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FROM HACIENDA TO AGRIBUSINESS: CHANGES IN ENVIRONMENT AND SOCIETY IN PIMAMPIRO, ECUADOR

DAVID A PRESTON

School of Geography
University of Leeds
Leeds LS2 9JT

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1. INTRODUCTION

Modification of the physical environment of the Central Andes because of human activity has been continuous for at least a thousand years (Ellenberg 1979). After the Spanish Conquest in the sixteenth century the modification in the environment became more complex. As native populations declined some areas were used less and in others farmland was abandoned and reverted to forest or grassland. Other areas were affected by new European farming systems involving the use of a plough, new crops and large numbers of new species of grazing animals. These environmental changes were the direct consequence of the growth of new socio-economic systems associated with the concentration of land ownership into a small number of great estates - haciendas (Mörner 1987, Piel 1975). The gradually-increasing native population was confined to isolated rural areas or land with poor soils, such as steep hillsides.

During the second half of the present century, the great estates have gradually been broken up in Ecuador as well as in other Andean countries and important changes have occurred in rural and urban society. These changes have been examined by several scholars who have identified the rise of a new middle class, whose wealth is based on commerce in small towns and, increasingly, on the ownership and intensive use of middle-sized farms (Murmis 1978, Barsky 1978, Fauroux 1983, Guerrero 1977). Pachano has also identified the importance of small urban centres whose growth has encouraged intra-regional migration and fostered social as well as geographical mobility (Pachano 1984 and n.d.). The importance of migration as a response but also a stimulus to rural changes has been highlighted by my own work and that of others (Preston 1980a and 1980b, Martínez 1984).

The impact of contemporary social change on the rural environment is considered rarely and then only in purely theoretical terms where existing practices that cause environmental detericration are compared with a rational use of productive factors (including land) that would provide the maximum yield possible without disrupting the local or regional ecosystem (Sepúlveda 1982). There is no analysis of social and economic change in rural areas which makes a serious attempt to consider the impact of such change on the rural environment although a recent study in Colombia has made some advance in that direction (Ashby 1985).

The purpose of this paper is to show the extent to which environmental change is a consequence of modifications in local and national society at two historical scales. We also show that, at least in one part of the Andes of Ecuador, the pattern of recent environmental change is as much the consequence of local differences in social and historical geography as it is of resource potential.

This paper is divided into two parts. In the first, using contemporary accounts and historical analyses, the broad environmental changes that have taken place over the past four centuries are described and related to changes in regional society. The close parallel between land use changes and the relationship of different sectors of society with rural land is shown. Furthermore, the changing means by which the dominant landowning class sought to profit from land ownership in the decades leading up to 1960 are shown to have affected local society.

In the second part, close attention is paid, on the basis of two periods of field work over twenty years apart, to the detailed pattern of changes within the Pimampiro region for the period 1960-83. The evolving pattern of land use and environmental degradation is related to local differences in both physical and social environments.

The area selected for study in 1983 was part of a region in which field work, including some land use survey, was first carried out in 1961 as part of a study of the human geography of the Chota valley (Preston 1965). The investigation of environmental change between 1961 and 1983 was carried out at several different levels. Photographs taken in 1961 were compared with existing visible evidence of land use and local people were asked to comment on specific visible changes. Aerial photographs taken in 1966 and 1978 were obtained and the earlier ones were of high enough quality to detect details in small fields. Comparison of the 1966 photographs with the 1983 situation in the field enabled some changes in land use to be identified over the whole of the area studied. Finally, interviews with a 20 per cent random sample of occupied houses in Pimampiro (except Chalguayacu in the Chota valley), San Francisco de Sigsipamba and the Guanupamba section of Mariano Acosta enabled collection of a range of historical and contemporary data including changes in crop yields, experience of soil erosion, and loss of land through landslip (Fig.1).

The area of study contains a range of ecological zones. Pimampiro canton, which comprise three parishes - Pimampiro, San Francisco de Sigsipamba and Mariano Acosta - contains farmland that ranges from the hot, dry areas in the Chota valley (1700 m), where tropical crops are grown with the aid of irrigation, to the high altitude grassland (**páramo**) above 3200 m, beyond the normal limit of cultivation. The eastern limit of the area studied is formed by the crest of the eastern cordillera of the Andes beyond which lies the Amazon basin. The most pronounced environmental difference is between Pimampiro and the highland areas. The former contains the intensively farmed area around the town (altitude 2160 m), where rainfall is less than 500 mm; irrigation is widely used for the commercial production of tomatoes, aniseed, chili peppers, sweet cucumbers, sugarcane and various varieties of beans (Fig.2). Mariano Acosta and Sigsipamba are situated in the higher, cooler and better-watered land where

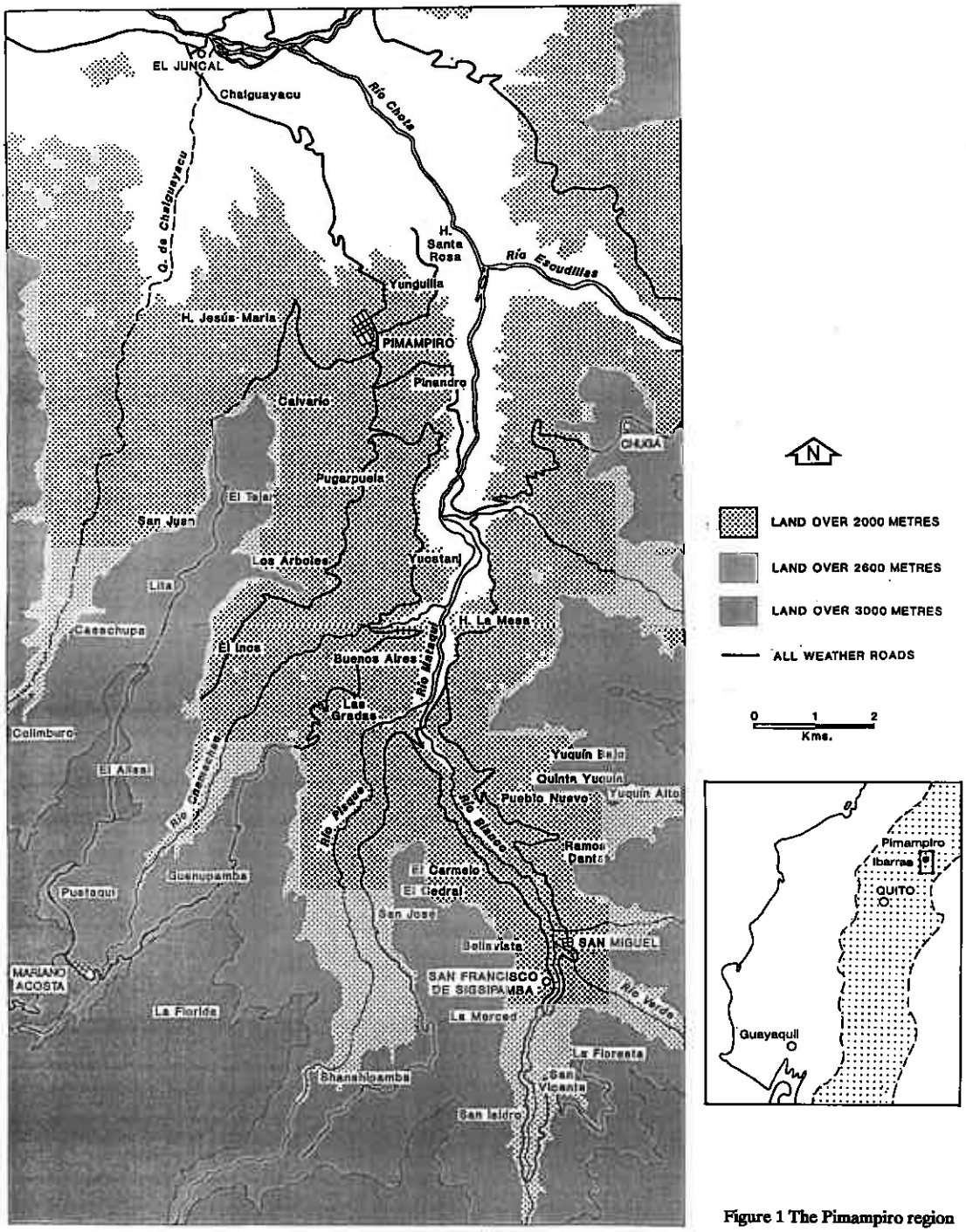

Figure 1 The Pimampiro region

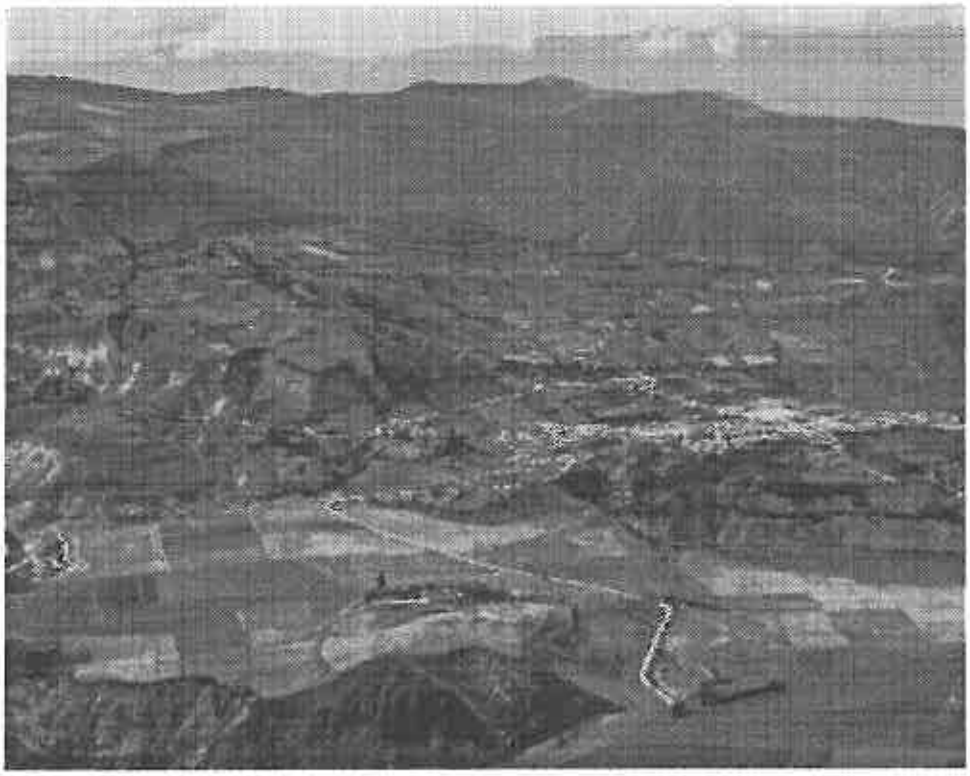

Figure 2 Pimampiro town, 1983. The remaining land of Hda. Pinandro lies in the foreground: the small fields of the townsfolk lie beyond and to the right of the town.

rainfall is more than 1100 mm and where the altitude of arable land varies from 2400-3200 m. Maize, beans, potatoes and some barley are grown and cattle are grazed on the hillsides. Some timber is still cut from the remains of the forest, deep in the mountains. The whole area of study is dissected by deeply-incised rivers cutting through mainly volcanic deposits often to 500 m below the less steeply-sloping farmland. Several extensive terraces exist in a number of locations - south of Pimampiro, at San Juan, Buenos Aires, El Inca and Shanshipamba. Forest cover remains on steep slopes near to the limit of cultivation south of Mariano Acosta and in the mountains towards the eastern crest of the Cordillera.

2. LAND USE HISTORY 1500-1960

The Pimampiro area has been used by human groups since prehistoric times and extensive archeological remains occur throughout the area. The majority of the remains date from the 9th century when the political structure of the area was centred around a series of regional chiefdoms (Echeverría 1981). By the time of the Inca Conquest in the late 1500s the physical environment was already considerably changed from its primeval state by several thousand years of human settlement and farming was widespread over both level and sloping land, including the upper parts of the Chamachán and Pisque valleys. In the area near Pimampiro evidence of extensive terracing can still be seen on the steep sides of the Río Mataquí valley which suggests that even some steeply-sloping land was farmed. The coming of the Europeans led to a series of changes in the regional economy and society that materially influenced both the areas cultivated and the farming methods. The first of these was the introduction of new crops and livestock. The detailed account of the area written by the Pimampiro parish priest, Padre Borja, in 1582 speaks of indians growing cotton, maize and coca in the vicinity of Pimampiro (Borja 1582). Indian farming was already influenced by the Spanish, however, for chickens, pigs and sheep were levied

from them as tribute. There were already vineyards established in the valley and other introduced plants such as quinces, figs, egg-plants and apples were grown by the five or six Spaniards who lived there. The four villages of indians that there had been at the time of the Spanish conquest had been relocated in Pimampiro town (op. cit. 248), even though 42 indians were required to work the valley vineyards. Some indian chiefs themselves had vineyards and, in Pimampiro town, the better-off indians with fields of coca used migrants to work their land who were paid for their work with coca. Coca growers were described by Borja as having horses of their own as well as oxen and they ate meat frequently.

The second change in regional society with far-reaching implications for production systems was a sharp decline in native population following the Spanish Conquest and exposure to European diseases. The population of the Pimampiro area seems to have fallen by 28 per cent in the short period between 1570 and 1598 (Larrain 1980). As a consequence of the absence of people to till the land the agricultural area diminished, forest grew where fields had existed - as recently discovered field patterns suggest (Knapp and Preston 1987) - and the extensive system of hillside terraces was no longer used for farming.

A third change in regional society was the emergence of a small but powerful group of people who obtained large areas of land previously used by the native population. Status was often measured in terms of land and slaves or serfs owned. Soon the Chota valley, to the north of Pimampiro town, was transformed, initially by the vineyards described by Borja but later by the cultivation of sugar cane for both sugar and brandy using African slaves. Religious orders as well as individuals owned estates and the Jesuits, by the mid-eightteenth century, owned much of the land in the Pimampiro region. After their expulsion from Spanish America in 1767, their property was quickly acquired by Spanish or creole families and the large estate remained the major landholding unit long after independence in 1830. In 1900 a single individual, Nicolas Tobar, owned much of the land around

Pimampiro.

At the turn of the century, as a consequence of the dominance of the landowning elite, sharp contrasts existed between the large, extensively-farmed estates raising livestock or growing grain in the highlands or growing sugar and cotton in the valley bottom and the areas of much denser settlement where the indian and mestizo population cultivated small plots of land, usually of inferior quality. The social geography of rural areas of the Andes was to change little until the 1960s. Within this situation, where the dominant classes held the best land and the subordinate groups the poorest, certain accommodations were made. Large estates often had distant land that was unused. It was this land, in Pimampiro canton, that the big estates gave up reluctantly to land-hungry people from within and without the area.

During the first decade of the present century indians moved east from the communities of Angochagua and La Rinconada (south of Ibarra) in search of cultivable land. They crossed the **páramo** and descended into the forested basin in the centre of which now stands the village of Mariano Acosta. The children of the early settlers, still living in the area, recall the dense forest which was cleared. Farming methods were basically similar to those in the areas from which they had come, but the fertile forest soils provided excellent harvests. Other groups of settlers arrived in succeeding years and conflict began with the Tobar family, who claimed ownership of the land on which the indians had settled, that was not resolved until 1925. During the 1930s, areas of forested land on the eastern slopes of the Cordillera Oriental, part of Hda. San Nicolas, in the south-east of Pimampiro parish were settled by a second wave of colonists. These were mestizo residents of Pimampiro town and people from the adjacent northern province of Carchi and from Colombia. They cleared the forest and established small farms in the valleys of the Río Pisque, Río Blanco and the smaller valleys on the western margins of the Cordillera Oriental (1).

In 1929 Nicolas Tobar died and the great estate of San Nicolas was divided up (2). The best and most level land was still largely monopolised by the haciendas of the Borja or Tobar families but many townsfolk from Pimampiro had access to some estate land as sharecroppers (**partidarios**). A new type of landowner was to emerge who was not from the traditional landowning class and dedicated to improve farming efficiency. In 1945 the Borja estate was sold to a dynamic Colombian-born entrepreneur, Marco Restrepo, whose fortune had been made exploiting timber resources used for sleepers and as fuel on the new Ecuadorian railway system and who already owned a large estate (Hda. Leito) in the Patate area of Tungurahua, south of Quito. Restrepo's attitudes to land and people are plainly documented in his autobiography El rey de la leña (1958) and he transformed many aspects of the land use of the estate, now re-named Pinandro. Many of the sharecroppers from the town of Pimampiro had their tenancy terminated, much of the existing servile labour force of **huasipungueros** was expelled and the estate was henceforth farmed by workers who were paid cash, received no land and who often came from elsewhere, especially from Tungurahua near Hda. Leito. Land use changed: cereal production replaced pasture. The old estate house close to town was abandoned because Restrepo thought it antiquated; fields were enlarged and walls demolished and the former archaic enterprise was replaced by a modern capitalist agricultural production unit. This change in ownership threatened the survival of many in the town. The dispossessed sharecroppers of Pimampiro town were forced to turn to collecting cactus fibre to eke out a living or making rope and weaving the cotton upper parts of rope-soled sandals (**alpargatas**) which had long been a local craft on a small scale.

Those who had accumulated some capital were eventually able to acquire land from Restrepo. He proved willing to sell outlying parts of the property that he considered marginal to the cereal enterprise; 1000 ha at Sabanalarga (San José and Shanshipamba) was sold in 1955 to a cooperative of some 50 people most

of whom were from Sigsipamba but which included 15 from Pimampiro.

The land north of Pimampiro town did not experience changes in landownership until later. There was no cultivable land that was not owned by either of the two estates and irrigation water, essential for farming such dry land, was tightly controlled by the estates. In 1946 Hacienda Santa Rosa was divided on the death of its owner. One part comprising the existing hacienda house and the land adjacent to it was sold to a cooperative composed of Pimampiro people, dominated by two rich families, while the remainder stayed in the hands of the Tobar family but was rented to and effectively appropriated by Humberto Roman, a Pimampiro capitalist with large and varied economic resources.

By the middle of the 1950s the main expansion of agricultural settlement had taken place; the better farmland in the valleys of the Chamachán, Pisque and Blanco rivers had been cleared as had the higher slopes of the Mataquí. New farmland was only being cleared high on the valley sides or on estate land which the landowner had little incentive to clear given the high labour costs, as in Shanshipamba (Hda. San Leonardo).

Conclusion

The changes in the landscape of the Pimampiro area in the centuries following the Conquest are uniquely the result of the major social reorganisation instituted by the Spanish and of the native response to it. Native people were relocated, many died from the new diseases and some just fled from the newcomers, unable to face continued disruption to their lives (Wachtel 1987). The abandonment of the outlying areas of Pimampiro was a consequence of these social and political changes. Furthermore, the concentration of farmed land in large estates meant that more commercial agricultural production was located on good-quality near-level land than on hillsides, even when terraced.

Those Spaniards who obtained land controlled most of the farmed areas in Pimampiro until the latter half of the present century. This small fraction of society decreed rural land use, leaving the poorer mestizo, indian and negro population either the less productive or distant forested land or else a small plot of estate land in return for their labour. By 1960 however, most of the Pimampiro estates used sharecropping as a means to control production rather than servile **huasipunguero** labour directed by **mayordomos** - although Hacienda San Juan did farm using **huasipungueros** until the 1960s. Sharecroppers, however, followed land use patterns set by landowners. The only part of the landscape not controlled by the big landowners was the area settled by squatters in the distant Cordillera and the limited area of small independent farms near to the town; yet these farms seem to have been few in number until the 1920s and 1930s.

The changes in ownership after 1945 led to more aggressively commercial farming - mainly in Hacienda Pinandro - while the former sharecroppers and **huasipungueros** were forced to fend for themselves. This led to further stimulus to the already evident struggle to obtain cultivable land on the margins of the great estates. The increased commercialisation and the widespread payment of workers with cash also contributed to the growth of trade in town.

The readily perceptible changes in population and society over such a long period gave rise to several very clear changes in the pattern of human land use. The isolated, forested slopes of the Cordillera were cleared - at first illegally - and the settlers were able to make a living. The estates that ringed the town continued commercially-oriented farming during this century although varying the contractual relation of their workforce to the owners. The town slowly grew in status eventually coming to have a cinema, a cockpit, a decent school and a brightly-lit pharmacy. In the last two to three decades social and environmental change has accelerated and some of the consequences of earlier changes have become apparent. It is these changes that

are next examined.

3. SHRINKING ESTATES AND NEW FAMILY FARMS 1960-1983

A new social geography

In 1960 and 1961 the apex of the pyramid of Pimampiro society was clearly occupied by a small group of families who owned the various estates - Pinandro, Santa Rosa, Jesus María, San Juan and La Mesa. It was they too who dominated the trade in agricultural surpluses and small-scale farmers complained of the difficulty of bargaining with them because they cooperated to ensure low buying prices. There were few shops in the town and only the pharmacist seemed to derive high status from owning a shop. The children of the oligarchy were educated in Quito or Ibarra and most became professionals in the metropolis.

The middle class comprised teachers, the few shopkeepers (who were often related to the estate owners) and the estate managers (**mayordomos**), many of whom came from elsewhere in the country. Few farmers were sufficiently well-off to own a vehicle.

Twenty years later the most striking social change was the emergence of a new group of people with some capital, with businesses in Pimampiro town, many of whom had been able to obtain access to small areas (5-7 ha.) of good-quality farmland, formerly part of Hda. Pinandro.

The general trend in rural landownership in Ecuador since the 1970s has been towards the break-up of estates through the normal process of sub-division on inheritance and as the urban-based interests of heirs encourage them to sell their rural land (Redclift and Preston 1980, CEPLAES-FLACSO 1980). In Pimampiro canton the most profound change was associated with the crisis that affected the largest estate, Pinandro. In fact the owner, Restrepo, had sold plots of land in one part of the estate (El Inca) to some of his estate workers in the late 1960s, but eco-

nomic disaster forced him to sell most of his land in the 1970s. Many of those who bought the land were those Pimampiro merchants and sharecroppers who had enough capital to buy land. Other purchasers were some of the early colonists in Yuquín or Sigsipampa who had the capital to acquire better land nearer to town. Some new landowners did not themselves farm but passed the land to sharecroppers, often from poorer areas outside the canton, while they retained their town businesses as merchants or bus owners, for the increased agricultural production generated more business in the town.

The social geography of the new middle class is clear. They acquired land that was some of the most level and fertile in the whole Canton, that was near to town and served by roads that were passable most of the year. They maintained diversified livelihood strategies and some also rented or bought other plots of land on estates elsewhere in the Chota valley but the centre of their operations and social life was the town. Those without such favourably located land were usually poorer and frequently forced to sell their labour to better-off, usually centrally-located land owners. They lived on the steeply-sloping terrain of the Cordillera or the poor hillsides nearer to the town. They were frequently forced to maintain themselves by migrating to other parts of the country for varying periods.

The pattern of migration revealed in both the National Census and our own data reinforces this contrast between the better-off central areas and the poorer periphery. While the outlying areas in the Cordillera and in Mariano Acosta have lost a lot of population (about 20 per cent 1974-82) Pimampiro has experienced only a slight decrease (2 per cent). Two-thirds of the children over 14 of the households interviewed in the Cordillera now lived elsewhere compared with only one-fifth in Pimampiro. The majority of these migrants (85 per cent) lived in urban areas. While there is a general drift of people away from the Cordillera, both towards Pimampiro town and to other urban centres, there is also a movement of people from other, poorer rural

areas into Pimampiro and the new-created middle-sized farms as sharecroppers and as labourers.

A new agricultural geography

The major contrast in the land use pattern of the 1950s was between the estates with large fields of barley (Hda Pinandro), pasture (Hda La Mesa), or sugar cane and tomatoes (Hdas Santa Rosa and Jesus María) and, close by, the myriads of small fields of their labour force - the smallholders and sharecroppers - on the steeper surrounding hillsides and in the Cordillera. Within thirty years this pattern has changed.

The major change in the pattern of agricultural land use is the greater intensity of use of the best land which is the direct result of the sub-division of most of the Pinandro estate. Some 150-200 hectares of good quality near-level estate land were divided into small farms in El Inca, Buenos Aires and Yucatán where two crops a year of beans, maize and tomatoes have now replaced a single annual crop of barley or wheat (Figs.3 and 4). The remaining land belonging to the Restrepo family, adjacent to Pimampiro, is now devoted solely to dairying and intensive tomato and chili pepper production for their sauce-bottling plant. In the area of smallholdings near to Pimampiro changes in the relative importance of each of the cash crops planted are difficult to detect because of the wide range of crops grown. The area of sugar cane has decreased and, at least in 1983, the area of tomatoes and avocados had increased. There have been relatively few changes in the land use patterns in the area of small-scale farming around and to the west of Pimampiro town or in the other estates.

A noticeable small-scale change which occurs particularly near the villages, is an increase in the number of trees. Interviews showed that half of all households had planted trees, mainly eucalyptus. Eucalyptus trees were planted largely on land marginal for farming, to provide firewood and timber for

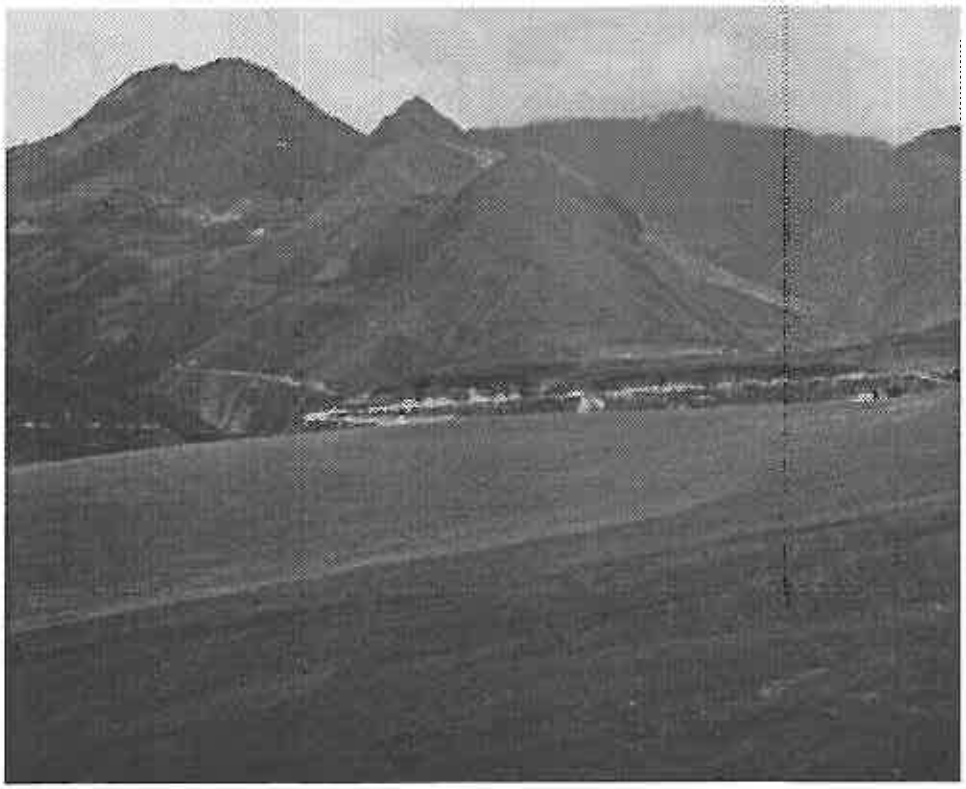

Figure 3 Yucatan 1961. Part of Hda. Pinandro, growing barley in a single large field using spray irrigation.

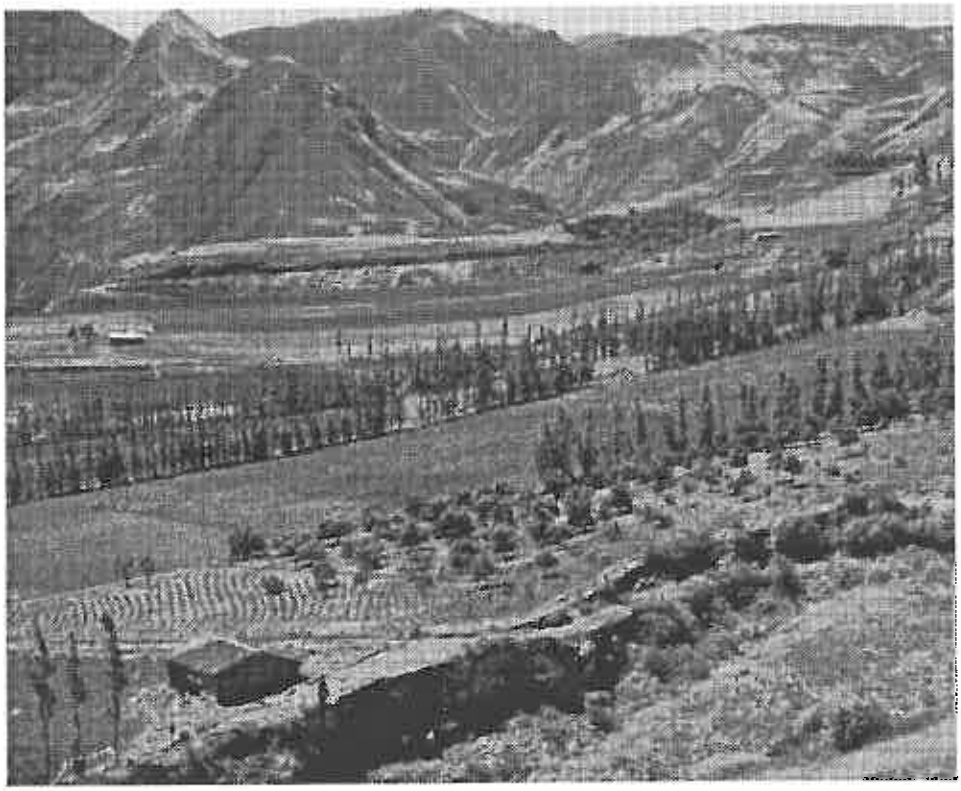

Figure 4 Yucatan 1983. Estate land now sub-divided and growing citrus fruit, beans, tomatoes and maize. Poplars mark the new property boundaries.

construction. Avocado trees are most common in the lower elevations near Pimampiro town and on the lower slopes to the north of the town. Avocados have the considerable advantage of a long harvest season and are thus attractive because they provide income over a long period. Plots of former estate land in Yucatán, Buenos Aires and Valle Hermoso on the banks of the Mataquí river and in Paragachi (all below 2000 m) have been planted with avocados and also citrus trees (Fig. 3).

In the wetter Cordillera area of San Francisco de Sigsipamba, a further, less-striking land use change has occurred. Informants suggested that the area of pasture had increased at the expense of annual crops. Comparison of photographs taken in 1961 and 1983 confirmed this. This change is a consequence of the low yields from arable farming as the soil becomes less fertile. More land is now used as pasture for livestock rather than for field crops. This represents a less labour-intensive land use, appropriate in an area with such a high rate of population decrease.

Land degradation patterns

Changes in regional society and agricultural land use during the past 30 years are noteworthy but, during this period, the consequences of the clearing of the forest cover in the Cordillera early this century are becoming more evident. In the Pimampiro area land degradation is clearly a universal problem but it is most severe in the Cordillera (MAG-PRONAREG-ORSTOM 1984). Half of the farmers in the wetter, more recently-settled and steeply-sloping areas of the Cordillera (Yuquín and Sigsipampa) had suffered landslips, but only a third had used any conservation measure. The indians of Mariano Acosta, who grow largely traditional crops, had experienced far fewer landslips than farmers in the Cordillera and their use of conservation measures was more widespread than in any other area studied.

Considerable erosion takes place on the dry hillsides above

Pimampiro town. However, only 20 per cent of farms near Pimampiro town had actually experienced landslips on their land yet 40 per cent practised some form of soil conservation. Farmers regularly move quantities of topsoil from the lower areas of fields into which it has been washed up to the top part of the field. Where the hard volcanic ash pan - cancagua - has been exposed, it is broken up with pickaxes, as well as covered with soil in order to improve the growth of crops. Farmers said that this was a common and necessary practice but was done every 5-10 years rather than annually. The gently-sloping land of the present and former estates is subject to moderate sheet erosion and some gulleying is visible in San Juan but land degradation is much less than on hillsides anywhere.

It is the clearing of trees from the steep slopes, the heavy rain in abnormally wet years and the lack of conservation measures that result in the small landslips reported by many Cordillera farmers. These are most common in the humid areas of Sigsipamba and Yuquín that have been most recently settled. This pattern reflects the amount of experience that farmers have of cultivation in such terrain and climatic conditions. Those most vulnerable to landslips (and, by implication, erosion in general) are the settlers in the wet, steep-sided valleys. They came relatively recently from a much drier area, either Pimampiro itself or southern Colombia. They received little advice on appropriate farming practices from extension agents and had no previous experience of such conditions. By contrast, the Pimampiro area farmers took more conservation measures as a logical result of their accumulated experience in that area. The indians of Mariano Acosta, although relatively recent arrivals, were settling an area ecologically similar to where they had come from: they followed traditional farming practices which include a range of conservation measures.

One consequence of the purchase of land from estates is the creation of a proliferation of small fields where big fields once predominated. The change in the size of fields may diminish the

amount of soil erosion. Two large terraces, Yucatán (c. 33 ha) and Buenos Aires (c. 70 ha), farmed by Hda. Pinandro in 1961 as single areas sown to cereals have been sub-divided into about 14 small fields in which a variety of crops are grown (Fig. 3). Evidence from photographs and field observations suggests that the size of the fields has not changed much in areas predominantly of smallholdings.

4. CONCLUSIONS: central and peripheral change

During the past thirty years the entire population of the region has gradually become more deeply involved in the capitalist economy, whereby goods have been produced and services offered in exchange for money. The sale of land from some of the estates to townsfolk primarily concerned with intensive capitalist farming further increased trade both regionally and through the town. Over the same period changes occurred in both the human and physical environment. Emigration became widespread as people left from town and country, both indian and mestizo: land degradation too was almost universal, as a response to the maintenance of land use systems that were not able to be sustained without causing soil loss and diminished fertility.

The middle class, who owned the means of production and employed others but who did not dominate the society or economy of the region, grew in number and in overall power as their land use and commercial systems generated profits that satisfied some of their aspirations. Above all, they became largely urban-based and transformed the urban environment by widening the range of services available and thus attracted people from far away to do business on market day. In this they were often aided by the useful contacts made by past and present migrants in the big cities of the sierra and the coast.

For the lower class, without access to any but the poorest

land, forced to sell labour and to earn little this period provided more work on the new smaller farms as workers and tenants in the central part of the region. The poor in the Cordillera were probably worse off, for their land had become more impoverished, the best trees had long since been felled for sale and, although migrants sought replacement labour on their half-abandoned farms wages and production did not allow the improvements in levels of living that were experienced in town. Few young men going away on military service would wish to return for long when their service was over.

The major geographical contrast that has developed is between the social stagnant social environment with an ageing population farming impoverished hillsides in the periphery and the younger, more dynamic population with access to a widening range of service engaged in trade or farming that is evidently profitable in the town and everywhere within 30 minutes walk from it.

Acknowledgements

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FOOTNOTES

(1)Information about the chronology of settlement in the Cordillera is largely taken from an unpublished paper by Theissen and Costales (1969) and from a section in a further unpublished report by the Instituto de Investigaciones Económicas (n.d.) almost certainly also based on Theissen and Costales' work. This information was supplemented by personal field notes of conversations with colonists and their children.

(2) His daughter Carmela married Victor Elias Borja and took Hda. San Nicolas (later renamed Pinandro) and much of the eastern part of the property while Juan José Tobar took Hda. Santa Rosa and much of the western part of the domain.

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