most of the eighteenth century the community of Tulancingo leased out the mill to others to operate, usually Spaniards.[22] This was not an isolated action, for rentals and sales of corporate holdings became customary in that period. These transactions were frequently dictated by the necessity of the Indian towns to support their fragile communal finances. On the positive side, the rental of the mill constituted an important source of the income of the community of the *cabecera*. Between 1791 and 1802, the Molino de Santiago was rented for 570 pesos a year, which accounted for over 40% of the community income.[23]

On the other hand, the rental of the mill meant the loss of whatever influence the Indian community had exercised previously over the Valley's wheat market by means of direct participation in the strategic supply of flour. From the documentation, it appears that, apart from receiving the above mentioned rental, under the leasing system the Molino de Santiago was completely alienated from the community. For reasons yet to be clarified, the town government was removed even from the handling of the leasing contracts, which fell under the control of the Spanish authorities. Moreover, the community was not protected against the mismanagement of the property. Thus, in 1799 the community was made liable for a loan of 2,000 pesos borrowed by the Subdelegado for the alleged purpose of repairing the mill, which had

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[21] Ruvalcaba and Baroni, 1994: 20.

[22] Unless otherwise stated, the information regarding the mill in the late colonial period was drawn from a number of documents generated and gathered during the process of sale of the mill occurred around 1802. AGN, AHH, leg. 396-2.

[23] Tulancingo town financial accounts for 1791-94 and 1801-05 are in AGN, AHH, leg, 396-1, 2, and AGN, Bienes de Comunidad, v. 1, exp. 16.

gradually deteriorated.[24] The money was never apply to such an end, but swelled the Subdelegado's personal finances.

In 1802, the mill was sold to a Spaniard for 5,540 pesos.[25] This action further affected the town's finances. As was customary at the time, the purchaser did not pay that sum, which was left as principal charged against the property, on all of which the new owner paid the standard 5% annual interest. In other words, the 570 pesos earned each year by the community of Tulancingo when the mill was in rental, turned into only 277 pesos after the property was sold.

A final note on the place occupied by wheat within the Indian diet. This is a question open to debate. On the one hand, the long established participation of Indians in the cultivation of wheat, whether on their own land or by working on Spanish farms, could have induced the inclusion of such staple in the indigenous diet. The most likely destination of the wheat cultivated on Indian lands was the marketplace, but it is possible that a small part of the produce would have ended on the peasants' tables. Garavaglia asserts that in some parts of the Puebla Valley where wheat was relatively abundant, it replaced maize "as the dietary mainstay of the working classes...particularly when the maize harvest was smaller than average or when it failed almost completely".[26]

Leaving to one side the difficulty of isolating episodes of severe harvest failures within a particular region in which only the supply of maize was affected,[27]

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[24] Already in 1796, the Subdelegado declared that the mill required extensive repairs, adding that there were people interested in buying the property. Apparently the mill was shut down around this time.

[25] For the sale of the mill, see AHPJ, Protocolos Tulancingo, box 17, prot. 111, and AGN, Tierras, v. 3027.

[26] Garavaglia, 1996: 89. In the case of Mexico City, Garner (1993: 97) sees the rise in wheat shipments to the city over the eighteenth century as a sign that for many people bread had become an alternative to tortillas.

[27] Investigations dealing with the issue of climate and its impact on Colonial Mexican agriculture show a wide range of harm resulting from inclement weather conditions. See Swan, 1977: 40-52; Ouweneel, 1996: 87-91; and Molina, 1996: 25-54. If present throughout one or more consecutive years within a particular region or a smaller area, inclement weather generally affected maize, wheat, and other crops

the question that arises here is whether the poor had the means to buy bread during periods of shortages of grain, when prices soared.[28] Likewise, it is important to take into consideration that people in the countryside had other choices at hand before turning to bread. Reports produced in different rural areas of central New Spain during the 1785-86 and 1809-11 crises indicate that the gathering of herbs and wild fruits – such as *tuna* (prickly pear), *nopal*, and roots – intensified in those years to supplement the lack of maize. In the province of Texcoco, not far from Tulancingo, the Indians resorted to *tortillas* made from a mixture of the fiber of the maguey and bran.[29] It is very likely that similar practices also took place in Tulancingo, a territory abundant in wild fruits and maguey. During 'normal' times, Indian traditions, the higher price of wheat, and the fact that Indian wheat production was subject to tithe (maize production was not), may have led most Indians to exclude it as a staple grain for their own use. Allowing for large geographic, social, and cultural variations, the rural masses continued to have a maize-centered diet.[30]

The maguey was another important product of Indian agriculture in the Valley. The plant's ability to withstand adverse conditions of soil, rainfall, and temperature, together with the fact that it required much less care than maize and other crops, made its cultivation particularly attractive for Indian communities and native individuals alike. Pulque was, far and away, the most marketable of all the maguey's by-products

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alike. In Tulancingo and the Mezquital Valley, for instance, all crops suffered during the harsh 1809-11 period. For Tulancingo see the report of the subdelegado, 26 August 1809, AGN, Intendentes, v. 73, exp. 9. For the Mezquital see Swan, 1977: 51. See also the reports of the *alcaldes mayores* and other testimonies on the agricultural situation in different provinces during the 1785-86 and 1809-11 crises published in Florescano, comp., 1981, v. 1, and Florescano and San Vicente, comps, 1985, repectively.

[28] As a rule, an abrupt rise in maize prices was accompanied by rising prices for other foodstuffs of prime necessity. García Acosta (1995a: 182-83) offers a good illustration of the similar evolution of the prices of maize and wheat in the eighteenth century, particularly during episodes of subsistence crises. See especially figs. 1 and 2.

[29] Florescano, 1981: v. 1, pp. 468-69. For a good exposition on the varied Indian diet in Central Mexico between 1500 and 1650 consult Cook, 1989.

[30] An illustrative glimpse of the Mexican late colonial rural diet is in Van Young, 1996: 53-60.

(food, fibers, roofing materials, among others) and, therefore, it constituted an economic resource of great importance to the Indian cultivators.

The community of Tulancingo town possessed the greatest number of maguey fields of all the Valley's Indian villages. Accordingly, it was the community most actively involved in the pulque trade, particularly in the first half of the century. From the land survey made in 1716 and miscellaneous notarial references, we know that this community owned two ranches and various tracts of lands devoted to maguey.[31] The ranches appear to have been acquired in the seventeenth century. The ranch of Teostoc, which in the late 1730's was valued at 600 pesos, was located to the north of the *cabecera*, on the route to Acaxochitlán, bordering the haciendas of Huapalcalco and Caltengo. The other ranch, Tepantitla, spread along the southeastern fringe of the town, near a place known as El Pedregal. Some sources refer to this ranch as one of the most important holdings of the community of Tulancingo in the late colonial period. The active interest of this community in the pulque trade in the first half of the century is illustrated by the fact that it held the *asiento* (contract) to collect the pulque tax of the *partido* of Tulancingo for fourteen years.[32]

As the century went on, however, the participation of the *cabecera* in the pulque market declined significantly. At a given point, it withdrew from the collection of the pulque tax, a function that appears in the hands of private contractors in the last decades of the colonial rule. Furthermore, from collector the town turned into debtor, and by the end of the eighteenth century it owed 673 pesos to the royal treasury from pulque tax payments. Tulancingo's town officials, acting on behalf of the community, offered to liquidate that sum in a seven-year period, asserting that it was not possible

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[31] Landholding title inspection, 1716. AGN, Tierras, v. 338, exp. 2. References on maguey-producing tracts of land owned by the community are found in AHPJ, Protocolos Tulancingo, box 7, prots. 58 and 59.

[32] AGN, Indios, v. 40, exp. 109. AHPJ, Protocolos Tulancingo, box 7, prot. 55.

to pay it promptly given the "abject poverty" afflicting the Indian towndwellers. In trying to be more persuasive, they reminded the central authorities about the punctuality with which the community used to pay the rent of the *asiento del pulque*. Still, only a two-year period was granted.[33]

The ranch of Teostoc was sold in 1739, amidst a series of sales of Indian landholdings that occurred in the Valley after the severe mortalities of the 1734-37 period.[34] In 1750, Tulancingo rented out some sizeable maguey fields in a nine-year contract that was to be renewed in the following decade.[35] The ranch of Tepantitla remained as a communal possession, but also in this case the usufruct of the property was transferred to the different lessees who rented it during the second half of the century and beyond. Between 1780 and 1800, the ranch was rented for around 400 pesos, which constituted a substantial income for the town, only surpassed by the rental of the mill of Santiago. It seems, however, that a direct administration of the ranch would have been more beneficial. By the turn of the century, the cultivation of maguey in Tepantitla was sustained and even showed an overall tendency to rise. An 1801 inventory recorded 7,600 magueys, 1,500 of them recently planted. That year, after a competitive bidding, a new tenant assumed the control of the ranch, committing himself to pay a rent of 550 pesos and to increase to 10,000 the number of plants.[36] For the community of Tulancingo, the benefits resulting from this higher rent were transitory. After around 1806, the revenue obtained from the rent of Tepantitla decreased significantly as a consequence of the division of the property following a

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[33] AGN, Indios, v. 40, exp. 109

[34] Sale of the ranch of Teostoc, 23 January 1739. AHPJ, Protocolos Tulancingo, box 11, prot. 81. The possible consequences of the 1734-37 epidemics in terms of land distribution in the Valley are discussed in the next section.

[35] AGN, Indios, v. 58, exp. 147.

[36] AHPJ, Protocolos Tulancingo, box 17, prot. 109.

legal dispute between Tulancingo and the hacienda of Esquitlán.[37] In 1811, what was left of the ranch was rented for just 180 pesos.[38]

The waning of the most important pulque-producing community of the Valley undoubtedly undermined Indian participation in the pulque market. However, native production continued to run through other channels. Throughout the late colonial period, many individuals cultivated maguey and produced pulque in small private plots. A good description of the scale at which these activities were undertaken is contained in an appeal to the courts made by the *cabecera* and its subject towns in 1760. The towns angrily protested against the new *asentista de pulques* (pulque tax collector) for increasing the fee that had to be paid for each maguey plant from which *aguamiel* (sap) was extracted to make pulque intended for commercial sale.[39] In conformity with the fiscal regulations, native production for family use was not liable to such taxation. The increase of the fee to three reales per plant, the complainants argued, represented a heavy burden to the many indigenous peasants who traded small amounts of pulque as a means to supplement their income.[40]

The document speaks of between three to six plants grown per Indian cultivator on tracts of lands around their *jacales* (hovels). Both the yields and the quality of the pulque produced were low, since, pushed by their meagre finances, most Indian cultivators started collecting the sap from the plants before these were fully mature. This practice also limited the productive life of the plants to around one and a half months.[41] The pulque was traded by the peasants themselves, who exchanged it either for money, maize, or for other crops. Most of the beverage was

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[37] AGN, Tierras, v. 3027.
[38] AGN, AHH, leg. 396-2.
[39] After collected from the maguey plant, the *aguamiel* was cooked with roots and other adulterants to make the pulque proper.
[40] AGN, Indios, v. 58, exp. 175.

sold in the marketplace, but, always according to our source, it was also possible to buy it in the houses of the cultivators.[42]

The Indian farmers grew many more plants besides maize, wheat, and maguey. As noted in the previous chapter, the cultivation of fruits and vegetables flourished in all the towns of the Valley, and it was especially important in the *cabecera*. Due to the paucity of information, however, our knowledge about this activity is fragmentary and unbalanced, when compared to what we know about the commercial cultivation of the three staples discussed so far. Still, some general observations can be made.

Like the cultivation of maize and maguey, the practice of horticulture antedates the colonial epoch. Favoured by the local environmental conditions and the availability of water for irrigation, this highly intensive technique of cultivation appears to have been prominent in preconquest times. It is significant, as Ruvalcaba points out, that in the assignation of services demanded by Texcoco as tribute to the many communities that fell under its control in the later fifteenth century, the inhabitants of the Valley of Tulancingo were charged with the responsibility of looking after the gardens and orchards of the Acolhua rulers.[43] In the prehispanic tribute system there was a tendency to fix the kind of services to be delivered by the tribute-paying communities according to their predominant economic activity. Among the cultivated crops in Tulancingo were squashes (*calabazas*), tomatoes, chilli, chía (a cooking herb of the mint family), and *huauhtli* (an amaranth). These crops were

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[41] According to Leal (1982:79-80), under proper treatment, a mature plant yields abundant juices for pulque during approximately three months. Thereafter the production decreases gradually

[42] In the 1801 inventory of Tepantitla, there appear two taverns that, one may suppose, were part of Tulancingo's communal possessions. It is possible that earlier in the century, before the ranch was rented out, the taverns were administered directly by the community.

[43] Ruvalcaba, 1985: 42-43.

widely cultivated in Central Mexico, constituting important items of the indigenous nutritional regimen before the advent of the Spaniards.[44]

Perhaps the most important change of the postconquest period was the incorporation of European crops into the local horticultural horizon. For a time, only Spaniards desired broad beans, lentils, nuts, peaches, apples, and many more fruits and vegetables brought from Europe. However, the Indian sector demanded such crops before long. Indeed, horticultural production was left to the Indians and to members of the lowest ranks of the Hispanic society, a situation that persisted until the end of the colonial epoch.[45] In the early seventeenth century, according to the survey that preceded the congregation, the Indians of the *cabecera* and its subject towns farmed a wide range of legumes, walnut trees, apples, peaches, and, in general, "large quantities of fruit trees from Castile".[46]

In the late colonial period horticulture was placed firmly among the prime economic opportunities available to indigenous people. By the mid-eighteenth century, the commercial production of garden crops had attained particular prominence in the *cabecera*, where many Indians were reported to be engaged in such activity.[47] Horticultural production appears to have been carried out mainly at the individual level, on private plots, and outside the framework of the large communal interests and holdings that we have detected in other sectors of the Indian agriculture. Perhaps for this reason, it is difficult to locate information about native horticulture in the Valley. Besides, much of what has been unearthed are records of sales and

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[44] For a treatment of the dietary regime in pre-Columbian Central Mexico see Cook, 1989: 125-155.
[45] Ruvalcaba (1985:70-71, *pari passum*) gives a synoptic account of the practice of horticulture in Tulancingo in the early stages of the colonial epoch.
[46] See the valuable testimonies of Spaniards and Indians regarding this issue in Ruvalcaba and Baroni, 1994: 19-28, 55.
[47] Villaseñor, 1951: I, p. 135.

bequests of lands, which tell hardly anything about farming practices and the relations of the producers with the market.

One of the few references that have come to us relates to the sale made by an Indian of a small plot of irrigated land with a walnut tree in Tulancingo town in 1738.[48] Another case relates to the purchase in 1797 of an unused *solar* (lot) located in the same town. The lot was contiguous to the purchaser's house, an Indian woman, who after fencing the terrain devoted it to the cultivation of "some trees and legumes".[49] The native elite also held properties of that kind. In 1804, Don Pascual Alberto, *principal* of Tulancingo, sold for 60 pesos an orchard located in the outskirts of the town to Don Pedro San Juan, also referred to as *principal*.[50]

It is important to set the occupation of 'hortelano' (market gardener) into its late colonial context. In so doing, we shall be better equipped to assess the role of horticulture in the Indian economy. It is possible that some people followed the cultivation of fruits and vegetables as a single occupation. The rise in demand for food that accompanied the surge in growth of Tulancingo town during the eighteenth century should have stimulated horticultural production as well as the prospective of profiting from this activity. The term "hortelano" was used in the 1792 occupational census to designate the 'occupation' of slightly fewer than 2% of the registered male labour force of the Valley.

However, many Indians, probably the majority, were involved in more than one occupation. Depending on the local circumstances, native market gardeners might have an orchard, a kitchen garden, and an area devoted to maize. They would keep domestic animals, like pigs and hens. Some of them might take farming jobs for other

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[48] AHPJ, Protocolos Tulancingo,box 11, prot. 80.
[49] AGN, Tierras, v. 2322, exp. 2.

people, or they might exercise a particular craft or skill, which they combine with the cultivation of their own orchard. Higher-status individuals could possess other forms of investment in addition to lands devoted to garden vegetables. It is interesting to note that none of the individuals that took part in the transactions of horticultural holdings examined before were designated as *hortelanos*. Still, it should be remembered that in the colonial documentation Indians were frequently described in terms which denoted their social or fiscal status – *indio(a) tributario(a)* or *principal*, in the cases in question here – rather than their occupation.

Vicente Mimila can be identified as an individual who derived his livelihood from the combination of horticulture and other farming activities. Vicente, who lived in Tulancingo town at the beginning of the nineteenth century, owned a series of small pieces of land scattered across the town. Included among such holdings was an orchard called "Los Membrillos" (The quince trees), which he held in conjunction with some of his relatives. Micaela Méndez, Vicente's wife, was herself owner of half of an orchard, though whether the couple managed their horticultural possessions in common is not specified. Vicente was also the tenant of a plot where he farmed maize. Likewise, he and his brother jointly cultivated corn on some lands belonging to their mother. At the moment of making his will, Vicente had 3 oxen, 35 sheep, and a donkey.[51] This latter animal was very possibly used to transport fruits and crops to the market. If this was the case, we could characterize him as a producer as much as a trader.

Vicente Mimila's personal fortune betrays the fact that he belonged to the upper circles of the indigenous society, so his case is not a fair representation of all

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[50] AHPJ, Protocolos Tulancingo, box 18, prot. 112. The Spanish term *principal* was used in the late colonial period to refer to any prominent, propertied person of an officeholding family. For a discussion on the evolution of the concept see Lockhart, 1992: 133-34.

those who were involved in the production of fruits and vegetables. Nonetheless, it can be taken as an illustration of one type of Indian producer present in the local market and, viewed from a broader perspective, of the complex nature of the peasant economy.

Our survey of the Indian participation in the Valley's commercial agriculture would not be complete without referring to the production of livestock. This activity was attractive to the Indians for several reasons. Pasture farming required less labour than growing crops. Thus, the tasks involved in tending the animals could be allocated among the members of the community and of the peasants' households (in the cases when such activity was carried out at the private level) without resorting to additional labour. The significance of this attribute stands out when considering the repeated mortality outbreaks that afflicted the Indian population throughout the colonial epoch.

Livestock rearing was particularly important as a complementary activity of arable farming. Sheep and pigs – the most common type of grazing animals kept by the Indians of the Valley – were very useful for clearing the weeds from the fallow. More importantly, they were the chief source of manure at that time, and, hence, a key factor for maintaining the fertility of the soil. Livestock rearing was equally attractive because animals could be sold at any point in the year, without the peasant having to wait for the harvest to raise cash in times of economic hardship. All these features help explain the relatively rapid incorporation of grazing stock inside the Indian economy following the introduction of European animals to the Valley around the second quarter of the sixteenth century.The first Indian communal and private sheep

[51] Vicente Mimila's will, 16 April 1804. AHPJ, Protocolos Tulancingo, box 18, prot. 112. Micaela Dominga Méndez's will, 26 April 1807. *Ibid*, prot. 114.

estancias (grazing lands) date from the 1550's.[52] Thereafter, the possession of sheep herds by Indians became a common phenomenon.[53]

Thus, by the late colonial times, the Indian population was well acquainted with the handling and marketing of grazing livestock, particularly sheep. It is known that Tulancingo town maintained herds of sheep throughout the eighteenth and early nineteenth centuries.[54] In 1717, in what is the most important local transaction of animals made by Indians that has come to us, the local community sold 1,050 sheep and three *sitios de ganado menor* (sites for sheep grazing) to Luis Márquez, a local hacendado and stockbreeder, for 623 pesos.[55] Herding was a communal enterprise in Acatlán and Jaltepec, their pastoral activities providing a source of contention and many legal wranglings with neighbouring haciendas over the use of bordering and open pasturelands.[56] Individual natives also practiced the raising of sheep, though on a smaller scale. A good example was the previously mentioned Vicente Mimila, owner of 35 sheep. José Antonio Méndez and Eugenia Camacho, who in their respective testaments declared a small number of such animals, exemplify minor indigenous sheep-breeders.[57]

Even though pigs hardly appear in the records of Indian communal and personal possessions, from the 1792 register of the effects introduced by Indians into Tulancingo town we know that indigenous people commonly traded swine.[58] In all likelihood, the dealers were involved in the breeding of such animals too, but we have no specific evidence on this. As for the way in which pigs were raised, the absence of

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[52] Ruvalcaba, 1985: 63.
[53] Ruvalcaba, 1985: 144-45. Lockhart, 1992: 56-57. Ruvalcaba and Baroni, 1994: 25, *pari passum*.
[54] AGN, AHH, leg. 396-2.
[55] AGN, Tierras, v. 3672.
[56] On Jaltepec see AGN, Tierras, v. 1670, exp. 4. For Acatlán, AGN, Tierras, v. 1468, exp. 4, and v. 2570, exps.1-3.
[57] José A. Méndez will, November 1789, AHPJ, Protocolos Tulancingo, box 16, prot. 107; Eugenia Camacho's will, 20 July 1804, *Ibid*, box 18, prot.112.

references about pigs being foraged in open fields suggests that they might have been kept indoors and fed more intensively.[59]

A final note about the utilization of *ganado mayor* by Indians. Oxen, horses, and mules figure in late colonial sources mainly as individual animals for draft and transport. The small number of cattle and mules owned by the native farmers, individually considered, could be related to the high cost of such animals. The production and commercialization of the so-called *ganado mayor* was a dominion of the non-Indian sector. Commenting on the functioning of the *repartimiento de comercio*, the mechanism through which the *alcaldes mayores* sold on credit livestock to the Indians, the Subdelegado of Tulancingo referred to transactions in the 1780s where oxen were sold at around seven pesos each and mules from 25 to 40 pesos.[60] These prices were the equivalent in value of between 28 and 160 days of peon labour.

Thus, only the 'wealthy' members of the Indian communities were able to buy and maintain cattle and mules simultaneously. Still, we are talking about only a handful of animals per person. Typical were the cases of Ventura San Juan, *gobernador* of Tulancingo in the 1710's, who, shortly after having left the post, had a pair of oxen, six mares, and three colts; the already mentioned Vicente Mimila, owner of three oxen and a donkey; and Juan Antonio Méndez, Indio *principal* of the *cabecera,* who at the moment of making his will maintained two oxen and two mules.[61] No reference about Indian owners of a whole herd of large livestock has been found.

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[58] "Cuaderno de las introducciones hechas por los indios en esta plaza.., 1792. AGN, Alcabalas, Indiferente

[59] In the Puebla Valley, a region known for its important production of swine, Indian farmers kept pigs both in suburban plots located outside of towns and in common fields. The animals were fed with fodder or with a great range of foods such as "hey, seeds, and acorns from the surviving limited forests". Garavaglia, 1996: 92.

[60] Juan José Osorio report, 6 October 1792. AGI, Mexico, v. 1675, fs. 231r-234r.

[61] Ventura San Juan, AHPJ, Protocolos Tulancingo, box 7, prot. 57. Vicente Mimila, *Ibid*, box 18, prot. 112. Juan Antonio Méndez, *Ibid*, box 16, prot. 107.

Overall, then, Indian cultivators continued to rely basically on their physical labour to carry out their farming tasks. Mainly, but not exclusively. The combination of indigenous and Spanish farming techniques and implements, which was practiced by the native farmers since the late sixteenth century,[62] is vividly portrayed in a testimony presented in 1799 in connection with a criminal enquiry conducted in Tulancingo town. As part of his declaration, the deponent, a child aged 12, recalled having seen two Indians working on a urban plot devoted to the cultivation of maize. One of the Indians was turning over the soil with a plough, the other was using a *coa* (digging stick).[63]

The alleged limited use of ploughs and work animals in the Indian sector of the Valley do not conform to the findings published by other scholars of the colonial Indian world. In the Valley of Oaxaca, Taylor found a widespread use of the plough by native farmers. In Central Mexico, Gibson and Lockhart share the impression that as the colonial epoch progressed, the use of oxen by Indians became more widespread. "In the eighteenth century, writes Gibson, only the 'indios pobres' were still making use of coas for planting".[64] Gibson's statement tallies with what was suggested before about the link between the economic situation of the bulk of the Indian farmers in Tulancingo and the limited use of certain farming implements. Without postulating the economy as the only factor affecting the material base of production (environmental and social conditions were also in operation), the generally low prevailing use of the plough by the Indians in the Valley can be seen as a symptom of their relatively lower economic position in relation to that enjoyed by the Indians in other parts of New Spain. This impression is reinforced when looking at, for instance, the large personal fortunes of the late colonial indigenous *caciques* of the

[62] See Ruvalcaba, 1985: 65, and Ruvalcaba and Baroni, 1994: 25, 36.

Valley of Oaxaca, the sizeable amount of land under the control of the local towns and native individuals, and the large herds maintained by some Indians in that Valley.

The important place occupied by the Indian sector in Tulancingo's agricultural economy needs no stressing. In spite of the Indian villagers' frequent claims about the small scale and the difficulties that hampered their farming activities, it is clear that, as a group, they had an active participation and contributed significantly to the production and commercialization of the Valley's agricultural produce. From the wide variety of cash crops and animals described in the previous pages, it is also evident that a characterization of the local Indian agriculture as concentrated on indigenous products aimed at the household consumption would be a misconception. In the late colonial epoch, and after a long process started in the sixteenth century, many agricultural products of European origin had become an integral part of the diversified indigenous husbandry. As would be expected, the Indian sector was particularly strong in the supply of traditional American crops like maize and beans. But it also did well in the low-cost family cultivation of garden vegetables and the raising of *ganado menor* (sheep and pigs). By contrast, within the context of an ongoing struggle against the hacienda economy, the position of the peasant sector in the wheat and pulque market was weaker and, as shown before, it declined even more as the century approached its end. The production of these crops at a large-scale, together with cattle raising, can be characterized as non-Indian strongholds. The haciendas of the Valley also profited from maize production, competing with the small producers in the market place.

The Indian agricultural sector was not a monolithic edifice, but a compound of different production units. Indian villages and native individuals ran their own

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[63] AHPJ, Tulancingo Criminal, box 1574-1799, exp. May 1799.

properties, commercially oriented and producing much the same things, though, in general, individual farmers did so on a smaller scale. Furthermore, on a closer examination we detected important wealth differences between and within the Indian communities. Tulancingo, the most populous Indian community in the Valley, controlled the largest agricultural holdings. Although such community reportedly lost control over its major possessions in the course of the eighteenth and early nineteenth centuries as a result of sales and rentals, it still fared better than the rest of the towns. Likewise, a small number of families and individuals stood out in terms of their rural possessions, which included a number of cultivated plots and teams of animals for draft and freight. The general impression is that this group was also part of the indigenous ruling classes, particularly from the *cabecera*, but this is a question that needs to be studied more thoroughly.

The farming methods and labour arrangements employed by the Indian peasants are other themes that merit a closer examination. Different combinations of topography, property rights, types of crops, and farming regulations, produced different varieties of farming systems. Overall, we found evidence of the use of intensive and extensive forms of food production, irrigation works, and the pattern of crop successions. Farmers carried out farming operations either collectively or individually, depending on the legal property rights attached to the ownership and use of land. However, we still know very little about how producers decided what crops to grow, how much to plant, where to sell their produce, and how these tasks were distributed among the members of the Indian communities and households.

It is not yet possible to measure the impact of the expanding population on the general performance of the late-colonial Indian agriculture. That more food was

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[64] Gibson, 1964: 309; Taylor, 1972: 72, 77; Lockhart, 1993: 201.

produced in the countryside cannot be measured directly, but it is implied by the presence of the population growth, urbanization, and the growing proportion of non-agricultural workers residing in Tulancingo town. The active participation of the Indians in the Valley's agricultural market points to the likelihood that they helped with the increase of the overall agricultural output to take place.

If that proves to be the case, the additional question arises of how that expansion was achieved. There is a general consensus among scholars dealing with eighteenth-century Mexican agriculture, that whatever the rise in production levels was, it resulted from the addition of more factors of production (land, labour, capital) than by introducing technological innovations or new production arrangements.[65] In an environment afflicted by a limited supply of land and capital, as it appears to have been the case of Tulancingo's Indian communities, the utilization and management of the labour force emerge as the key variables that could have led to an expansion of the agricultural production of the sector. Yet again, this observation underscores the importance of carrying out a careful study of the internal political and social organization of the *pueblos de indios* of the Valley.

Indian Communal Land Retention in the Valley

Land tenure was a determining factor in the development of the agrarian economy of Tulancingo. As for the Indian villages, the possession of land was central to their communal well-being. Lands collectively owned provided the basis for the *pueblos* of the Valley to undertake and benefit from the kind of productive activities that we have just examined. Yet, as in most of the viceroyalty, in Tulancingo one of the major consequences brought about by the Spanish colonization was the contraction of the

territorial possessions of the Indian towns. Within this context, the late colonial epoch was a period of mounting pressure upon the communal land resources owing to the combination of population growth and the expansion of the large-scale commercial agriculture.

This section is devoted to sketching the salient features of communal land retention in the Valley of Tulancingo in the eighteenth century. The ultimate aims are to further our understanding of the position occupied by the Indian sector in the agricultural economy of the Valley, and to assess the implications of the conditions affecting Indian land tenure for the economic functioning of the area. We will look at the Indian communities as landholding entities, identifying the differences between them in regard to their landholding situation, making reference to the strategies they employed to defend their territorial possessions, and assessing the final outcome of such an endeavour.

By the beginning of the nineteenth century, the condition of the Indian villages of the Valley in terms of land possession was problematic. As mentioned above, it was not that they had no lands at all. Most of them preserved at least the so-called *fundo legal*, the extension of land legally assigned to every Indian community in order for them to cover their basic necessities.[66] Rather, it was a problem of insufficiency of land, whether in extent or in quality, to sustain the growing population of the villages by means of agricultural production on their own landholdings and to meet the community expenses.

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[65] See the remarks on this issue by Van Young, 1986; Garner, 1993; and Ouweneel, 1996.

[66] The *fundo legal* (townsite) was one the various forms of corporate landholdings recognized by Spanish law. After some adjustments made in the course of the late sixteenth and early seventeeh centuries, from 1687 onwards the extension of the *fundo legal* was fixed at approximately 2 ½ *caballerías* (aprox. 101 hectares) around the principal church of the town. This area was to be divided for household allotment into plots measuring 25 varas on a side. In principle, the fundo legal, together with the *ejido* (communal woods and pasturelands), and, in some cases, lands included as part of the community treasury (*propios*), comprised the territorial base of the colonial *pueblos*. Among the ample literature dealing with this issue see Rivera, 1983: 197-234, and Dyckerhoff, 1990.

This difficult situation and its collateral effects are vividly portrayed in Metepec's case. In 1802, the inhabitants of the town formulated a petition to the viceregal authorities asking for the allocation of additional lands. An illuminating passage of their appeal reads as follows:

> Although for information that has been transmitted from time immemorial from generation to generation it is known that we have possessed a competent extension of lands, these are absolutely unsuited to farming, for besides being rocky or sandy, they are situated on the hillsides. For this reason, and in order to be able to sustain ourselves, to pay tribute, and to fulfill our communal religious obligations, we have to rent some lands, but even this is not enough. The lack of sufficient lands to produce the maize we need to get by...compels us to work on the haciendas, where we have to endure several abuses from the hacendados...[67]

Metepec was one of the least favoured towns of the Valley in terms of the quality of its lands and the absence of irrigation. Situated on the Valley's northern border –Metepec was the last stop on the route towards Tutotepec and Pánuco –, the local population depended basically upon the rainfall to water their plots. For this reason, the town demanded not any kind of land, but the type called *pan llevar*, the best quality agricultural lands that, according to the contemporary classification, was available in New Spain.[68] The petition also set out a plan whereby the requested lands should be taken from the adjacent rural estates in exchange for communal pasturelands and then allocated to the *vecinos* of the town. This is indicative of the limited availability of productive lands and the struggle over land that troubled the Valley at the time.

Metepec's land tenure problems did not result exclusively from the lack of good-quality lands, but were closely linked to the expansion of the local population. A

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[67] AGN, Tierras, v. 1677, exp. 2.

[68] This term was utilzed to design land suitable for the production of grain and that could be well irrigated. *Pan llevar*, according to Ouweneel (1996: 69), "was more or less a guarantee that good quality bread (pan) could be made from the grain". An inferior quality soil was *pan coger*, where the cultivation depended upon the rainfall. At the bottom of the scale was the soil called *pan sembrar*, from which it was not expected to obtain much harvest.

direct reference to this situation comes from the following episode. In 1804, the community of Metepec tried to obtain legal ratification of the property of some land that it had occupied since around 1610 without legal title. The principal argument put forward by José María Ortuño, Metepec's legal advocate, to support the claim was the striking change which had occurred in the relation between population and land resources from the seventeenth to the early nineteenth century. There was no point of comparison, Ortuño asserted, between the need for lands posed by the less than 60 tributaries Metepec had at the beginning of the seventeenth century, and that of the much larger population living there – he gives no figures – at the time of writing his plea in 1804.[69] No final decision is known about this case.

It is important to note that Metepec's land base, albeit larger than the fundo legal, remained the same throughout the eighteenth century. According to two inspections made in 1717 and 1804, Metepec owned its rightful fundo legal, one *sitio de ganado menor* and four *caballerías,* which accounted for around 951 hectares, over eight times the area prescribed by law.[70] Even though the colonial agrarian laws permitted a larger town endowment under certain circumstances – when a town was more populous than usual, for instance –, some officials, based mainly on arithmetical considerations, deemed Metepec's landholdings as excessive.[71]

From the viewpoint of the Indian communities, by contrast, the adequacy of the 600-varas legal endowment was weighed in relation to the particular necessities of

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[69] AGN, Tierras, v. 3672, exp. 24. Late colonial demographic information on Metepec is scanty and inconsistent, so it is not possible to precise the extent of the expansion under discussion. Tributary figures speak of an increase from 49 Indian tributaries in 1791 (AGN, Padrones, v.1) to 56 *tributarios enteros* and 22 *medios* in 1808 (AGN, Tierras, v. 3027). The parochial census of 1794 listed 295 inhabitants of the town, whereas the civil counting of 1825 records 1,654. Differences of the methods employed and/or the area covered in each of these two latter countings may account for the implausible rate of population increase to which they refer to.

[70] As mentioned above, the *fundo legal* amounted to an extension of land of approximately 2 ½ caballerías (101 hectares). One *caballería* was equivalent to 42.79 hectares and one *sitio de ganado menor* to 780.27 hectares. Thus, the four caballerías and the sitio controlled by Metepec represented an area of 951.43 hectáreas.

each town. Focussing attention on the northern section of the Valley, in addition to Metepec, the towns of Hueytlalpan and Asunción complained about the difficulties of sustaining themselves from only the lands comprised in their respective *fundo legal*.[72] Yet again, population pressure was a driving force leading to such difficulties. But other factors were also at work. The cultivation of walnut trees and livestock rearing, both of which require ample space to thrive, was central to the economy of all three towns. Consequently, the pueblos tried to secure an adequate provision of lands to fulfill such activities. Thus, as early as 1605, a time of demographic decline and relative abundance of lands, they opposed an attempt by the district magistrate to reduce the size of the household plots to 25 varas per side, as the law stipulated. Such small lots, argued the Indian representatives, were inadequate for walnut cultivation and other agricultural activities carried out by the indigenous cultivators.[73]

An additional element contained in Metepec's 1802 petition for lands merits attention. The document points to two important consequences brought about by the conditions of land shortage among Indian towns which prevailed at the turn of the century: the practice of renting lands from other landowners and the incorporation of town dwellers as labourers on the haciendas. From this standpoint, these were measures to which the Indians were impelled to resort by the adverse circumstances of their hometowns, rather than by the attractions of becoming tenants or wage-labourers on an estate. Even taking account of the exaggeration of these village petitions, it seems clear that the combined effect of the reduced availability of farming lands and village population growth put the Indians in a disadvantageous position in their leasing and labouring relations with the landlords. The ill-treatment suffered by

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[71] AGN, Tierras, v. 3672, exp. 24, and v. 1338, exp. 1.
[72] Santa María Asunción, AGN, Tierras, v. 2570. Hueytlalpan, AHPJ, Protocolos Tulancingo, box 11, prot. 80.
[73] Ruvalaba and Baroni, 1994: 52-53.

Metepec's commoners on the haciendas, an occurrence mentioned in passing in the 1802 petition, and the allusion to such abuses as something that had to be endured, can be seen as symptoms of the unbalanced character of such relations towards the close of the colonial epoch.

The Indian towns of the central part of the Valley – Tulancingo, Coatepec, Nativitas, Santiago, Jaltepec, and Acatlán – seem to have experienced the most serious pressure on their communal lands because of hacienda encroachment. More fertile and densely populated than the North, the Central Valley housed the largest towns and the richest Spanish estates. It is no accident that most of the information about land suits relates to this area, where the struggle over the possession and use of land and other resources was particularly intense.

In trying to protect their lands against illicit alienation, the central towns, as well as those on the north, sought to cover them through adequate legal instruments. The results are portrayed in a general land survey made in 1716, where all towns in the Valley were reported as possessing titles to their land.[74] This assessment should be qualified for, as Metepec's case shows, villages could be in control of untitled areas and even attempt to gain territory at the expense of their neighbours. In dealing with questions of land, Tulancingo's Indian communities made use of both legal and, from the Spanish government's point of view, illegal tactics.

Overall, the central towns appear to have been less successful than Metepec in safeguarding their *fundo legal*. These latter were seriously eroded by obtrusive Spanish estates, some of which possessed tracts of land within the boundaries of the

[74] AGN, Tierras, v. 338, exp. 2. Most of the titles of communal properties exhibited by the pueblos in the eighteenth century were legalized during a comprehensive *composición* (official process of legallization of land rights) carried out in the Valley in 1643. Subsequent attempts to undertake new *composiciones* made in 1670 and 1716 were ruled out following the request of the farmers of the Valley to adhere to the 1643 arrangement. These attempts are referred to in AHPJ, Protocolos

towns. Referring to Tulancingo town, Gaspar de Anaya, the local notary and author of the 1716 inspection, stated that it was very difficult to discern the total area retained by the Indians due to the intermingling of their collective lands and those belonging to neighbouring haciendas. This state of affairs was in open contradiction to the spirit of the colonial legislation aimed at preserving the territorial integrity of the pueblos, including the 1567 decree which forbade the existence of non-Indian cultivated fields within the *fundo legal* of the towns.[75] The failure to comply with the law led not only to the contraction of the territorial boundaries of the pueblos, but also to the shrinking of their traditional base of subsistence and, ultimately, their very physical survival was endangered.

The struggle over the preservation of communal lands is clearly highlighted in the case of Acatlán, *cabecera* of the parish of the same name, on the northwestern extremity of the Valley. This was an area with good-quality irrigable and *temporal* lands. Water for irrigating the central and eastern fields of the parish was obtained from the river of Tulancingo and the Laguna de Zupitlán, the largest reservoir of the Valley. For the fields to the west of the parish, the main sources were a spring called San Dionisio and the streams running down from the Sierra de Pachuca. Firewood was gathered from the mountains, whilst flocks of sheep grazed on the commons of the hillsides.

Such conditions were propitious for human settlement. As discussed in an earlier chapter, Acatlán was an important town, its population increasing rapidly between the 1740's and the 1770's. Around 1770, it had over 800 inhabitants (56% of the total population of the parish), almost all of them dependent upon farming for

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Tulancingo, box 7, prot. 55, and AGN, Tierras, v. 2566. A brief outline of the *composiciones* and land inspections made in Tulancingo is given by Cossío, 1946: 16-17.

[75] *Apud* Taylor, 1972: 68, and Wood, 1990: 118.

their support (see *supra* table 11). Thereafter, numbers stagnated, but the town continued to be among the top three of the Valley.

The combination of good farmland and the ample supply of water and native labour, together with the proximity to the mining market – Acatlán was the Valley's last major settlement on the route towards Real del Monte and the refineries on Huasca –, must have stimulated Spanish land interest in this area. The first acquisitions of land by Spaniards date from the first half of the sixteenth century. The drastic decline in Indian population of the late sixteenth and early seventeenth centuries and the ensuing disappearance of some communities left large tracts of abandoned lands into which the Spaniards moved, increasing their estates, which eventually came to dominate the area.[76] In the eighteenth century, for instance, the important haciendas of Totoapa, Tepenacasco, Zupitlán, and San Juan Hueyapan engulfed Acatlán. These estates belonged to powerful Spanish and Creole families, who were also involved in inter-regional commerce and had connections with the political and religious administrative apparatus of the province. Prosperous mining entrepreneurs from Real del Monte held Hueyapan, the geographical core of which was in the partido of Huasca. Among Hueyapan landowners was, towards the end of the eighteenth century, the influential House of Regla. In an epoch marked by the expansion of commercial agriculture and, in addition, when lands had to be bought or acquired by force from others as no productive land available for royal grants was left, it is easy to visualize the difficulties Acatlán faced to preserve its territorial base, let alone to expand it.

The substantial loss of land experienced by Acatlán due to hacienda encroachment is referred to in a document dated 1717. In October that year, the

spokesman of the town directed a strong protest to the royal authorities stating that during the course of a land dispute between Acatlán and the hacienda of Zupitlán, this latter was granted some terrains amidst the huts and cultivated fields of the community and a tract of land located at the very back of the town's church.[77] This was not an exceptional situation. A similar complaint was made by the town of Jaltepec in around the same year, denouncing the invasion of a neighbouring hacienda, the boundaries of which had been extended up to the burial grounds of the local church. The representative of Jaltepec also claimed that the town's base cluster lacked the rightful 600-varas except on one side. Although this latter assertion was found upon examination to be inaccurate, the intrusion of the hacienda on the pueblo lands was irrefutable.[78]

More evidence on the conflictive coexistence of the pueblos with the great estates comes from the frequent litigations over land arising between the two parties throughout the eighteenth century, some of which are discussed below. Beyond the peculiarities of each lawsuit, the general impression that emerges from such records is that there was a tendency for land to move from the Indian to the non-Indian sector. The process was, however, neither uninterrupted nor linear. This was partly due to the combativeness of Tulancingo's Indian communities when the integrity of their landholdings was at stake. Thus, disputed land could pass several times from one litigant to another before arriving at a formal settlement. If the agreement fell short of the expectations of one of the parties, there was always the possibility of reviving the dispute and trying to regain control of the area in contention.

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[76] Ruvalcaba, 1985: 111-12, 142-43. Cossío ((1946: 38) asserts that in the parish of Acatlán at least three pueblos – San Nicolás, San Sebastián, and Santo Domingo – disappeared owing to the severe mortality of the early colonial period.
[77] AGN, Tierras, v. 1467, exp. 4.
[78] AGN, Tierras, v. 1670, exp. 4.

The complex and lengthy conflict between Acatlán and the hacienda of Zupitlán, a passage of which was mentioned earlier, illustrates some of the issues discussed above. The difficulties between the pueblo and the hacienda began sometime in the 1680s, when both parties claimed ownership over some land lying south of Acatlán, on the route towards Jaltepec. In 1695, the Audiencia awarded possession of this land to the Indians, who began to cultivate some sections and rented out others. The hacendado did not withdraw his claim and asked for the case to be revised. The following years witnessed a continuous conflict between the two parties. In 1706 and 1716, the Indians accused the administrator of Zupitlán of invading the lands in question. In spite of these accusations, in 1717 the Audiencia revoked the 1695 resolution and awarded the ownership of the lands to Zupitlán. This time Acatlán objected to the decision of the court, made an appeal, and seized certain lands on the boundaries of the hacienda. Having spent much money and time in the litigation without achieving a secure settlement, in 1723 the owner of Zupitlán ceded the disputed lands to Acatlán on condition that thereafter the Indians restrained themselves from engaging in land disputes with the hacienda.[79]

The simultaneous use of available legal recourse and forcible actions for adjudicating land grievances was successfully employed by Acatlán in other conflicts. In a long suit begun in 1752 with the hacienda of Totoapa, this strategy helped Acatlán to recover some terrains and a spring located on the margins of the hacienda which were used by the Indians to feed and water their livestock. Acatlán claimed to have owned and used the lands peacefully since the mid-sixteenth century, until the owner of Totoapa appropriated them. Various residents of the area questioned in court agreed that the town had held the lands for a long time, but Acatlán could not offer

[79] AGN, Tierras, v. 1467, exp. 5.

any written proof of this because the titles had been lost. Carlos Méndez de Castro, who had recently inherited Totoapa, countered the Indian case by arguing that the terrains were located within the confines of the hacienda and that the Indians had taken advantage of the disappearance of the original markers to make illegitimate use of Totoapa's pasturage and water-hole. In repossessing the lands, Méndez de Castro added, he was simply exerting his proprietary rights.[80]

The suit continued for almost three decades. While waiting for the decision of the court, the Indians invaded the disputed lands and deprived the hacienda of access to the spring. This action led to a clash between town dwellers and workers of the hacienda, as a result of which a servant was wounded and some men were arrested. Prompted by the request of a furious Méndez de Castro, the Audiencia ordered the Indians to restore the invaded terrains to Totoapa, to refrain from future incursions, and to wait until a final resolution was made without disturbing the peace. The order specified severe penalties to all those who did not comply. No similar problems were reported thereafter, but the relationship between Acatlán and Totoapa remained tense in the succeeding years. The lawsuit finished in 1779, when the new owner of the hacienda, also member of the Méndez de Castro family, opted to turn over the disputed lands to Acatlán. In a personal letter sent to the town officials, the hacendado stated that he took this decision to put an end to the prolonged and costly quarrel and in the hope of avoiding future problems between the two parts. In the autumn that year, the district magistrate awarded possession of the terrains to Acatlán.[81]

It is important to say that, all through the lawsuit, the Spanish officials appeared to have sympathized with the Indians' complaints about the lack of sufficient lands to cultivate and build up their huts. At a given point, for instance, the

[80] AGN, Tierras, v. 1468, exp. 4.

fiscal of the Audiencia, without having received any specific request to that end, gave additional time to the counselor of Acatlán to reply to certain allegations made by the representative of Totoapa. He proceeded this way, the magistrate himself said, in view of the "misery" that afflicted the Indians of the town. A similar reason was put forward by the *Subdelegado* of Tulancingo when, in a later land dispute between Tulancingo town and a neighbouring estate, he persuaded the landlord to cede some terrains to the Indians.[82] It is possible that both functionaries were genuinely concerned with the well-being of the Indian villagers. Perhaps, bearing in mind violent episodes like that occurred between Acatlán and Totoapa, they were trying to ease the social unrest caused by the conditions of land shortage among the pueblos of the Valley which prevailed at the time. Another part of the explanation for such protective actions to have taken place could be found in the awareness of the colonial administrators of the importance of securing a minimum territorial base for every Indian community in order to ensure the strategic supply of tribute, labour, and goods that they represented. Whatever their motivations were, the intervention of the colonial authorities contributed to the specific dynamics of Indian land retention in Tulancingo.[83]

Another land dispute that ended with positive results for the Indians took place between the community of Tulancingo and the hacienda of Esquitlán, located just south of the town. In common with Acatlán, Tulancingo appears to have had little

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[81] AGN, Tierras, v. 1468, exp. 4.
[82] AHPJ, Protocolos Tulancingo, box 17, prot. 109.
[83] Of course, it also happened that the people entrusted with implementing the legislation aimed at preserving the territorial integrity of the pueblos were accused of favouring the interests of the landlords. See, for instance, Metepec's complaint against the *Subeldegado* in AGN, Tierras, v. 1677, exp. 2; Hueytlalpan's in AHPJ, Protocolos Tulancingo, box 7 prot. 58; and Jaltepec's in AGN, Tierras, v. 1670, exp. 4.

hesitation in resorting to violent methods to try to force quick settlements.[84] However, on this occasion the town came to an agreement through diplomatic channels, by negotiating and trying to convince both the hacendado and the officials in Mexico about the justice of the town's requests. The case is interesting for two other reasons: it reinforces the opinion expressed before about the increased pressure upon land brought about by the resurgence of the Indian population, and it further illustrates the land shortage affecting the pueblos of the Valley towards the end of the colonial period.

At some point in the 1790s Tulancingo initiated a suit before the Audiencia with Esquitlán. The Indians asked for the restitution of three *sitios de ganado menor* (lands for grazing sheep and goats) which were sold by the town to the hacienda in about 1675 as part of a transaction that included 1,050 sheep. At the start, Tulancingo alleged that what was sold to the hacienda were only the sheep and the right to *share* the land with the Indians for the grazing of livestock. Juan Sánchez Calero, owner of Esquitlán, claimed on its side that the *sitios* were already part of the hacienda when his grandfather bought this latter in 1717 and that he have enjoyed them ever since.[85] Following standard investigatory procedures, it was established that the *sitios* were actually sold by Tulancingo to Esquitlán, as Sánchez Calero asserted, but it also emerged that the transaction took place without royal permission.[86]

After this irregularity came to light, both parties tempered their positions. Thus, in a letter sent to the authorities, the representative of Tulancingo, leaving to

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[84] For instance, in a dispute of Tulancingo with the hacienda of Ixtlahuaca, in the early 1730s. AGN, Tierras, v. 2570. In that opportunity the Indians settled and put to use some lands that held by the hacienda.

[85] The proceedings of the case are found in AGN, Tierras, v. 3672 and AHPJ, Protocolos Tulancingo, box 17, prot. 109.

[86] Only certain types of land were considered as elegible for sale or rent. Town lands exclusive of subsistence plots and *tierras de comunidad* were the most common property types involved. If a cabildo wanted to alienate such proscribed land, it was required to obtain licenses before doing so, a permission that frequently took a long time.

one side the town's claims of ownership of the land, cast his argument in terms of the "widespread penury" undergone by the enlarged Indian population because of the lack of land. He pointed out that it was a well-known fact that many of them had to pay rent for their house plots. He finished his plea asserting that whereas granting the lands to Tulancingo would not signify a major loss to the hacienda, the townspeople would benefit greatly from them.

There followed a period of negotiations during which the colonial authorities actively mediated between the litigants. Indeed, the district magistrate played a key role in settling the conflict by persuading Sánchez Calero about the benefits of a peaceful understanding. In 1805 a final compromise was reached. Sánchez Calero retained the disputed land, but in return gave various tracts of tillable lands, some of which were "of better quality and situated closer to the town" than those claimed by Tulancingo, plus 150 pesos. The town officials manifested their satisfaction for the agreement.[87]

Judging from the large number of reliable contemporary statements that most pueblos lacked sufficient land to sustain their growing populations, it can be said that, overall, the land retained or acquired through legal appeals or by force by the towns were mere palliatives to their considerable needs of additional farmland. The ensuing struggle over the communal lands, it has been argued here, resulted mainly from the combined effect of village population growth and the expansion of the private estates. In this regard, it should be noted that although the majority of the conflicts occurred between pueblos and haciendas, disputes also pitted one town against another. Similarly, not all the disputes were over land. The control and access to water, for instance, gave rise to serious problems too. One such wrangle, lasting from the 1740s

[87] AGN, Tierras, v. 3672, exp. 25.

to the 1780s, took place between the Indian villages of the Central Valley and, perhaps more interesting, it led the formation of coalitions of pueblos and haciendas.

Although the dispute involved several towns and private estates, the leading roles were played by, on the one hand, the town of Tulancingo and the hacienda of Caltengo, and, on the other hand, by Nativitas, Coatepec, and the hacienda of Hueyapan. The former two were located on the headwaters of the streams running from the hills of Hueyapan, upon which they depended for their water supply. The latter three were closer to the water sources and, so, they were the first ones to use them for irrigation and other purposes. In 1643 both parties, together with the rest of the Indian settlements and rural estates of the Central Valley, had worked out a distribution agreement which secured them all a regular supply of the water coming down from Hueyapan. However, in 1747 Tulancingo and Caltengo, which in the agreement were part of the group of farmers called *tanda de abajo*, accused Coatepec, Nativitas and Hueyapan, members of the *tanda de arriba* group, of arbitrarily blocking off the streams to the lower part of the Valley.[88]

Rather than detailing the proceedings of the case, it is more interesting to look at what this event tells us about the unbalanced relationship between population and resources that we have been discussing in this chapter. At the root of the dispute was the shortage of water in relation to the increased demands for human consumption and irrigation of the Central Valley. The lawsuit began after Miguel Echeverría, the owner of Hueyapan, diverted some water originating from a spring situated within the hacienda for the purpose of irrigating some wastelands that he had recently turned to arable. Echeverría claimed that the water of the spring was enough to cover only his necessities and those of the neighbouring Indian farmers. In reality, the same source

[88] AGN, Tierras, v. 2566.

of water had been traditionally used by both the *tanda de arriba* and the *tanda de abajo* groups. Indeed, this situation led the royal authorities to declare the spring unavailable for private ownership in the sixteenth century, a status that was confirmed in the 1643 agreement.

It is clear, however, that by the mid-eighteenth century, the conditions of the agreement no longer suited the requirements of all the parties involved. Thus, Echeverría's attempt to force a new apportionment of water was backed by the neighbouring communities of Nativitas and Coatepec, who apparently were also in need of a greater supply of the liquid. By the same token, the Indian and non-Indian farmers of the lower Valley, cutting across the traditional ethnic boundaries, united forces to defend their share in such a strategic supply of water. The lawsuit finished in 1785, when the Audiencia ordered the parties to adhere to the 1643 agreement.[89]

Another important, non-violent, mechanism of transference of land from the Indian to the non-Indian sector was the sale of lands. As discussed in the previous chapter, utter necessity forced the sale of communal lands and landed properties that might otherwise have been retained. The fullest example of this is the already examined sale of Tulancingo headtown's valuable mill of Santiago. Another reason to sell land was the abandonment following epidemics. This phenomenon appears to have been particularly important following the mortality crisis of 1737, when numerous sales of Indian lands, both communal and private, took place. In the late 1730s, for instance, the community of Tulancingo sold one of its two ranchos *magueyeros* and several tracts of lands, some of which were said to be unoccupied

[89] The distribution of water in this part of the Valley continued to be a source of contention in years to come. In 1821, a group of hacendados of the lower Valley accussed the farmers of the "tanda de arriba" of cutting off their feeder-streams during the dry season. Once more, the Audiencia issued an order compelling the parties to adhere to the 1643 distribution agreement and recalled the district magistrate the resolution taken in 1785 with regards to his duty of ensuring that the "tandas semanarias" were carried out. AGN, Tierras, v. 2566

and unattended.[90] There are also reports of sales of deserted plots within the town itself and in other parts of the Valley.[91]

The pueblos of the Valley were not alone in disposing of some communal properties as a consequence of the 1737 epidemic. In 1738 Acaxochitlán, situated on the eastern border of Tulancingo Valley, decided to rent out the hacienda of San Antonio, which the community had acquired only the year before after a long and costly litigation. In their petition for permission to rent the estate, the officials of the town affirmed that the community lacked the necessary means to keep the property in conditions of exploitation, mainly because of the devastating effects of the *matlazáhuatl* epidemic, which killed around 900 Indians and left the survivors in despair. Eventually, San Antonio was seized by the colonial authorities due to Acaxochitlán's failure to pay the interests of the mortgages owing on the property.[92] A later case involving the rental of communal lands due to the same epidemic outbreak is that of Singuilucan, 20 kilometres southwest of Tulancingo town. In March 1739 the Indian authorities of Singuilucan requested authorization to rent out various tracts of agricultural and grazing lands adducing the impossibility to exploit them because of the great number of people died in 1737. The Audiencia authorized the rental in 1739.[93]

From all what has been said, a sharp contrast can be observed between the post-epidemic period of the late 1730s regarding the availability of communal lands and the disposition of the Indian towns to hand over some of them, and the situation that prevailed in the rest of the century, when the towns had to struggle over the possession of land with the non-Indian farmers. Let us now consider more closely the

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[90] AHPJ, Protocolos Tulancingo, box 11, prot. 81.
[91] Records on the various sales of Indian lands occurred in the late 1730s can be consulted in AHPJ, Protocolos Tulancingo, box 11, prots. 80-81.
[92] AHPJ, Protocolos Tulancingo, box 11, prot. 80

effects of the recurrent epidemics and periods of dearth upon the landholding situation of the Valley.

It is clear that, in the short to medium term, an epidemic such as that of 1737 alleviated the pressure of the indigenous population upon land, thus facilitating the acquisition of land by the non-Indian landowners. In principle, one would expect the remaining major epidemics and periods of dearth during the century – one in 1779, another in 1784-85, a third one in 1809-11 –, to have promoted comparable developments. However, none of them appear to have disturbed the land tenure system of the Valley as the one in 1737 did. Furthermore, the overall population of the Valley increased significantly after about 1740 until reaching its zenith by the mid-1790s, a movement that, as we have seen, was accompanied by the intensification of the conflicts in the countryside over the possession and use of land and other resources.

The reasons for these different responses are complex and hard to grasp. A plausible explanation is the distinctive character of the 1737 crisis, and the drastic decline of the indigenous population that it entailed. As discussed in chapter 2, no other epidemic in the century was comparable to that of 1737. This should not lead us to consider other epidemics as irrelevant to the evolution of the Valley's land tenure system. Although hard to demonstrate, it is possible that their combined effect contributed to slow the pace and, to some degree, the intensity of the demands for land created by the expansion of the population, particularly in the Indian villages. Internal and external migration would have played their roles too, enabling those groups for which the access to land was limited to move to other locations where they

[93] AHPJ, Protocolos Tulancingo, box 11, prot. 80.

could make their living more easily.[94] All in all, it is only by studying the interplay of mortality, migration, and the other factors mentioned above (Indian resistance, the colonial legal system, the conduct of the authorities, and the intensity of the Spanish presence), that we will be better prepared to interpret the transformations of the pattern of land distribution in Tulancingo in the late colonial period.

* * *

Summarizing, although the overall amount of land in Indian hands cannot be determined with precision, the information discussed in this chapter points to the fact that by the end of the eighteenth century the pueblos of the Valley lacked sufficient land to sustain their populations. The scarcity of common land resulted from the combination of village population growth and the expansion of the Spanish estates. On the other hand, the pueblos continued to have access, albeit limited, to communal lands, an element that contributed to their subsistence as autonomous entities and enabled them to escape a complete dependency upon the landlord economy. The struggle over land was present since at least the first decades of the eighteenth century and it became more intense in the second half of the century. In between these two periods, a time of relative calm appears to have set in following the catastrophic epidemic of 1737. There are indications that during this time lapse – the duration of which is yet to be clarified –, the sale and rental of communal landholdings took precedence over lawsuits and invasions, the other two major mechanisms of transference of land in operation throughout the century.

Within this general framework, some important spatial and temporal variations emerged. The amount of land held varied from town to town. Some retained just the

[94] The movement of people leaving their town because of the limited availability of land was referred to

minimum townsite, others had holdings that exceeded that area. Likewise, the type of pressure upon the communal resources was not the same everywhere. In the northern Valley, where the population density was lower and the presence of private estates less dominant, the pressure upon pueblo lands was not as intense as in the centre and south. Accordingly, some northern communities owned more territory than that prescribed by law. In those cases, as their petitions to the authorities in Mexico show, the extent of the corporate lands was far less important than their quality and suitability for farming, especially in times of population resurgence.

The situation of the pueblos of the central and southern Valley was somewhat different. They had to compete fiercely for the space with the numerous private estates that flourished in the area. Overall, land was of superior quality than in the north, an element that combined with the closeness and easy access to the Valley's principal markets – Tulancingo's provincial capital and the mining district of Pachuca-Real del Monte –, created also greater opportunities for the development of commercial agriculture. This helps explain the early incursions of the haciendas into the territorial allotment of the pueblos in this section of the Valley. Driven by the expansion of the population, the internal demand for communal lands and other resources intensified as the century wore on. Thus, by the end of the century, the central communities, as well as those on the northern part, were not only defending the lands to which they were legally entitled to, but also attempting to enlarge their territorial possessions. This situation not only intensified the disputes between Indian pueblos and non-Indian landowners (some of them in pursuit of additional lands too), but also gave rise to conflicts among Indian themselves.

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by a *vecino* of Jaltepec during the proceedings of a lawsuit in 1718. AGN, Tierras, v. 1670, exp. 4.

A final assessment of Indian land retention in late colonial Tulancingo leads to the conclusion that although the Indian communities retained sufficient land to subsist, they could not reverse the unbalanced relationship between population and land resources that affected them. One of the most important consequences of this situation was that many landless commoners were pushed out of their communities, creating a surplus of labour in the countryside that benefited the surrounding haciendas. On the other hand, from the land tenure developments examined in this chapter, it is clear that the relations between Indian communities and haciendas were not just dominated by haciendas. Furthermore, through their expeditious and vigorous defense of their access to land, the pueblos not only secured their territorial existence but, viewed from a broader perspective, they played a decisive role in the economic and social development of the Valley.

Chapter 8 The large producers: haciendas

As discussed in previous chapters Spanish estates comprised the most common types of agricultural holding as well as the dominant market-oriented production centres of Tulancingo Valley. We have also seen that in addition to their economic dimensions some great estates were important nuclei of social life, sometimes rivalling the pueblos as centres of population. In chapter 7 we addressed the issue of the impact of hacienda expansion upon the Valley's landholding, highlighting the position of the large estates as the major competitors of the peasant villages in the struggle for land and other resources.

While this coverage has illuminated important aspects of the prominent place occupied by the Spanish landholdings, particularly by the haciendas, in Tulancingo's agrarian structure, there are still some topics to be discussed. This chapter investigates in more detail the internal structure and economic functioning of Tulancingo estates. Attention is concentrated on the hacienda, whose overwhelming control of the factors of agricultural production – land, labour, and capital – placed it apart from the rest of the agricultural holdings. The study of the workings of the great estate is a key issue in understanding the historical evolution of Tulancingo Valley in the late colonial period.

The chapter is divided into three sections. First an overall picture of the Valley's agrarian landscape – the number and distribution of rural estates, patterns of land use and production – is presented. There follows a discussion of the distinctive features of the hacienda, focussing on factors such as infrastructure, the amount of capital investment, size of the landholdings, and the variety of agricultural and livestock production. Scholars of colonial rural Mexico tend to agree that the combination of these variables, together with the system of ownership, employment

and labour relations, gave rise to the wide spectrum of properties that have been grouped under the generic category of hacienda.[1] In the Valley of Tulancingo, as elsewhere in central Mexico, the great rural estate was not an entity with fixed and exclusive characteristics but a compound of natural and social elements that varied in time and place. The operations of the great estates and their integration into the local and regional economy are illustrated through a case study presented in the third section of this chapter.

A variety of primary historical sources were used in the preparation of this chapter. Official statistics helped provide an overall picture of the agrarian structure of the area, the number and types of rural properties, and their spatial distribution. Judicial and notarial sources provided prime information to reconstruct the hacienda as a form of property (size of the landholdings, physical boundaries, land use) and to follow the history of some estates over the eighteenth century. Wills, inventories, and contracts of rental and sale, together with fragments of hacienda accounts, were also key sources in our examination of the landed estates as units of agricultural production, affording the necessary information to delineate the internal organization and workings of Tulancingo's great estates.

On the other hand, the types of records mentioned say little about the social organization and labour arrangements of the haciendas, allowing us to make only a partial approach to this issue. Problems of reliability arose when analyzing the only hacienda accounts that have been located. However valuable, these accounts have the additional shortcoming of covering only a short period of time in the history of one particular hacienda (Zupitlán), leaving us with practical and theoretical concerns

[1] The problem of the use of the term *hacienda* has received great attention. The topic has been most clearly articulated by Van Young, who has also provided us with the best historiographical review of the subject made to date (Van Young, 1981, 1983). See also Nickel, 1988; Cuello, 1992; and Miller, 1995.

about the representative nature of the case studied. Another limitation of this work derives from the fact that most of the documentation that has survived refers to the largest properties of Tulancingo. References to smaller holdings and medium-ranked landowners abound in the archives, but they are rarely consistent enough as to enable the historian to reconstruct their individual trajectories. The history of the ranchero stratum in the Valley of Tulancingo remains to be written. All these defects in the data inevitably place a limit on our interpretation of the functioning and development of Tulancingo great estates as a whole. These types of difficulty, however, are not peculiar to Tulancingo. Historians dealing with other parts of rural Mexico have faced similar problems, leaving us with a good guide on how to confront and, when possible, solve such problems.[2]

The rural estates: a panoramic view

During the entire colonial period, the Valley of Tulancingo was noted for its importance as a centre of agricultural production. During the eighteenth and early nineteenth centuries, there were around 60 major haciendas and ranchos in the Valley, which made up the largest concentration of agricultural holdings of the entire province of Tulancingo. According to the detailed inspection of land titles made in 1716, the 1791 civil census, and Francisco Ortega's 1825 statistical survey, the number of landed estates of the Valley accounted for between one-half and two-thirds of the provincial total.[3] The concentration of rural properties in the Valley is better

[2] Particularly useful in this regard is Van Young's (1983: 28-38) survey of the methods and sources used in the study of colonial rural Mexico. In a regional context, no less illuminating are Brading's remarks on the problems of faulty information he encountered in his investigation of the agrarian structure of León (1978: *pari passum*).

[3] As noted in previous chapters, Ortega wrote his report shortly after the colonial province of Tulancingo ceased to exist, giving way to a new political-administrative organization. Yet, the

illustrated when considering that in 1716 and 1825 the two local parishes of Tulancingo and Acatlán housed more haciendas and ranchos than the parishes of Singuilucan, Huasca, Atotonilco, Acaxochitlán, and Tutotepec taken together (see table 16). In 1791 the Valley's share was slightly lower, with 56 rural holdings as against 64 for the rest of the province. This difference resulted mainly from the many ranchos listed that year in the partidos of Singuilucan and Atotonilco, which appear with only a few of them in 1716 and 1825.[4]

An explanation for this discrepancy can be found in the nature of the sources utilized. Close inspection of the 1791 census reveals that many of the entities registered as 'ranchos' in Singuilucan and Atotonilco were in reality groupings of small holders and tenants occupying lands belonging to larger properties. The resultant population settlements, though important for purposes of a demographic count like that of 1791, were irrelevant to the authors of the 1716 and 1825 surveys, whose aim was to keep a record of only the major, independent haciendas and ranchos. This is not to say that in Tulancingo Valley subordinate ranchos were absent. As discussed in chapter 4, it was also common for the local haciendas to have smaller production units within their boundaries. The relative equilibrium in the number of rural holdings of the Valley portrayed in table 16 had more to do with the presence of a stable core of independent properties that dominated the area.

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constituent parishes of the province remained practically unchanged and are clearly recognizable in Ortega's report, allowing us to disaggregate the information that interests us here.

[4] The 1791 census lists 15 ranchos and 2 haciendas around Singuilucan (the category of one property is not specified), as opposed to 4 ranchos and one hacienda recorded during the land survey of 1716. In Atotonilco, this last source listed 9 ranchos and 6 haciendas, whilst the 1791 census enumerates a total of 21 ranchos and 9 haciendas.

Table 16. Distribution of the rural estates in the Province of Tulancingo, 1716-1825

Parish	1716	1791	1825
Tulancingo	51	56	59
Acatlan	7		3
Sinquilucan	5	18	9
Huasca	13	13	16
Acaxochitlan	5	3	15
Atotonilco	15	30	2
Tutotepec	0	0	2
Total	96	120	106

Sources: See Table 7.

From the onset, the copious number of haciendas and ranchos of the Valley speaks of the attraction of the area to Spanish farmers. All through this work we have insisted on the advantages of climate, water, soil, and proximity to urban markets that made Tulancingo Valley a unique zone in what is now the state of Hidalgo. As noted in chapter 4, the area's suitability for the cultivation of wheat and other European crops encouraged Spaniards to establish agricultural enterprises since the early stages of the colonial rule. Their advancement in the area, however, was not free from obstacles. We saw that the Valley remained an important centre of indigenous population and how their claims to lands and water hindered the encroachment of the haciendas. Notwithstanding this circumstance, the Spanish estates continued to progress in the succeeding centuries, and by the late colonial period they were well established as the dominant entities of the countryside, both in territorial and numerical terms.

The large number of rural estates is also indicative of the strong competition over land and resources that took place in the Valley. This competition, in conjunction with the persistence of corporate landholdings and the political assertiveness of the pueblos, prevented the formation of any monopoly of land within the Valley. In contrast to the situation further west, where few haciendas controlled tens of

thousands of hectares, in Tulancingo haciendas were relatively small in size. For example, in the arid Mezquital Valley, the huge hacienda of Santa Lucía, created by the Jesuits and sold to the Count of Regla in 1777, comprised some 150,000 hectares.[5] Not far away, in the partido of Atotonilco, the hacienda of Amajac encompassed over 43,000 hectares towards the end of the eighteenth century. Smaller than the previous two, but still a large estate, was San Juan Hueyapan, located in the district of Huasca, which stretched over 14,000 hectares.[6]

There is no indication that any of the 23 to 29 haciendas that existed in Tulancingo during the last century of colonial rule attained similar dimensions.[7] One of the largest properties about which information has been found, Hueyapan, which dominated the southeastern corner of the Valley, encompassed nearly 5,000 hectares in 1809.[8] Together with its two principal annexed ranchos, Ixtlahuaca and Rocaferro, Hueyapan holdings may have amounted to around 6,500 hectares. Perhaps larger in size was Zacatepec, the most populous estate of the Valley in 1791 and which included several adjunct ranchos, but no record about its actual extension was located. At any rate, the remaining 16 haciendas for which data exists were smaller than Hueyapan, averaging between 500 and 2,500 hectares in size.

As the above figure indicates, Valley haciendas varied considerably in size. At one extreme there were large estates like Hueyapan, Totoapa el Grande, and San Antonio, the latter two comprising approximately 2,500 hectares each in the mid-eighteenth century. At the other end, properties of just a few hundred hectares, like

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[5] *Apud* Riley, 1974: 243. It should be noted that although Santa Lucía's administrative centre and most of its lands were located in the Mezquital, some of its possessions and annexed estates were situated outside that region. A detailed examination of the formation and expansion of Santa Lucía is given by Konrad (1980).

[6] For Amajac see Ballesteros, 1990: 83. For Hueyapan, Couturier, 1978: 72.

[7] Our sources speak of 28 haciendas in 1716, 29 in 1791 and 23 in 1825. The number of ranchos was 30, 27 and 39 for each of those years.

[8] AGN, Tierras, v. 2558, exp. 3.

San Joseph (214 hectares in 1724) and another one belonging to an Antonio Mendoza in 1717 (193 hectares), were still considered to be haciendas.[9] Although size was certainly a distinctive feature of haciendas – ranchos and other types of rural holdings were generally smaller –, this factor alone did not determine the property's status as a hacienda. Other variables to be discussed shortly also played a part.

The findings just discussed about the pattern of non-Indian land ownership in Tulancingo conform to those published by scholars dealing with other rural areas of central Mexico with high population densities and where haciendas and ranchos coexisted with Indian landholding communities. Investigations about the colonial jurisdictions of Metztitlán, Tepeaca and Tlaxcala, and about the Valleys of Mexico and Oaxaca, have pointed to both the considerable variation in the size of haciendas and the preponderance of small to medium-size proprietary farms as two distinguishing features of the regional systems of land tenure.[10] These works also show the benefits that an examination of the haciendas as a group can produce in terms of arriving at a better understanding of the dynamics and ascendancy attained by the large estates in areas like Tulancingo.

Haciendas and ranchos were distributed widely but unevenly in the Valley. Most rural properties were located within a radius of approximately 20 kilometres around Tulancingo town. In a general way, the number of estates varied inversely with the distance from the provincial capital. From the 1791 census we can identify

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[9] For Totoapa and San Antonio see AGN, Tierras, vols. 2569 and 2323, respectively. For San Joseph, AHPJ, Protocolos Tulancingo, box 8, prot. 66. For the hacienda owned by Antonio Mendoza (the source does not record any particular name for the property) consult AGN, Tierras, v. 2566.

[10] In Metztitlán, eighteenth-century haciendas ranged between approximately 500 and 6,300 hectares (Osborn, 1990: 146). In Tepeaca haciendas averaged between 748 and 1,173 hectares in size (Garavaglia, 1996: 91. See also Garavaglia and Grosso, 1990 and 1994a. In the Valley of Oaxaca, Taylor (1976: 81-82) found that haciendas ranged between 1,160 and 2,400 hectares. In Tlaxcala in the early eighteenth century only a few properties exceeded 1,600 hectares (González Sánchez, 1969). For the Valley of Mexico and its environs see Gibson, 1964, and Tutino, 1975, 1976. A similar structure of Spanish land ownership has also been identified outside the central Valleys in, for example, the Bajío

21 estates that were situated less than 10 kilometres around Tulancingo, 6 at a distance of between 10 and 20 kilometres, and 4 at more than 20 kilometres. This pattern of distribution reflects the close connection that existed between town and countryside, with the provincial capital functioning as the centre of gravity. Setting up an agricultural enterprise in the vicinity of Tulancingo town, the principal outlet and point of distribution of the agricultural products of the surrounding countryside, had obvious advantages in commercial and financial (e.g. lower transport costs) terms. In addition, the quality of the soil, the availability of water, and the possibilities for irrigated agriculture were also greater in the central portion of the Valley. The various haciendas that developed there were the main suppliers of wheat, corn, and other food crops for Tulancingo. By contrast, towards the drier, peripheral areas, particularly to the north, landed estates were small in number and widely spaced. Although crop farming was present in significant ways, stock raising tended to be more important in that area.

It is clear that we are dealing with the notion of 'town' as a central place around which a series of concentric, economically specialized zones servicing it, developed. This is an engaging theme whose treatment would require more space than can be devoted to it here. Still, a general comment can be made. The central place model has proved to be useful for the study of regions in Mexico, particularly of cities in relation to their hinterlands.[11] As for Tulancingo, the degree of congruence between

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and Guadalajara regions (Brading, 1978; Van Young, 1981), and in the southern portion of Zacatecas (Jiménez Pelayo, 1990).

[11] There is an ample literature dealing with the problem of regional conformation in colonial Mexico. Good theoretical discussions and coverages of bibliographical materials about this topic can be found in Pérez Herrero, 1991, and Van Young, 1992b. In particular, see Pérez's and Van Young's own essays. More recently, in his study of the Anáhuac, Ouweneel (1996) turned back to this question, emphasizing the correspondence between the geographical model of New Spain devised by Slicher Van Bath in the early 1980's and the general postulates of von Thünen, the German economist-geographer who first formulated an ideal-typical model of the patterns of land use and economic activities that are expected to develop around urban markets.

theory and reality is far from perfect.[12] Setting aside irregular patterns occasioned by non-economic factors such as the Valley's complex topography, political decisions, and administrative convenience, it should be remembered that Valley estates sought markets not only in Tulancingo town but also in other parts, particularly the mining district of Pachuca-Real del Monte. The influence of this second pole of attraction further complicated the spatial and economic arrangements of the Valley's countryside. We shall have occasion to examine the case of Zupitlán, an important hacienda that in spite of being located in the immediate hinterland of Tulancingo town devoted much of its produce to the mining towns.

The 1716 inspection of land titles provides the best available information on the overall patterns of land use of the Valley in the late colonial period. Working with this information we can approach the issue of the productive specialization of Tulancingo estates (Table 17).

Table17. Agricultural specialization of the rural estates of Tulancingo Valley, 1716

Predominant activity	Haciendas	Ranchos	Flour Mill	Not specified	Total
Agriculture	21	21	1	-	43
Stockbreeding	2	4	-	-	6
Mixed farming	5	5	-	-	10
Not specified	-	-	-	2	2
Total	28	30	1*	2	61

Source: AGN, Tierras, vol. 338, exp. 2. Land title survey report.
*There were three additional mills in the Valley in 1716, but they are registered as part of the haciendas to which they belonged. The mill included in the table was the Molino de Santiago, an independent unit of production owned by the Indian community of Tulancingo.

[12] In all fairness, the proponents of the model of the central place have long recognized its limitations. Experts – led mainly by economists and geographers – have subsequently revised and refined the terms in which the theory was initially formulated by von Thünen in the early nineteenth century. For a discussion of such attempts see the classical essay of Carol Smith reproduced in Pérez Herrero, 1991: 37-98.

The information in table 17 must be used only as a broad indicator, and even then with caution. The internal economy of the haciendas was an ancillary matter to the author of the survey, who recorded only the predominant farming activity of each estate. Besides, the data of the table only refers to a specific year. Even if such data is taken as indicative of the circumstances prevailing in the early eighteenth century, it is necessary to turn to other sources to identify changes that occurred in hacienda production and land use in the rest of the century. Nevertheless, the heavy predominance of agriculture seems beyond question. As discussed in chapter 6, the cultivation of cereals dominated the Valley's agricultural economy heavily throughout the late colonial period. Furthermore, from fragmentary evidence that is presented in a later section, we know that cultivation was expanding at the expense of livestock production. However, we have also seen that almost all major farms had to combine crops and livestock, if only because animals were needed for draught and as a source of manure. Likewise, in properties where stock raising prevailed, some land was usually kept for the cultivation of crops and forage destined primarily to meet the hacienda needs. In other words, considering the concentration of Valley estates on a given agricultural activity or product should not lead to the complexities of their internal economy being overlooked.

Another important characteristic of the Valley's agricultural system portrayed in the 1716 survey is the widespread use of irrigation. Two-thirds of the recorded landed estates possessed irrigated lands. In about one-third (19) of the properties, most of the lands under cultivation were irrigated. Another third of the estates combined irrigation and *temporal* agriculture. The remaining 14 estates (which will come up to 20, if the six farms which specialized in stockbreeding are included) depended upon rainfall to water their lands.

It is common knowledge that irrigation was a key to increasing the grain-producing capacity of the soil. Besides, the rural estates with only *temporal* lands were more susceptible to the vagaries of the weather than those that could make use of irrigated fields. Accordingly, the availability of irrigation greatly increased land prices. Francisco Ortega wrote that whereas irrigated lands were highly appreciated – he speaks of a typical value of 25 pesos per *cuartillo* in 1825[13] – *temporal* lands had a much lower value in the market. There was no representative price of *temporal* lands, Ortega added, because "they are subject to no rule but the necessity of the vendor".[14]

As noted in a previous section, in reality the criteria employed in classifying and appraising the value of agricultural lands was more complex than the previous excerpt suggests. Factors such as the quality of the soil, the location of the farmlands, and the types of crops grown were important determinants of land prices too.[15] However, Ortega was right as to the marked differences in price that existed between the two types of lands under discussion here. An illustration of this is given in the inventory in 1742 of the hacienda of San Antonio Zaquala, where the irrigated lands were appraised at 1,000 pesos per caballería, twice as much as their temporal counterparts, valued at 500 pesos per caballería. Also in 1742, the appraisers of Totoapa estimated the value of the hacienda's irrigated lands at between 1,000-1,500 pesos per caballería, whilst non irrigated farmlands reached only 200 to 300 pesos per

[13] The *cuartillo* was a unit of mesaure for crops, equal to 1.89 litres.
[14] Ortega, 1995: 45.
[15] In 1742, the irrigated lands of the hacienda of Ahuehuetes were appraised at 1,750 pesos caballería, whereas its "tierras de magueyal" were valued at 1,500 pesos per caballería. AGN, Tierras, v. 2568, exp. 2. The same year, in the rancho Aquetzalpan, the price of some lands described as "de medio riego" (partially irrigated) was fixed at 400 pesos per caballería. AGN, Tierras, v. 2569, exp. 2. In Hueyapan an inventario taken in 1809 shows that lands planted with maguey were priced differently depending on the number, quality, and maturity of the plants. AGN, Tierras, v. 2558.

caballería.[16] As is shown in the next section, the amount of irrigable lands held was a weighty component of estate prices.

The differences in size, land use, agricultural specialization, and farming practices already described attest to the variegated, complex pattern of rural holdings that existed in Tulancingo Valley towards the end of the colonial period. So far in this work a distinction has been made between haciendas and ranchos. This distinction existed at the time and has been confirmed on the basis of systematic analyses by modern scholars, though there is still a debate about the best criteria to be employed for making such a distinction. The following section examines in more detail the profile of the great estate in Tulancingo Valley.

The structure of the late colonial hacienda: Totoapa, Ahuehuetes and Tzaquala

"In common usage – writes Brading in his study of haciendas and ranchos in the Bajío –, an hacienda simply meant a large estate, an extensive tract of contiguous land, with a *casco*, a set of buildings which generally included a residence for the owner or his manager, barns, stables, corrals and a chapel." After warning the reader about the considerable diversity of size, agricultural specialization and mode of operation displayed by haciendas, and the difficulty of distinguishing them from other smaller holdings, Brading concludes that "it was the presence of tenants which disrupted any simple dichotomy between the great and the small property".[17]

The above definition constitutes a good point of departure for the analysis of the late colonial hacienda in Tulancingo Valley. There are, to be sure, additional variables to be considered. Empirical studies of different regions of New Spain point

[16] The inventories of both haciendas are in AGN, Tierras, v. 2569. A *caballería* was an area of land equivalent to 42.79 hectares or 105.8 acres.

to the significance of the amount of capital investment and the size of the work force employed, as well as the commercial orientation of the great estates. Sharper definitions stress the necessity of considering the dynamic nature and the interconnection of the basic variables of land, capital, labour, markets, and social functions preformed by haciendas.[18]

From what was seen in the previous section, Tulancingo haciendas can be characterized as rural-based economic institutions devoted to supplying local or regional markets with grain and animal products. Most haciendas concentrated on the cultivation of maize, wheat and, to a lesser extent, barley. In some haciendas maguey was important too. Smaller amounts of land were dedicated to beans, broad beans, and other legumes. Food-crop production, especially on the haciendas of the central Valley, involved intensive use of land and water resources. Ranching enterprises, by contrast, made an extensive use of land, with pasture and water often widely dispersed. On farming estates usually the land represented the major investment, whilst on livestock haciendas somewhat more was laid out on animals.

An illuminating insight into the internal features of the Valley great estates can be drawn from the inventories of three haciendas taken in 1742. The information contained in such inventories is summarized in table 18.

[17] Brading, 1978: 21.
[18] See Van Young, 1981:107-113; Nickel, 1988: 19-29; Cuello, 1992: 289-303; and Miller, 1995: 2-8.

Table18. Value of capital stock: haciendas Totoapa, Ahuehuetes and Zaquala, 1742

Hacienda	Total value (pesos)	Infrastructure/stock	pesos	%
Totoapa el Grande	33,621	BUILDINGS:		
		House and barn	2,575	7.66
		Walls (7,400 varas)	1,387	4.13
		Other (stable, corrals)	474	1.41
		Subtotal	4,436	13.20
		LAND:		
		Arable: 20 caballerías	14,100	41.94
		Pasture: 2 sitios de ganado menor	2,000	5.95
		Subtotal	16,100	47.89
		MILL	9,750	28.99
		WORKSTOCK and EQUIPMENT:	916	2.72
		PRODUCE:		
		Cereals (wheat, lentil, barley, maize)	951	2.83
		Livestock (sheep, cattle)	1,468	4.37
		TOTAL	33,621	100.00
Sn Antonio Ahuehuetes	18,864	BUILDINGS:		
		House and barn	4,900	25.98
		Walls and fences	237	1.26
		Subtotal	5,137	27.24
		LAND:		
		Arable 7 ½ caballerías	12,625	66.92
		WORKSTOCK AND EQUIPMENT	780	4.13
		PRODUCE		
		Cereals (wheat, maize, barley). Maguey	322	1.71
		TOTAL	18,864	100.00
Sn Antonio Zaquala	12,170	BUILDINGS:		
		House and barn	1,600	13.15
		Walls and fences	488	4.01
			2,088	17.16
		LAND:		
		Arable: 11 ½ caballerías	9,035	74.24
		WORKSTOCK and EQUIPMENT:	615	5.05
		PRODUCE:		
		Cereals (maize, wheat, barley, flat pea)	196	1.61
		Debts of hacienda labourers	236	1.94
		TOTAL	12,170	100.00

Source: AGN, Tierras, 2569, exp. 2. Inventories taken in September 1742.

The three haciendas belonged to the Méndez de Castro family, one of the most influential families of the Valley in the mid-eighteenth century. Don Domingo Méndez de Castro, a Spaniard from Galicia, acquired Zaquala and Ahuehuetes at some point during the late seventeenth and early eighteenth century. His wife Doña Leonor Romero, descendant of a powerful landholding family of long standing in Tulancingo, received Totoapa upon the death of her elder brother in the early 1730s. The Méndez-Romero couple owned other rural and urban properties, among them two ranchos, a store, and some houses in Tulancingo town.[19]

Totoapa and Zaquala remained under the control of the Méndez family until at least the early nineteenth century. By the mid-eighteenth century, Totoapa passed into the hands of Carlos Méndez, son of Don Domingo and Doña Leonor. Sometime in the 1770s, Carlos handed the hacienda down to his sons Francisco and Vicente Méndez. In 1791, these two appear as living in the hacienda in company of a *mayordomo*. In 1803 Vicente died, leaving Francisco as the exclusive owner of Totoapa.[20] Zaquala was under a leasing contract in 1742, and it remained in the hands of successive tenants for the following decades. Towards the turn of the century it was held in common by three of the granddaughters of Don Domingo and Doña Leonor.[21] As for Ahuehuetes, the only information at hand indicates that in the later eighteenth and early nineteenth centuries it was in the hands of a different powerful local clan, the Sánchez Calero family.[22]

All three haciendas had advantageous locations in terms of access to the markets and to the fertile soils of the central Valley, and all enjoyed the benefits of water for irrigation. Totoapa was located about 13 kilometres due northwest of

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[19] AGN, Tierras, v. 2569; AHPJ, Protocolos Tulancingo, box 7, prots. 56, 57.
[20] AGN, Tierras, vols. 1271 and 1468. AGN, Padrones, v. 1. AHPJ, Protocolos Tulancingo, box 18, prot. 112.
[21] AHPJ, Protocolos Tulancingo, box 17, prot. 108.

Tulancingo town, on the route towards the refineries of Huasca and the mines of Pachuca-Real del Monte. Zaquala and Ahuehuetes were placed in the southwestern border of Tulancingo town, close to the rivers of Santiago and Hueyapan.

Overall, land represented by far the largest part of the value of the haciendas. It accounted for 47.8% of the total worth of Totoapa, 66.9% of Ahuehuetes, and 74.2% of Zaquala. The amount of good-quality lands held determined, to a great extent, the difference in total value that existed between the three haciendas. Totoapa was not only the largest estate (it was 4.9 and 7.5 times larger than Zaquala and Ahuehuetes, respectively) but, more importantly, it also had the largest amount of arable land. Together with its mill – another distinguishing feature of Totoapa – both components made this hacienda the most valuable rural possession of the Méndez family.[23] The precedence of quality over size in the monetary assessment of land and how this variable affected the total value of farming estates, is further illustrated by the fact that Ahuehuetes, though 1.5 times smaller than Zaquala, was a more valuable estate. Around one-half of the 6,694 pesos that separated both haciendas in terms of value, resulted from the higher price of Ahuehuetes' lands, which were appraised at 1,500-1,750 pesos per caballería, whilst Zaquala's reached only 500-1,000 pesos per caballería.

For their geographical location and the types of land at hand, it comes as no surprise that the economy of these three enterprises was based on food-crop production. Within this framework, each estate had particular productive arrangements. Totoapa is a good example of the combination of arable and pasture

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[22] AGN, Padrones, v. 1.

[23] The molino accounted for a significant 28.9% of the hacienda's worth. It is interesting to note that without this component, the proportional value of the farmland of Totoapa would have been 67.44%, a figure very much like that of the other two haciendas.

farming that was frequently seen among the major haciendas of the Valley.[24] Taken together, the grazing lands and the animal inventory accounted for about 10 % of the hacienda value. Wheat, maize, barley, and lentil were grown in the estate's lands. Totoapa's economic diversification was emphasized by the inclusion of a water-powered mill where the hacienda ground its own wheat and, one might assume, the produce from other estates, Ahuehuetes and Zaquala included. Indeed, Ahuehuetes, in accordance with its 5 ½ caballerías of fertile, irrigated soils, concentrated upon wheat-growing, tilling smaller amounts of land in maize and barley. Two caballerías of land were devoted to the cultivation of maguey. In stock in 1742 were 170 *cargas* of wheat, 8 fanegas of maize, and 1 ½ fanegas of barley. As for Zaquala, the amount of seed in the barn at the time of the inventory suggests that maize was the principal crop grown, followed by wheat and barley. The source speaks of 300 fanegas of maize, 15 cargas of wheat, and 15 fanegas of barley. There were also 15 fanegas of flat pea.

Another element held in common by the haciendas under examination was the existence of an elaborate compound of buildings commonly known as *casco*, which included a residence, storage facilities for equipment and produce, sheds, and livestock facilities (corrals, stables). Together, these structures represented one of the few elements of greater capital investment in the haciendas outside the lands. Ahuehuetes had the largest and most valuable of all three main houses. One would expect Totoapa's to occupy that position, especially considering that it was the principal manor house of the Méndez family, who ordinarily lived in Tulancingo town. It is possible that Ahuehuetes had already a major residence when it passed into the hands of Don Domingo Méndez and that thereafter it was used by the family on a

[24] Zupitlán, Hueyapan, Apulco, Tezoquipa, Otontepec, and Huajomulco, five important haciendas in the eighteenth century, diversified their resources in a similar way to Totoapa. See AGN, Tierras, v. 338, exp. 2. The case of Zupitlán is examined in the following section. For Hueyapan see also AGN,

casual basis. Besides, the *mayordomo* of the hacienda lived permanently in the house. This consisted of 19 rooms, including a vestibule, a main living room, several bedrooms, a kitchen, a patio, and a small *troje* or granary. Next to the main house was the largest granary of the hacienda, measuring 40 x 10 varas. This was valuated at 800 pesos, more than the 500 pesos of Totoapa's largest *troje* and 400 pesos of Zaquala's. Each hacienda had threshing floors which served to separate the wheat chaff from the grain and to dry other seeds. Totoapa and Zaquala also had a purposed-built *asoleadero* (drying yard). It is important to stress the economic importance of barns and granaries. They were key factors in the ascendancy of the haciendas in the grain market for, as Garavaglia has put it, "they allowed for storage of grain that could be sold during times of nonexistent supply", enabling the hacendados to fix grain prices off-season. Most small producers lacked such conservation facilities.[25]

Farther from the *casa grande*, there were other smaller *viviendas*, two in Totoapa and one in Zaquala. The term employed to designate these constructions indicates that they were used as houses, possibly to accommodate medium-rank personnel of the haciendas and their families. In Totoapa, one *vivienda* was situated close to the mill, which suggests that the dwellers were linked to flour milling. The inventories do not list any other houses for hacienda workers. Still, from other sources we know that, like most haciendas of the Valley, Zaquala and Totoapa housed a body of resident, non-skilled labourers. In 1794 a total of 73 Indian workers were living in Zaquala.[26] Totoapa had 29 *tributarios completos* living on it in 1808, which would indicate a total Indian population of perhaps 100 to 120 people.[27] No data about

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Tierras, v. 2558. For Otontepec and Tezoquipa, AHPJ, Protocolos Tulancingo, box 11, prot. 80 and 81, respectively. On Huajomulco see AGN, Alcabalas, exp. 15.

[25] Garavaglia, 1995: 94. On this topic consult also Florescano, 1969; Van Young, 1981; and Artis, 1986.

[26] Tulancingo parish census, 1794. AGN, Genealogía y Heráldica, Tulancingo parish, 20659.

[27] "Reglamento de bienes de comunidad...", 1808. AGN, Tierras, v. 3027.

Ahuehuetes was found. The lack of information about the workers' residences in the inventories of the haciendas could be a reflection of the austerity of those constructions, scarcely significant in monetary terms. One of the few references that has been located refers to the hacienda of Otontepec, which in 1738 had five *casillas* (huts) for the workers made of adobe.[28]

Adobe and stones were the principal materials of construction. Timber and tiles were used for roofing. The chapel of Totoapa, for instance, was made of adobe walls and a roof covered with tiles. The central patio of Zaquala, paved with stone, was surrounded by a wall made of a mixture of stone and lime. Stone walls and fences made of posts were used to demarcate some sections of the boundaries of the haciendas. They also served to separate internal areas of the estates and to enclose livestock in the corrals. Although rudimentary, these structures could represent important inventory items. Totoapa and Zaquala's stone walls amounted to roughly 4% of the value of each hacienda. However, in the case of Ahuehuetes this figure was considerably lower (1.26 %), as it was also in the hacienda of Hueyapan (0.11 %).[29]

Totoapa, Zaquala, and Ahuehuetes shared the same agricultural tools and technology. Among the haciendas' tools there were *coas* (digging sticks), *barretas* (iron-tipped staffs), wooden yokes, axes, hoes, sickles, paddles for threshing, iron shovels, mattocks, baskets and bags (made of *ixtle* or leather), and carts. These implements are found in all the Valley haciendas for which information is available.[30] Besides, haciendas made use of stock for draught, freight, and transport. As one might expect, the larger estates possessed more tools and draft animals in terms of absolute

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[28] AHPJ, Protocolos Tulancingo, box 11, prot. 80.
[29] AGN, Tierras, v. 2558, contains a complete inventory of Hueyapan.
[30] See, for instance, the inventories of Hueyapan, *loc. cit*; San Antonio Tlahuitzia, AGN, Tierras, v. 2558; Tenango, AHPJ, Protocolos Tulancingo, box 7, prot. 57; San Joseph, *Ibid*, box 8, prot. 66; Otontepec and Tezoquipa, *Ibid*, box 11, prots. 80 and 81, respectively.

numbers.[31] Still, they represented a small part of the haciendas value. In 1742, Totoapa had only 916 pesos invested in farm equipment and workstock, Ahuehuetes 780 pesos, and Tzaquala 615 pesos. These sums accounted for between 2.72% and 5% of the total value of the haciendas.[32]

These figures, though low for the standards of a modern agricultural enterprise, should be judged in relation to the position occupied by technology in the late colonial agricultural economy. Even in England, little mechanization of farming took place before the mid-nineteenth century.[33] However rudimentary the farming implements listed above may seem, their sole presence attest to their suitability for the environmental, economic, and social conditions and requirements in which Tulancingo's agricultural enterprises developed. It is generally accepted that whatever rise in output levels Mexican agriculture achieved in the late colonial period, it resulted mainly from the combination of capital investment in infrastructure, by the intensification of existing technologies, and by increased labour inputs.[34] In what interests us here, the differential access to available technology was an important element of differentiation between estate agriculture and the Indian and ranchero farming.

All in all, the image that emerges from the constructions listed in the inventories of these and other haciendas of the Valley, is one of functional structures oriented to practical purposes. There is no indication that they were opulent country residences or places aimed at leisure and recreation. Take the example of Hueyapan, which according to our records was the most valuable hacienda of the Valley. It was

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[31] For instance, in 1742 Totoapa maintained 18 yokes whilst Zaquala had 10. In 1739 Tezoquipa, smaller than the previous two, possessed 7 yokes. In 1808 Hueyapan maintained over 60 yokes and a total of 160 plough oxen.

[32] Similar figures are found in Hueyapan (6%) and Tlahuitzia (4%).

[33] See Overton, 1996.

[34] On this issue see Van Young, 1986; Garner, 1993; and Miller, 1995.

worth 92,548 pesos in 1809. Notwithstanding that the owner of the hacienda lived there, at the time of her death in that year, the furniture of the principal house was valued at 156 pesos, which was equivalent to just 0.17 % of the entire estate. It appears that luxury was reserved for the urban dwellings of the landowners.[35] There should have been exceptions, as suggested by a few hacienda houses still-standing in the Valley today.[36] Of course, nothing conclusive can be said on the basis of the present appearance of constructions that have been subject to several alterations through the centuries, not to mention the almost total disappearance of the colonial decoration and furnishing of the interior of the houses. Until contemporary descriptions of the colonial haciendas are found, historians will continue to rely on the rather static and soulless inventories when trying to reconstruct this important piece of Tulancingo's social history.

Internal workings and market relations: the case of Zupitlán

1794 marked the beginning of turbulent times for the Linartes. In the spring of that year, Lic. José Linarte, one of the ten surviving children of the family, died. José was a resourceful man who, supported by his parents, was trained for the priesthood. Together with his brother Francisco, who was also a priest, they embarked on agricultural and transport activities that, in time, established them as the leaders of the family. Francisco died in around 1792, leaving José as absolute owner of a respectable fortune based upon the hacienda of Zupitlán in Tulancingo and a small transport firm

[35] The principal house of the Méndez family in Tulancingo worth 3,803 pesos in 1742. Most of the furniture of the house was made of ebony and walnut. The family's silverware and other utensils made of or plated with silver were appraised at 2,492 pesos, which represented more than the total value of the principal house of Totoapa.

[36] See the interesting descriptions and photos of some surviving haciendas of the state of Hidalgo, including some situated in Tulancingo Valley, contained in Menes, 1993.

(*casa de alquiler de coches*) in Mexico City. He was also owner of nine houses in the viceregal capital, which were held permanently under leasing contracts. In his testament made in January 1794, José bequeathed everything to his nine brothers and sisters. In trying to preserve his fortune on behalf of his heirs and also to avoid disputes among them, he appointed Dr. José Olvera, a chaplain of the Villa de Guadalupe and friend of his, as his legal executor. Besides supervising the rural and urban possessions of the Linartes – Zupitlán and the transport firm had separate administrators –, Olvera had to give the inheritors their respective share of the monthly profits produced by the business. Another clause of the will ordered the disinheritance of any of the coheirs who started a legal dispute in relation to José's patrimony.

Notwithstanding these and other measures taken by José Linarte before his death, problems arose quickly between the executor and the heirs, so much so that in April 1797, the latter sued Dr. Olvera accusing him of mismanagement and fraud. Under his administration, the petitioners claimed, the transport firm and the houses in Mexico had deteriorated significantly, for Olvera made use for his own benefit the money produced by the Linartes' urban and rural holdings. This put the Linartes in a difficult financial situation. They asserted that shortly after Olvera had assumed his executorial tasks, the properties of the Linartes had produced enough profits as to maintain the family with decency, and yet "at present there is no money for even a piece of bread".[37]

The ensuing legal dispute between Olvera and the Linartes produced a valuable collection of records about the Linarte family economic pursuits. Especially

[37] Unless stated otherwise, the information presented in this chapter about Zupitlán was drawn from AGN, Tierras, v. 1277. This volume contains the testament of José Linarte, the 1796-97 accounts of Zupitlán, and miscellaneous references about the workings of the hacienda produced during the legal dispute between the Linartes and Olvera between 1797-99.

important to us are the documents related to the hacienda of Zupitlán, which, as mentioned earlier, was one of the leading agricultural enterprises of Tulancingo Valley in the late colonial period. Included among these papers are the hacienda accounts for the years 1796-97, the only detailed information of the kind we possess for the haciendas of the Valley. Based upon these documents, the following pages are devoted to the examination of the workings and internal organization of Zupitlán. The focus is on the production patterns and management practices of the hacienda, looking also at Zupitlán's relations with the market. The findings of this section point to the local haciendas as functional, commercially and profit-oriented units of agricultural production. All in all, the hacienda was a central institution of Tulancingo's agrarian structure.

"The literature on agrarian history, whether Latin American or European", writes Simon Miller, "is rife in advice on the hazards of seeing individual cases as typical".[38] Indeed, Zupitlán should not be taken as the archetype of the large estate in Tulancingo. The very fact that it was linked to the fortune of other non-agricultural business located outside the Valley sets it apart from the bulk of the local haciendas. This is not to say that it was exceptional in every respect for, as shown in the previous section, Valley haciendas held structural elements in common. Besides, taking into consideration that they developed in a similar economic and social environment, and also faced similar problems, we can regard the study of Zupitlán as useful to an understanding of the hacienda system of the Valley as a whole. Perhaps a stronger objection to the representative nature of the case examined arises from the short period of time covered by Zupitlán's accounts, upon which much of our examination is based. Since this limitation is dictated by the survival of the records, little can be

[38] Miller, 1995: 13.

done to remedy it. Yet, the interest of the 1796-97 period is heightened by the fact that during those years the situation in Tulancingo was "normal", insofar as no serious drought or other factors susceptible of adversely affecting the agricultural activities occurred. To a degree, then, we can look at the functioning of Zupitlán in that period as an indication of the way in which the hacienda operated at other moments in the century.

Development and management

Zupitlán was located four kilometers east of the town of Acatlán and about nine kilometers northwest of Tulancingo town. Its origin dates back to the sixteenth century. Cossío states that it belonged to Francisco Terrazas, one of the first *encomenderos* of Tulancingo.[39] However, this author does not specify which of the three successive *encomenderos* of the same name – Francisco Terrazas senior, his son, or his grandson – set up the property. Studies on the early colonization of Tulancingo suggest that it was Francisco Terrazas senior who began the formation of what, later on, became the hacienda of Zupitlán. In the 1520s he owned various tracts of lands in the Valley, including some grazing lands located in the vicinity of Acatlán.[40] Later on the century, Hernando Ávila, another *encomendero*, took possession of Zupitlán. Towards the beginning of the seventeenth century, Zupitlán had come to form a holding with a definite identity, though it was still under construction. A 1602 source refers to it as a holding or *estancia* devoted to livestock breeding.[41]

In the early eighteenth-century, Zupitlán appears as a well developed hacienda which, together with Totoapa el Grande, dominated the northwestern section of the

[39] Cossío, 1946: 109.
[40] Ruvalcaba, 1985: 142, 208-09.
[41] "Visita del pueblo de Tulancingo", published in Ruvalcaba and Baroni, 1994: 21.

Valley. It belonged to Diego Urrutia de Vergara, member of a wealthy and powerful family based in Mexico City, who in the 1710s possessed two other haciendas and a rancho in Tulancingo.[42] In reality Urrutia was an absentee landlord who leased out his rural properties or left them in the hands of employees. Between 1710 and 1720, perhaps until the 1730s, Zupitlán was leased out to Joseph Franco, an individual about which little is known. Some references portray him as an important stockbreeder.[43] This information, together with the fact that he was lessee of at least three additional estates, among them the large hacienda of Zacatepec, suggest that Franco was a personage of some wealth and power in the Valley in the first third of the century.

Under Franco's tenancy an important and enduring process of change in the production patterns of Zupitlán began. Since its formation the estate had been almost entirely devoted to the production of livestock. In 1716 livestock rearing was still Zupitlán's main enterprise, but in the land survey conducted that year it was reported that some fields of the hacienda had recently been turned into irrigable farmlands. Information about the condition of the local and the neighbouring mining markets is scanty for this part of the century, but one can assume that with this shift Franco was responding to improved market conditions for cereal production.[44] The efforts to extend the hacienda's cultivated area led to conflicts with the neighbouring community of Acatlán, with which Zupitlán was involved in acrimonious land suits in the first quarter of the century (see above, chapter 7).

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[42] The Urrutias were members of the Mexican nobility, with urban and rural investments in various parts of the New Spain. Diego Urrutia possessed two entails, both of them founded in the seventeenth century, which included houses, haciendas, mills, and lands in, among other parts, the Valley of Mexico and the territory of the present estate of Hidalgo. He married Catalina Luyando López de Peralta, Marquesa of Salvatierra, herself holder of an important *mayorazgo*. See Artís, 1994; Ladd, 1976.

[43] AHPJ, Protocolos Tulancingo, box 7, prots. 55, 57, and also box 11, prot. 80.

[44] In chapter 2 we spoke of the possibility that the population of the Valley had grown in the late seventeenth and early eighteenth centuries, a phenomenon that may have caused the demand for basic foodstuffs to expand. As for Pachuca-Real del Monte, there are indications that silver-mining

By the middle of the century the name of Joseph Franco disappears from the documents. Zupitlán should have been rented out to other lessees by Diego Urrutia. At some point in the 1760s, the brothers Francisco and José Linarte, both priests, took over Zupitlán, possibly through purchase. Thereafter, the hacienda came under the careful supervision of the new landlords. In some documents the brothers appear as residents of the hacienda, as well as other members of the family.[45] Still, from other sources we know that Francisco and José travelled constantly to Mexico City in order to attend some personal and business matters there. During their absence, routine decisions at Zupitlán were left in the hands of the administrator, Ignacio Martínez. Though away from Tulancingo, the Linartes had frequent written contact with Martínez and dictated the overall policy affecting the property. During the difficult year of 1786, for instance, Francisco and José were in Mexico, and so it was Martínez who attended the important meetings held between the Alcalde Mayor of Tulancingo and the principal hacendados of the Valley aimed at securing a supply of maize for the local population. It is clear from Martínez's statements that Francisco and José were not oblivious to such events, but rather they instructed him about how to handle the harvest of the hacienda throughout that critical period.[46] Corroboration of these management practices followed by the Linartes is found in a letter the Alcalde Mayor sent to the Viceroy Gálvez in April 1786. In this letter the district magistrate praised the Linartes for ordering the administrator of Zupitlán to distribute corn among the poor and to sell at moderate prices to other farmers.[47]

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operations expanded in the first quarter of the eighteenth century. See Herrera and Ortíz, 1994: 25-26, and Velasco, 1986: 33.

[45] See AHPJ, Protocolos Tulancingo, box 14, prot. 96. The 1794 parish census lists a brother of the Linartes, Don José María, living in Zupitlán, together with his wife and his son. AGN, Genealogía y Heráldica, Tulancingo, Microfilm 20659.

[46] AGN, Civil, v. 1646, exp. 12.

[47] From Francisco de Llano y Sierra to Viceroy Conde de Gálvez, 1 April 1786, AGN, Civil, v. 1646, exp. 7.

Under the ownership of the Linartes, and their successors after 1794, the shift of Zupitlán in favour of cereal production was accelerated. Dams were built and irrigation channels extended. This development heightened the competition over resources in the area. The owners of the hacienda became involved with the neighbouring landholders, Indian and non-Indian, in struggles not only over land, but also over the supply of water. One such dispute took place between Totoapa el Grande and Totoapa el Chico in the second half of the 1790s, and at one point Zupitlán was embroiled in the quarrel. The three haciendas used the same sources of water for irrigation and, in the case of Totoapa el Grande, for flour milling too. The problem originated when the owner of El Chico tried to obtain more water for operating a mill, a claim that was challenged by El Grande.

During the ensuing litigation a number revealing testimonies were produced relating to changes that had occurred in Zupitlán during second half of the century.[48] Various workers of the hacienda and of the neighbouring estates who were called as witnesses, referred to the continual expansion of tillage that had taken place in Zupitlán throughout the second half of the century. Ignacio Martínez declared that in the 1780s the principal dam of the hacienda was enlarged in order to irrigate the new lands brought into production.[49] In 1797, the owner of Totoapa el Grande described how his property was affected by the construction of another dam on the land of Zupitlán, aimed at diverting water from the river Lajas to irrigate the increased area of the hacienda under cultivation. The administrator of Zupitlán at the time acknowledged that the demand for water for irrigation had grown for the above reasons, adding that he had received orders from the current landlord – Rafael de

[48] AGN, Tierras, v. 2568, exps. 1-2.
[49] AGN, Tierras, v. 2568, exp. 2.

Vértiz, second executor of José Linarte – to continue expanding the area of tillage as much as possible.[50]

Francisco Linarte died in 1792. Shortly after, in the Spring of 1794, José also passed away. This event marked an important change in Zupitlán's administration. Nominally, Dr. Juan José Olvera, José Linarte's first executor and resident of the Villa de Guadalupe (in the outskirts of Mexico City), took control of the hacienda. However, Olvera stayed in Mexico performing his duties as chaplain of the Villa de Guadalupe and looking after the transport firm and the houses left by Linarte to his heirs. The day-to-day management of Zupitlán was left in the hands of the administrator. It is interesting to note that, whereas Olvera appointed a new administrator for the transport firm, he confirmed Ignacio Martínez in charge of Zupitlán. Martínez, a man in his late-sixties at the time, was an administrator of proven experience and integrity who, overall, remained in the post for almost three decades. In short, he was a man worthy of trust, allowing Olvera the necessary freedom to concentrate on his urban affairs. Thus, during the three-year period of his executorship (1794-1796), Olvera rarely visited Zupitlán, preferring to communicate with Martínez by letter.

This apparent neglect was used against Olvera in the lawsuit against the Linartes that started in 1797. The attorney of the Linartes stressed that it was the administrator who directed the farming operations and business details at Zupitlán, "supervising the sowing, handling the harvests, and making the hacienda accounts". Olvera did nothing, the lawyer concluded, but to grab the products of the property. This last observation should be qualified. Information brought to the case showed Olvera to have acted directly in the sale of crops and animals. But this was a case of

[50] AGN, Tierras, v. 2568, exp.1.

an allegedly "hasty" and unfavourable sale of 230 cargas of wheat which he had arranged in advance in 1794. More significantly, however, was the handling of the sums that Martínez sent to him periodically, which apparently Olvera used more to finance other business than to support the hacienda needs. We will return to the question of capital formation and investment further ahead.

Hacienda production and markets, 1796-97

Olvera's executorial tasks ended abruptly in the winter of 1796, shortly before he was accused by José Linarte's heirs of mismanagement and fraud. His successor was Rafael de Vértiz, the third executor in rank appointed by José Linarte to put his will into effect. The dispute between Olvera and the Linartes centered upon Olvera's accounts of the *testamentaría* as a whole, that is, on his management of the overall income and expenses of the Linartes' inheritance. He was also presumed to have altered certain entries in the account books of both the transport firm as well as in the accounts of the hacienda, which the administrators had sent to him. It is difficult to know whether these allegations were true or not, for each side presented convincing arguments to defend its position. Moreover, the resolution of the case is not known. As part of the proceedings, Olvera had to deposit his personal accounts of the *testamentaría* and some account books of the urban and rural enterprises under his care. Among these documents were some itemized accounts of Zupitlán covering from April 1796 to July 1797. Table 19 present a reconstruction of these accounts.

Table 19. Accounts of Zupitlán, April 1796-July 1797

A. Income

	Maize	Maize sold to workers	Wheat	Barley	Wool	Livestock	Rents	Miscellaneous	Total
INCOME	3,052	1,064	2,832	115	200	892	112	945	9,212

B. Expenses

	Wages	Maintenance & provisions	Money sent to Olvera	Miscellaneous	Total
EXPENSES	5,776	210	2,700	439	9,125

Source: AGN, Tierras, v. 1277.

The chief business of Zupitlán in this period was the cultivation of maize and wheat, from which the hacienda drew 75.42% of its gross receipts. Within this scope, wheat was produced essentially for sale: 81.5% of the 478 cargas harvested in 1796-97 were sold in the market, 3.1% were set aside to be sown, and the remainder went to pay the tithe. Only 25 cargas were kept stored in the barn. As for maize, besides being an important commercial crop, it performed a significant role for the internal economy of the estate. Of the 4,253 fanegas that were used in the course of 1796-97, 2,596 (61% of the total) were sold in the market, 1,325 fanegas (31.1%) were purchased by the hacienda peons, and 77 fanegas (1.8%) were kept for sowing. Around 650 fanegas remained stored in the barn. Zupitlán also traded some barley (29.4% of the 1796 harvest), but most of the produce (46.8%) was used as fodder for the animals of the hacienda. Other crops planted in Zupitlán were beans, broad beans, flat peas, and chilli, but they were small in quantity and the object here was internal consumption, both for the landlords and workers. In the course of 1796-97, for example, the administrator of Zupitlán dispatched 2 fanegas of broad beans and 2 fanegas of beans to Mexico.

The accounts of Zupitlán corroborate the idea expressed earlier about the displacement of livestock rearing as the principal activity of the property. By the end of the eighteenth century, the landlords of the hacienda were profiting mainly from

maize and wheat cultivation. This is not to say that stockraising was irrelevant. In those years Zupitlán possessed 204 oxen, 44 mules, 29 donkeys, 12 horses, 86 pigs, herds of 119 cattle and 197 mares, and around 1,000 sheep. Although these animals were raised mainly to attend to the needs of the estate and its owners, they also provided an additional source of income. The administrator of Zupitlán sold 353 sheep, 18 oxen, 17 pigs, 2 horses, 1 mare, 1 cow, 2 mules, and 2 donkeys. These transactions supplied almost a tenth of Zupitlán's gross receipts in the 1796-97 period. The documents indicate that selling sheep on the market was a common practice. By contrast, sales of other animals were sporadic in that period, and apparently they took place with the additional purpose of discarding aging beasts. Thus, all of the oxen sold were described as "viejos y de desecho". Also aging were the two mules put on sale.

The hacienda also sent horses and mares to Mexico. A few of them were destined for the personal use of the Linartes, others went to replenish the stock of animals required for the transport firm. A larger number of animals – 37 mules and 59 mares – were sent to Rafael de Vértiz, who resided in Mexico too. Rafael was the eldest son of Pedro de Vértiz, owner of a merchant house and one of the major silver transporters of New Spain at the time.[51] It is clear that there was an agreement between José Linarte and Rafael de Vértiz regarding the supply of freight animals. Some annotations made in the accounts of Zupitlán indicate that Vértiz was in the hacienda in more than one occasion. This, together with his inclusion as one of the three *albaceas* designated by José Linarte in his will, suggest that their association was not transitory. However, the documents are silent as to the specific nature of the arrangement that existed between both personages.

[51] Kicza, 1983: 73, 170. The reference about the parentage of Rafael and Pedro de Vértiz was given to me by Clara Elena Suárez, who is currently conducting an investigation on Pedro de Vértiz.

What we know is that the hacienda did not receive any money from the transference of animals to Mexico, and so the administrator registered those operations as "expenses". This point has important implications for the analysis of the position occupied by Zupitlán within the group of properties owned by the Linarte family. Needless to say, the horses and mules supplied by the hacienda were crucial to the functioning of the transport firm, which, in addition, did not have to spend anything for the acquisition of such inputs. This was one of the benefits of the strategy of economic diversification followed by the wealthy families of Tulancingo, and of the rest of New Spain, whereby the various branches of investment of the family were interconnected and mutually supportive. Yet, if viewed from Zupitlán's perspective, the gains brought about by this strategy are not clear. As mentioned earlier, the hacienda did not profit from delivering animals to Mexico, at least not during the 1796-97 period. Moreover, the administrator of Zupitlán sent important sums of money to the landlords that were not reinvested in the property (2, 700 pesos in the period in question), a practice that perhaps decapitalized the hacienda or may have hindered further investment.[52]

More difficult is to assess the rationale of the dealings with Vértiz, because we lack proper data. One can hypothesize that in exchange of horses and mules, José Linarte benefited from the wider connections of Vértiz in the transport business. Linarte's transport firm was relatively small. It consisted of five carts and a small mule train. From information produced during the Linartes-Olvera case, we know that that Linarte's firm was transporting cargoes to various parts of the country

[52] The money sent to Mexico were used to pay mortgages, *alimentos* of the heirs and, one can hypothesize, to engross Olvera's pocket.

(Guadalajara, Aguascalientes, San Luis Potosí, Otumba, Perote). Perhaps some of the contracts were obtained thanks to Linarte's relationship with Vértiz.

Back to the analysis of Zupitlán's sources of income, only 1.21% of the gross revenue over the period in question came from rents. In 1796-97, 23 persons paid 92 pesos for an unspecified area suitable for cultivation or pasturage. Six different holdings were held in tenancy. Five of them are referred to as *ranchos*, the other one as a *sitio*. One of the ranchos, El Capulín, was divided into three parts, each of which was rented to a different tenant. Two of them paid an annual rent of 12 pesos, the other one paid 6 pesos. The rent of the remaining four ranchos was fixed at 3, 6, 11, and 20 pesos a year. The *sitio* was divided between 16 different tenants. The rents ranged here from 4 reales to 3 pesos per year. Most of the tenants paid one peso per year.

The different rates at which the rents were fixed indicate that there were variations in the extension and quality of the lands held in tenancy. Likewise, if the amount of the rent paid is any indication of the social standing or financial situation of the tenants, most of them could be described as humble people. In spite of their low rents, some tenants were in arrears with the hacienda. Antonio Vicente –possibly an Indian, to judge from his name – did not pay the rent for the year of 1796. María González paid only half of the 4 reales of her annual rent. Juan González paid one peso that he owed in respect to the rent of 1796, and another one for the rent of 1795. Another individual had not liquidated his rent for three consecutive years, accumulating an overall debt of 10 pesos. One case stood apart from the rest: Lic. Don José M. Calado, tenant of the rancho Huayapango, whose distinctive titles (*don* and *licenciado*), denote a higher social standing. In all likelihood, and also in contrast with the rest of the tenants, he did not reside in the property. It is not known what type of

agreement (verbal or informal, temporal or permanent) existed between the tenants and the landlord. In the light of the low rents and, by all indications, the small size of most of the lands held in tenancy, there should had been a high rate of verbal and temporal arrangements. There is no indication of sharecropping arrangements between the hacienda and the tenant farmers. As far as can be ascertained, the rents were fixed and paid in cash.

Zupitlán also drew some money from renting out grassland. In 1796-97, this practice produced 20 pesos to the hacienda. The largest amount of money (14 pesos) was paid by Marcelino García, owner or conductor of a mule team that grazed in lands of Zupitlán for a month.

All the information presented above fits with the view that leasing out lands was not a profitable business for Zupitlán at this stage of its development. It was not a serious source of revenue and it carried with it problems of supervision and rent collection, as the debts owed by the tenants suggest. The practice of multiple leasing, at least in the late eighteenth century, should have served to other purposes rather than as a source of income. As mentioned in chapter 7, haciendas and pueblos sometimes leased out tracts of land in order to protect borders under dispute.

Another possibility is that the six properties that Zupitlán held under tenancy in 1796-97 were the remains of an earlier, more extended and profitable system of multiple leasing. Zupitlán may once have needed labour badly to offer lands on rent. The post-epidemic period of the late 1730s and early 1740s, for instance, may well have been a time of serious labour shortages and, in addition, of unfavourable market conditions for hacienda production given the contraction of both the local and the

neighbouring mining markets.[53] Against this background, offering lands at low rents could have been used to attract manpower and secure the hacienda with certain amount of revenue. The revival of the mining industry and population growth late in the century changed all this. As the demand for agricultural goods increased, so did the necessity of the landlords to expand the arable under their direct control. Studies on other parts of Mexico show that this kind of development normally led to a tension between landlords and tenants. Attempts to raise rents and the eviction of tenants from their plots were some of the most evident consequences of this process.[54] Unfortunately, nothing conclusive can be said about the evolution of the system of multiple leasing at Zupitlán until further information on the tenancy practices for the rest of the century is gathered.

Zupitlán drew small amounts of money from hiring mules and the cart of the hacienda to local people (the *subdelegado*, the priest of Acatlán); sales of meat and dairy products. Fifteen pesos entered the hacienda as payment for the work fulfilled by some peons of Zupitlán who worked in another hacienda during a month.

The accounts of 1796-97 allows us to reconstruct the pattern of marketing employed by Zupitlán. The principal markets for Zupitlán's maize and wheat were Tulancingo town and the mining towns of the Pachuca mountains. Of the 2,596 fanegas of maize that were traded in those years, 3% was sold in the premises of the hacienda at a price of 10 reales per fanega. A further 37.2% was marketed in Real del Monte and the Real del Chico at a price of between 10 to 16 reales per fanega. Another 3.77% were sold in Huasca at 11 reales per fanega. The remaining 55.9%

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[53] After achieving important levels of silver output in the century's first quarter, between the 1730s and the 1740s, the mining industry in Pachuca-Real del Monte entered a state of decline, with only some mines partially working and many more of them abandoned. Revitalization came until the middle of the century, when old mines were rehabilitated and new veins discovered . See Navarrete, 1992, and Ladd, 1988.

[54] See Brading, 1978; Van Young, 1981; Tutino, 1986; and Miller, 1995.

was sold in various transactions to a local resident of Tulancingo, José de Castro, at 8 ~~pesos~~ reales per fanega. The occupation of Castro is not specified. Possibly he was a merchant who retailed locally the maize he bought from Zupitlán.

Various factors influenced the prices at which the grain was sold. The maize sold in the mining market generally reached better prices and, one may think, maximized the profit margins for the owners of Zupitlán.[55] On the other hand, the large amount of the produce bought by Castro should have helped him to get the lowest price of the maize traded by Zupitlán in those years. In return, the hacienda secured the selling of an important part of its harvest. It should be said that sales made outside the Valley not always commanded a better price. Between February and March 1796, corn was sold at 10 reales per fanega both in Real del Monte and locally.

The moment of the year at which the sales took place and the situation of the markets affected maize prices too. The highest price of corn was reached in the mining market between April and June 1797 (14-16 reales per fanega). The harvest had concluded in January and the sales began almost immediately after, so by the late spring and early summer the conditions of the market should have been favourable for the producer, particularly for those with the capacity to store considerable amounts of grain for several months after harvest, like Zupitlán.

Wheat had a different marketing pattern in the period under consideration. Most of the wheat that entered the market (300 cargas out of a total of 453, the equivalent of 96.3 %) was bought by the same person, Mateo Ramírez, leaving only 90 cargas (3.7%) to distribute among other buyers. Whether selling most of the produce to only one customer was a regular practice at Zupitlán is not known.. As with maize, in the 1796-97 period, this strategy secured the sale of a substantial part

of the harvest, though at the cost of conceding a lower price: the grain was sold at 8 pesos carga to the minor customers and at 7 pesos per carga to the major purchaser.

All in all, this would appear to have been an auspicious period for the hacienda, since virtually all the production of maize and wheat (Zupitlán's major cash crops) were marketed within a short period of time and at reasonable prices. The hacendado showed considerable enterprise by marketing the hacienda's production outside the Valley, in the mining market, where it seems that prices were generally more favourable for farmers. Finally, it is interesting to note that all transactions occurred without the intervention of intermediaries, a method of marketing that should have maximized the profit margin for the hacendado, by removing the percentage normally lost to the middlemen.

* * *

By way of conclusion, let us reiterate the observations expressed at the beginning of this chapter about the progressive role played by the hacienda. The Valley's suitability for cash crop cultivation and its proximity to urban markets encouraged the establishment of haciendas since the early stages of the Spanish rule. Coexistence with indigenous communities impeded haciendas to acquire a monopoly over land, and also represented a strong competition for other resources and markets. Collectively considered, however, by the late colonial period, Spanish estates had attained an indisputable numeric and territorial preponderance, comprising the most common types of agricultural holding and the dominant market-oriented production units of the Valley. Great estates received the infusion of large amounts of capital aimed at increasing production to meet growing urban demand for foodstuffs.

[55] Here it must be considered the additional cost of transporting the grain to the mines, which appears

Access to capital and a dynamic productive and market strategy adopted by hacendados – a strategy that included crop diversification, improvements in infrastructure, and the establishment of trading links outside the Valley –, were key factors for the ascendancy of Tulancingo late colonial hacienda.

to have been added to the price of the grain produced in Zupitlán. Unfortunately, our source tells nothing about how much was that additional cost.

CONCLUSIONS

When I began this study on the Valley of Tulancingo, one of my leading aims was to uncover something special about its late colonial development that could illuminate our understanding of that important period of Mexico's history. To give a "substantial original contribution to knowledge", as it is initially expected from any professional investigation. As my worked progressed, I became rather worried because of what I judged to be the absence of any particularly revealing findings. Rather, my investigation was conducting me through places and ideas generally known to the specialists. True, most of the local names and figures, events and processes, that I came across in the course of my research are "new", for late colonial Tulancingo is a terrain virtually unexplored by historians. On that score, it is hoped that this investigation will be valuable. But my interests go beyond the scholarly recovery of localist traditions and, after years of training in the historical discipline, it is not easy for me to cope with the possibility that, hereafter, this manuscript will be consulted only occasionally by the chronicler of Tulancingo in search of a missing data, however worthy this utilization might be.

In the never-ending friction between generalization and particularization in the social disciplines, local and regional studies have proved to be particularly useful. This assertion applies particularly to Mexico, a country that has long been celebrated for its great regional diversity and whose historical evolution has been decisively influenced by the regional component. From this point of view, our approach to the economy and society of Tulancingo in the late colonial period has much in common with current interpretations regarding the changes occurring in central New Spain at that time. Population growth, natural disasters, migration, urbanization, and

commercialization of agriculture were present in the area, playing a prime role in the transformation of the social and economic structure and functioning of the Valley. Likewise, the economic struggle between and among pueblos and haciendas, and the progressive predominance of the hacienda system at the expense of the peasant economy, were important processes of Tulancingo's late colonial history.

We also detected the existence of another important development that has been described elsewhere in central Mexico: the relative decline of mining as the engine of regional economic growth in favour of the urban factor. The mining towns of Pahuca-Real del Monte continued to represent an important part of the demand of the Valley's agricultural produce. To this "external" factor of economic growth, it was added the increasingly important local urban market, perhaps less profitable than the former, but relatively more stable, for during the last century of the Spanish rule the swings affecting the mining industry of Pachuca grew more violent. All in all, both factors spurred the economy of the Valley over the eighteenth century. However, the cycle of expansion came to an end in the last two decades of the colonial regime in Mexico, when silver industry declined, population stagnated, and the urban economy ceased to expand. The Valley had commercial links with other regions, but as far as can be ascertained, no other market competed in importance with the two previously mentioned. Yet again, this local condition tends to support a larger view, this time related to the relative low degree of integration of the colonial market.

To fully understand how severe and profound changes affecting the Valley in the late colonial epoch were, it is necessary to undertake detailed studies about the social structure and economic functioning of the local economy in the preceeding centuries. It is expected that this first step in the reconstruction of Tulancingo's late colonial history may offer a useful and necessary perspective.

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