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PARACHO, THE ECONOMICS OF DEVELOPMENT  
IN A MEXICAN SMALLHOLDER COMMUNITY

by

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author and not necessarily those of the supporting or cooperating organizations.

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**PARACHO, THE ECONOMICS OF DEVELOPMENT  
IN A MEXICAN SMALLHOLDER COMMUNITY**

**Objectives of the Study**

This study was conducted in 1966 in Paracho, state of Michoacán. Its general purpose was to investigate the nature of the land tenure institutions and the economic structure of the farm and family in a group of small communal landholders, as well as their problems in practicing subsistence agriculture in a relatively highly populated area with poor farm resources.

The minifundio still prevails in many areas of Mexico, in spite of the remarkable rate of development which has occurred during the last 30 years. In 1960, of the total number of farms, 85 percent had less than 10 hectares. One group of minifundios which has remained almost completely outside of the recent farm development are the communally-owned landholdings, represented by an estimated 315,000 comunero families (landholders in a communal tenure system) who still preserve some of the traditional social and cultural elements. The minifundio, associated with rural poverty and unemployment, has so far been a subject largely neglected, not only by the politician who may consider it a hopeless case, but also by the social scientist, who may consider it a transitory stage bound to disappear with progress.

Specifically, an attempt was made to provide:

1. A general background for the study, based upon the analysis of the nature of Mexican agricultural development, command of new resources by main tenure groups, and employment problems in farming.
2. Understanding of the role and function of a communal land tenure system of long standing in Mexico's tradition.
3. A study of the main characteristics of Paracho peasant communities from the point of view of population, resource endowment, economic activities, income distribution, and employment.
4. An outlook for future development of poorly endowed small landholders, as compared with the better resource endowed smallholder.
5. General considerations about the minifundio problem and the broader problem of farm and economic policy.

### Procedures

The data gathered in the farm and family survey cover the farm year 1965-66 (April 1965-May 1966). Farmers interviewed considered it a good year with adequate rainfall.

One of the more important limitations of the study is a lack of information on artisan activities, especially the nature of the demand of these activities for peasant labor. Nevertheless, basic figures on income and employment were obtained.

The information used comes mostly from four sources:

1. census data, official information from public institutions, and available literature;

2. discussions with officials working in different capacities in the region;

3. data gathered through interviews with 41 farmers. Two questionnaires were used, one about farming and agricultural economics, and the other concerning land tenure and the social structure of the families. This survey was conducted in mid-1966. Tabulation was done in Mexico City on IBM equipment. The families interviewed were selected randomly from available local lists of families. These lists were obtained from the Indian Affairs Institute and showed occupations of heads of families. Only those in farm occupations, either part time or full time, were selected;

4. Special areas of interest were assigned to the senior field assistants. One assistant was concerned with the social structure of the Aranza community, in the municipio of Paracho, and the artisan activities carried out in that community. Another conducted a study of resin activities and forest resource potentialities. Only the first study is available as a preliminary draft and has been quoted in this paper. For the others no formal report is yet available, even though partial information is available.

### Previous Studies

This study is part of a general research project on land tenure and economic development in Mexico. This research was undertaken jointly by the Centro de Investigaciones Agrarias of Mexico and the Inter-American Committee for Agricultural Development (CIDA).

Research into the Mexican agrarian reform is needed not only to assess the accomplishments and shortcomings of the main tenure groups and to evaluate policy alternatives useful in the Mexican context, but also to provide information for other Latin American countries seeking ways to implement new agrarian programs.

The Mexican research was conducted under the assumption that because of the wealth of agrarian reform literature concerning issues and ideas, very little of value could be added in this respect and that much more was to be gained by obtaining factual information to clarify a very dynamic and heterogeneous farm picture. The present study, as well as others to be published by the Centro and CIDA, is based primarily upon peasant interviews which intended to find out about peasant problems and peasant solutions to them.

The first study of the Centro, undertaken under the author's supervision, was located in the state of Michoacán, in the central-western part of Mexico. Three regions within this state were chosen for study. These regions were also used as pilot areas to test methodology and train personnel.

The three regions represent different sets of conditions. One, the communal lands of Paracho, are located on a high plateau 6,500 feet above sea level, and might be considered representative of dry farming and traditional agriculture as practiced in many highland areas of Central Mexico. The second region, Taretan, is located at a lower altitude, in a semi-tropical area. Irrigation, public credit, and technical assistance have made technological change possible in some of the local ejidos (an agrarian reform unit formed from expropriated large farms, on which cropland is usually subdivided among peasants, but both pasture and forest land remain undivided for communal use among members). This region is an example of the efforts made by the governments to modernize the ejido system. Finally, the tropical lowland in the Apatzingán Valley, near the seashore, ranging from 600 to 1,200 feet, illustrates many of the problems of keeping land in the ejidal system under direct management and control of the peasants in areas where legal loopholes are used to evade the prohibition on renting out ejidal land.

The main reason for choosing these regions, however, was not to make the study statistically representative of the agriculture in the state of Michoacán, but rather to obtain a better idea of the nature of the problems confronting these farms, operating under different ecological conditions, with good, poor, or no access to markets, and including a variety of institutional land tenure arrangements. These different conditions modify farm operations but do not change the basic features of underemployment and low income level associated with almost all minifundios.

A study of the smallholders in one of these regions; the municipio of Paracho, located in the Meseta Tarasca, is the subject matter of this research paper. It is hoped that in some way it will be of help in understanding the peasant's struggle for survival and fuller participation in the national economy and society.

### Mexican Agricultural Development

A few comments about the nature of Mexican agricultural development and farm employment problems will be useful in order to place this case study in proper perspective.

1. The Mexican agrarian reform created a large number of small farms in the ejidal, communal, and private sectors. Further land distribution is presently going at a slower tempo, because of a shortage of expropriable land and a change in policy orientation.
2. The high demographic growth in the rural sector has produced a situation in which, almost half a century after agrarian reform started, there are more landless workers than before and the proportion of them in the total farm labor force is nearing the pre-reform situation. This increase in the number of landless people has been an unexpected outcome, and is largely due to population growth and not to expansion of the large farms by acquisition of land from small owners, ejidatarios, or communal property holders; nevertheless it is changing the farm tenure structure and creating new problems.
3. There are serious problems of low income and farm under-employment. Farm unemployment, coupled with a regressive income distribution, is threatening to reduce the meaningfulness of the high growth rate of Mexican agriculture.
4. Growing manufacturing and other nonfarm sectors are becoming aware of the need for a broader and more effective farm market. The government as well would like to further the fulfillment of reform objectives through policies aimed at increasing the income of the peasants, still the largest population group employed in a single activity.
5. Mexican agriculture is very heterogeneous in farm organization and rate of growth. There are differences in farm size, tenure, level of technology, and geographical and ecological conditions. However, the preceding analysis of the farm structure and its change over time seems to point to a growing polarization between the two sectors of high and low rates of growth. Very little growth seems to have occurred on small farms in contrast to higher growth rates on large farms and ejidos. Census statistics, however, do not make it possible to separate data for communal holdings from other small farms.

It is known that in general the smallholder faces many problems, but these problems are more serious for the minifundios handicapped by a lack of adequate farmland resources. Newly available farm technology (hybrid seed, fertilizers, improved pastures) has to be adapted to the ecological conditions which these farmers face. On the other hand, these new developments have to be tested empirically in situations where low income, little capital formation, and relatively high risk conditions prevail. Moreover, the new techniques should be such that they will not deplete land resources, a requirement very difficult to meet in conditions where a precarious balance has been established between population in agriculture and limited land resources.

### Paracho: A Case Study

It is believed that the problems of development which are faced by minifundios in general are encountered in a pure form within the communal holdings. The community studied in this paper, Paracho, is thought to be reasonably representative of the type of farming carried out in the small dryland holdings of the densely populated highlands of Central Mexico, both in the ejido and private property sectors. More specifically, this paper describes location, ecological conditions, and general characteristics of these small landholders and farm organization, farm and family income, and employment.

The municipio of Paracho is poor in farm resources, but it is above average in population density and in the percentage of population engaged in nonfarm activity, compared to the neighboring highland municipios. Urban growth and the increasing importance of guitar manufacture, a traditional local handicraft skill, absorb most of the increment in population, reducing pressure on the land.

Better road systems, communications, and public services have made it possible to reduce cultural and economic isolation, and the people of Paracho in general have a favorable attitude toward the outer world and technological change.

Agriculture is primitive and traditional, based primarily upon maize cultivation, complemented with a little livestock raising. Farmland legally belongs to the village, but it is subdivided into plots operated individually by each comunero, who has the right to sell, rent, and mortgage his plot, but cannot sell it to noncomuneros. To preserve communal pasture rights, fence construction is not allowed.

## THE LAND AND THE PEOPLE OF PARACHO

The study of the Indian communities of Paracho concerns a case of limited development within a poor physical environment in an isolated area without evidence of population out-migration. The whole case might be considered a success story of rugged peasants who have adapted themselves for centuries to poor natural resources and to a changing outside world. Since the area in which Paracho is located is an old pre-Spanish settlement, it was assumed at the outset that enough time had elapsed for the population to have reached an equilibrium between the limited resources, the static farm technology, and a minimum, culturally acceptable, subsistence level of income. Once the population had secured this minimum, it would have stabilized, net out-migration being the outlet to check any undue population growth which might have threatened to lower that subsistence income.

The native population has chosen to remain in the area despite improved communications which have provided a better view of the outside world, and there is no evidence of a negative attitude toward the rest of society. Growth of nonfarm activities seems to offer a better explanation for the observed demographic behavior. Income from nonfarm sources permits a considerable lifting of the minimum income for even a growing population.

### Natural Resources

The municipality of Paracho, state of Michoacán, is located in a geographical region called Meseta Tarasca (Tarascan Plateau), situated at an altitude of over 2,000 meters above sea level. Its inhabitants are mainly Tarascan-speaking Indians. Presently, it has communication facilities linking it with the rest of the country since it is situated on the paved road which connects the southwestern part of the state of Michoacán (especially the important Valley of Tepalcatepec) with the main highway Mexico-Guadalajara-Nogales.

The Meseta consists of several plains from which rise volcanic cones of variable age and size; the Meseta itself is part of the Transversal Volcanic Sierra which crosses the central part of Mexico from east to west. The highest of these volcanoes, the Pico de Tancítaro, is 3,800 meters above sea level. The youngest one, El Parícutín, came into being in the middle of a corn field belonging to a native Tarascan, one night in February 1943. On its higher parts, the Plateau offers a natural vegetation of pine and fir trees; on the lower parts, one finds woods of pines and evergreen oaks.

Many of the volcanic cones have no vegetation at all, and time has seen their erosion. On the plains, man has felled the woods, creating in their place cultivated fields and pastures.

The climate of the Meseta is colder and moister than in the surrounding zones. The Meseta is locally called Tierra Fría (Cold Zone) to distinguish it from the Tierra Caliente (Hot Zone) of the Valley of the Tepalcatepec River, which begins a few kilometers farther south. The average daily temperature does not change much throughout the year, ranging between 54° and 64° F. During the course of the day, however, there are considerable differences of temperature, reaching a maximum range during the dry season (winter time). It then may range between several degrees below freezing and a maximum of 86° F. From December to May, frosts are frequent. Over most of the Plateau frosts are registered during more than 120 days per year, so that agricultural possibilities are considerably limited.

The natural vegetation of pine, fir, and oak trees covers an approximate surface of 58,400 hectares of timberland for the whole of the Meseta.

The municipality of Paracho, as the rest of the Meseta, has different kinds of land, according to its physiographic characteristics and to the use the inhabitants make of it. The so-called plains are situated between 2,000 and 2,500 meters above sea level and are used for agriculture or pasturing. The villages of the municipality of Paracho are located within or to one side of these "plains."

What can be cultivated at Paracho depends on the season, i.e., on the rains. One of the main characteristics of the soil of the whole Meseta is its porosity, which does not allow the "plains" to retain the abundant quantities of water received during the rainy season. Continuous cultivation without fertilizers or soil improvements would exhaust the soil very quickly, so that peasants are compelled to observe a very strict rotation of the cultivated lots. The system of "año en vez" (one year of cultivation, one year fallow) is generally applied all over the Meseta. Consequently, during any one year, there is probably no more than one-half of the arable land actually cultivated.

In the different communities, one can find small, fenced-in plots of land which are called ecuaros, where people grow fruit trees and vegetables for the family.

Lava, which flows out of the volcanoes in great quantities in that region, forms land without agricultural utility, the so-called malpaíses. The wooded zones are called montes if timber-yielding, and paninos if used for pasturing. The deforested zones are called laderas or desmontes, according to their altitude, and are usually also considered as pasturing areas.

Between the malpaíses and the woods, one finds here and there small surfaces which can be cultivated, called joyas. The same name has been given to the craters of the volcanoes, the alluvial earth of which is also cultivated by many peasants. One can often see a peasant climb painfully uphill with his oxen and disappear inside the crater of a dead volcano, to farm the small amount of arable land deposited there by the winds of many centuries.

The total area of the municipality of Paracho is 27,800 hectares. Of that area, according to an estimate of 1960, 5,326 hectares were arable land, 2,222 hectares were pastures, and 11,500 were timber-yielding woods. The remaining area was composed of hillsides without timber, soil without agricultural utility, and other types of land.

Under the pressure of population growth peasants of Paracho have gradually extended the cultivable areas through deforestation, which, according to the Census, increased the cultivable land by 24.4 percent between 1930 and 1960 from 4,283 hectares to 5,326 hectares.

### The Population

The Meseta Tarasca is a region of ancient settlements. During pre-Hispanic times the Tarascan culture developed there, reaching a high level comparable to the culture of the Aztecs during the sixteenth century. The Tarascan zone was integrated without major difficulties into the Spanish colonial system as early as the first half of the sixteenth century. However, Spaniards and mestizos colonized the Meseta only sporadically and slowly because of the lack of attractive conditions. The natives of the zone were put under the protection of Spaniards who did not live there but to whom they had to pay their contributions; for quite a long time they had practically no other contacts with the colonial society except priests and missionaries.

By the middle of the sixteenth century, the whole region was controlled by the colonial government. According to Aguirre Beltrán,<sup>1</sup> the territory of Pomacorán (corresponding more or less to the present day municipality of Paracho) had then a population of 5,400 inhabitants.

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<sup>1</sup>Gonzalo Aguirre Beltrán, Problemas de la Población Indígena de la Cuenca del Tepalcatepec (Mexico: Instituto Nacional Indigenista, 1952).

During two centuries, the number of inhabitants seems not to have changed considerably, since about 800 families were registered there at the end of the eighteenth century. During the second half of the nineteenth century, the population started growing gradually, with 8,600 inhabitants at Paracho in 1900. At the time of the revolution, the population diminished again, but from 1921 on, the municipality shows a constant growth of population.

The total population grew from 6,885 inhabitants in 1930 to close to 13,500 in 1960. The total population was estimated at 17,200 in 1965. This demographic growth seems to follow the same trend shown by the total population of Mexico during the period. Thus, assuming that in Paracho the rates of birth and death are similar to the national rates, no evidence of net migration is found.

As indexes of demographic pressure, two figures are used. The first one, total population per square kilometer, almost doubled from 1930 to 1960. Paracho had a higher population density than the other municipalities of the Meseta Tarasca--48 against 35 persons per square kilometer in 1960.

On the other hand, the rural population per arable hectare seems a better yardstick to appreciate the direct pressure of farm people upon farm resources. The number of rural people depending on one hectare of arable land changed from 1.07 in 1930 to 1.35 in 1960, not a very large increment. The best explanation for the apparent contradiction between the two indexes might be found in the different rate of change observed in the rural and urban population, as well as in the increment in arable land. While the urban population increased 3.7 times, the rural population increased only 1.9 times (Table 1). At the same time, the amount of arable land rose by 24 percent. The absolute number of rural people has not changed very much. From 1940 to 1960, it increased from 6,500 to 7,220. It is estimated that urban and rural population achieved parity in 1965. Facing the limitations of its agricultural resources, the population seems to have chosen nonfarm activities, and not resorted to massive migration to other regions.

According to the Census of Population, the municipality of Paracho is composed of a municipal capital--the small town of Paracho, classified as an urban center--and eight rural communities. The bulk of the population is concentrated in the town of Paracho, having 2,300 families and a total population of 8,600 (data from 1965). Of the eight rural communities in the municipality, seven had between 155 and 335 families, whereas the eighth was a hamlet with only 34 families. In other words, the small town of Paracho has become a center of attraction and concentration for the surrounding rural population. This growing urbanization goes hand in hand with

a structural change of the municipality's economy. The crafts of Paracho (guitars and woodworking) have found an increasing market in recent years.

However, rural and urban are not synonymous with farm and nonfarm population. For example, the urban population of the municipality (or of the town of Paracho) included in 1960 a sizable proportion of its active population dedicated to agriculture (47 percent). The remainder of the active population was composed of merchants, craftsmen, and laborers. On the other hand, farm work was the predominant activity in the rural communities (82 percent) (Table 2). In other words, while the urban population constituted 47 percent of the 1960 population, only 40 percent of the total active population of the municipality were engaged in nonfarm occupations. Although in the case of Paracho the size of the urban population might be used as a substitute for an index of nonfarm development (the discrepancy is not very great), the same does not seem to hold true in the neighboring municipalities of the Meseta Tarasca.

As to urban structure and the nature of the activities of the inhabitants of Paracho, the municipality does not seem to be representative of the other districts of the Meseta. Paracho is in fact less urbanized (53 percent rural) than the other municipalities of the Meseta (41 percent rural), even though Paracho has relatively less active population in agriculture (60 percent) than the others (85 percent) (Table 3). The growing importance of nonfarm activities observed in Paracho does not seem to have affected the other municipalities of the Meseta, at least not to the same degree.

**Table 1. Population and Demographic Pressure on Land, Paracho, Michoacán, 1930-1965**

Year	Total Population	Rural Population <sup>a</sup>	Population Index (1930 = 100)		Demographic Pressure	
			Rural	Urban	Total Population per Km <sup>2</sup>	Rural Population per Arable Ha.
1930	6,885	66.6	100.0	100.0	24.8	1.07
1940	9,854	66.5	142.8	143.7	35.4	--
1950	10,924	62.7	149.5	177.0	39.3	1.42
1960	13,464	53.5	157.1	272.1	48.4	1.35
1965	17,200	50.0	187.6	373.9	61.9	--

Source: Population Censuses.

<sup>a</sup> Percent of total population not living in the capital of this municipality of Paracho, which is the town of the same name.

**Table 2. Occupation of the Active Population by Place of Residence, Paracho, Michoacán, 1960**

Occupation	Total	Rural Communities <sup>f</sup>	Municipal Capital <sup>f</sup>
<b>Agricultural<sup>d</sup></b>	<b>2,405</b>	<b>1,184</b>	<b>1,221</b>
Farmers more than 5 Has. <sup>a</sup>	47	44	3
Farmers less than 5 Has. <sup>b</sup>	768	496	272
Sharecroppers <sup>c</sup>	195	165	30
Resin producers <sup>c</sup>	249	249	-
Day laborers <sup>d</sup>	1,146	230	916
<b>Nonagricultural<sup>e</sup></b>	<b>1,608</b>	<b>254</b>	<b>1,354</b>
Employers	14	-	14
Merchants, employees, and craftsmen	951	181	770
Unskilled laborers	643	73	570
<b>TOTAL</b>	<b>4,013</b>	<b>1,438</b>	<b>2,575</b>

<sup>a</sup>From a report of the Presidencia Municipal de Paracho.

<sup>b</sup>The difference between the total number of farmers, as reported by the Agricultural Census, and the number working more than five hectares.

<sup>c</sup>From a survey of the National Institute for Indian Affairs (Instituto Nacional Indigenista).

<sup>d</sup>The difference between the total farm labor force (from the Institute's survey) and the number of farmers, sharecroppers, and resin producers.

<sup>e</sup>From the Census of Population.

<sup>f</sup>From the Institute's survey for the farm workers, and from the Census of Population for the nonfarm active population.

**Table 3. Rural and Active Farm Population in the Meseta Tarasca, 1960**

Municipalities	Population			Active Population		
	Total	Rural	%Rural	Total	Farm	%In Farm
Paracho	13,464	7,205	53%	4,068	2,405	60%
Other Municipios <sup>a</sup>	31,011	12,787	41	9,289	7,910	85
<b>TOTAL</b>	<b>44,475</b>	<b>19,992</b>	<b>45</b>	<b>13,357</b>	<b>10,315</b>	<b>77</b>

Source: Population Census for 1960.

<sup>a</sup>Municipios of Charapan, Cherán, Nahuatzen and Tingambato.

**Social Structure**

As far as public services are concerned, the small town of Paracho is better off than the rural communities, as it has bus services, a mail office, a piped drinking water supply, electricity, and schools. All of the rural communities have electricity, but there are very few street lamps and almost no domestic lighting. Only two communities have a piped water supply. Every community has its own school, but medical care can be found only in the town of Paracho, and there only by private practitioners.

Unlike other Indian groups in Mexico, those of the Meseta Tarasca have not preserved any trace of the traditional local government. The administrative structure on the municipality level is exactly the same as in the rest of the country. The president of the municipality is elected in accordance with the laws of the nation. The local communities of the municipality elect their own "tenancy chiefs" who represent the community in all matters before the municipal authorities and who are, above all, in charge of the handling and distribution of the communal land.

However, the zone has not been completely spared all political controversies, especially in the years just after the revolution. The reaction against agrarian reform fostered by the clergy through its political organizations (as, e.g., the movement of the cristeros during the twenties and the thirties, and the sinarquismo which began in the forties) frequently succeeded in spreading discord among the population. In the community of Aranza we still find opposition between one group headed by the old agrarian leader, and another headed by the local priest. The agrarian leaders want to use an uncultivated piece of land located at the center of the village to one side of the church to organize a kindergarten, and the second group is obstructing the project. Aguirre Beltrán points out that throughout the region we generally find two large opposing "parties," the revolutionary and the conservative; but these have not become structurally fixed as formal political parties directly and permanently tied to the national parties.<sup>2</sup> All formal political life is completely controlled by the Partido Revolucionario Institucional, and the aforementioned oppositions manifest themselves within its ranks when they acquire electoral political expression in the nomination of candidates.

In the municipality of Paracho only two of the 45 family heads interviewed stated that they had never participated in any elections. Thirty-nine family heads (90 percent) stated that they had never missed an election. But only 14 admitted being active members of a political party, and all of them belonged to the PRI. There is not one municipal government on the whole Meseta formed by members of a party other than the PRI. But according to Aguirre Beltrán, and in spite of the foregoing, "The Partido Revolucionario Institucional supports on occasions antiagrarian reform leaders or former cristeros."<sup>3</sup>

The absence of any aboriginal form of government (as they exist in other native communities of Mexico, especially in Chiapas and Chihuahua) is a symptom of the rapid disintegration and disappearance of Tarascan culture. As a matter of fact, again according to Aguirre Beltrán, "the process has gone so far that but for the persistence of the native language and some other features and aspects of the indigenous culture, one might hardly qualify as native a group where a higher percentage of inhabitants can write and read and possesses technological knowledge than the mestizo population of other regions of the Valley of Tepalcatepec."<sup>4</sup>

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<sup>2</sup>Aguirre Beltrán, Formas de Gobierno Indígena (Mexico: Imprenta Universitaria, 1953), p. 202.

<sup>3</sup>ibid., p. 170.

<sup>4</sup>ibid., p. 170.

On the Meseta Tarasca, persons who speak the native language are gradually disappearing. In 1940, in the municipality of Paracho, the Tarascan-speaking persons represented 58 percent of the total population, whereas by 1960 the percentage had dropped to only 44 percent. At the same time, the number of persons who do not speak anything but Tarascan has also diminished considerably and represents at present only 9 percent of the population of Paracho.

In the same municipality, 51 percent of the inhabitants can read and write, compared with only 25 percent 30 years earlier. Among the family heads interviewed in 1965, 78 percent could read and write, and 24 percent had gone to school more than three years. The relatively high educational level of the region resulted from efforts made by the federal government from the thirties on to promote education in that zone, mainly through the Tarascan Project of the Ministry of Public Education, and later on through the literacy campaigns and Spanish-teaching programs prepared for the native population. Each community has its own school, and nowadays they are in the hands of specially trained teachers graduated from the National Institute for Indian Affairs.

While the population of the municipality can be considered relatively homogeneous from an ethnical and cultural viewpoint, since there are no marked differences between "mestizos" and "natives" as in other indigenous regions of the country, the composition is heterogeneous as far as occupation is concerned.

In the first place, farmers may be landowners, sharecroppers, day laborers, or comuneros. The latter are members of the community who are entitled to cultivate certain lots of "deforested" land without being considered as owners. On the other hand, the holders of permanently assigned plots on the plains call themselves "landowners," even if the plains lands belong legally to the community. In activities other than farming, we find mainly merchants and craftsmen, the latter in turn being subdivided in two groups, wage earners and independent craftsmen. In the town, there are other service occupations such as barber and car driver.

More than half of the farming family heads interviewed in 1965 stated that they had at the same time a second occupation, in every instance either craftsmanship or commerce. Of these persons, 65 percent worked regularly in nonagricultural activities; the remaining 35 percent only sporadically. In the overwhelming majority of cases, the activity was on a personal or family basis. Only two of the persons interviewed worked as wage earning craftsmen.

The simultaneous exercise of two or more activities does not necessarily indicate any lack of personal or family equilibrium, nor is it a sign of rapid economic development, as one might easily assume. It is simply the result of the poverty of agricultural resources and of the technological underdevelopment of farm production. The other economic possibilities permit them to sustain a minimum living standard.

The combination of farming and some other types of activities has made it possible to achieve a certain social and occupational mobility. Thirty-three percent of the interviewed family heads had some other activity prior to their current one, and in 40 percent of all cases the main occupation of the parents had been different from the main activity of the present family head (even within the agricultural sector itself). Moreover, 46 percent of the family heads have one or more children who live outside the community and in some cases contribute money to the family economy.

Another sign of mobility is that about 50 percent of the interviewed persons stated that they had worked as farm hands in the United States. More than half of these had visited the United States more than once, and 60 percent had worked in the United States for a period of over one year. These data suggest that in spite of the undeniable presence of some traces of traditional communal structure, the communities investigated--and all the communities of the Meseta in general--are not as self-contained and self-sufficient as one might assume at first sight. In this regard, it is also significant that more than 70 percent of the interviewed family heads expressed the wish to change their activity, whereas only 28 percent declared themselves satisfied with their present occupation. Likewise, 58 percent of the persons interviewed would prefer to live somewhere else (all of them in a city), while 42 percent are satisfied to continue living at their present residence.

This rather high level of aspirations might be considered surprising, given the low living standards currently imposed on the population. Sixty-two percent of the interviewed persons would like their children to learn some profession. Education is regarded very highly as a means of reaching a more comfortable living standard. And women are not excluded from these aspirations; as a matter of fact, everyone stated that they desired the same, if not better, educational opportunities for their daughters. This coincides with the observations of other investigators who emphasized the outstanding social position of the women among the Tarascans.

In spite of the absence of highly marked social differences within the communities, a certain degree of social stratification exists, corresponding with differently oriented activities and different types of land ownership. At the community of Aranza, an investigation of the social and economic standing of 32 family heads chosen at random revealed that in the public opinion, the merchants occupied first place, followed in turn by proprietors, sharecroppers, craftsmen-workers, and finally day laborers.<sup>5</sup>

For this investigation, a scale was prepared which permits measuring the material living standard of the families. That scale shows four levels, named for our purposes "very low," "low," "medium," and "high." Of all the interviewed persons, 82 percent are at the very low level; the rest occupy the low level except for one person who reaches the medium level. This person belongs to the group of landowners who possess more than five hectares, and his activities are not limited to farming alone. Not one person could be classified as high level.

In spite of the differences between the three types of peasant ownership studied in regard to average family income and per capita family income, there are no major differences in the material living standards as measured during the investigation. Housing, furniture, clothing, and some material commodities are practically the same for all the peasants of Paracho. Only in the county seat do some homes show a higher living standard, but these belong to the merchants of the town (not covered by the survey).

People generally live in huts made of wood, with perhaps part of the walls constructed with stone or burnt brick, roofed with tejamanil (small strips of pine or oak wood), and with bare earth floors. These huts have only one room; sometimes, the peaked roof extends farther than the walls, overhanging some kind of terrace. The kitchen is usually in an independent building constructed with similar materials.

Furniture is primitive, in spite of the flourishing woodcraft of that region. Local craftsmanship can be found only now and then in carved beams or doors and in the manufacture of simple chairs and benches.

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<sup>5</sup>José Sánchez Cortés, "Estructura de la Tenencia de la Tierra en la Maseta Tarasca," unpublished report of the Centro de Investigaciones Agrarias, Mexico, 1967

In summary, the municipality of Paracho has been able to face the growing demographic pressure on its limited resources thanks to the increase of nonfarm activities. Social development encounters neither an inflexible traditional local structure nor hostility towards change. On the contrary, a long tradition of craftsmanship rooted in pre-Hispanic times, integration of the Tarascan zone in the larger national, political, and social units, and the temporary emigration of the peasants, mainly to the United States, have shown that peasants are openminded as far as changes are concerned. Easy communication with the centers of the country and an increasing market for crafts have made the change possible.

### LAND TENURE AND AGRICULTURAL ACTIVITIES

In colonial times, the native communities of the Meseta received title deeds covering the communal property of their land. The disentailing laws of the nineteenth century started a process of individual appropriation of land. Almost every lot of arable land became the property of individual members of the communities, so that only the wooded zones conserved their communal status. But these individually owned parcels of land within the communal territory were not duly registered or covered by deeds as provided by law. The social structure of the native community also set certain limits on the unrestricted development of private property. The parcels of land were never fenced in, nor are they today, for reasons explained later. Only the members of the community knew the exact boundaries of the different lots, and, as Aguirre Beltrán says, the theft of land among members of the same community is a crime which did not and does not exist.<sup>6</sup> In spite of the traditionally strong social pressures which tended to prevent strangers from acquiring communal lands, at the end of the last and the beginning of the present century there arose a tendency to permit a considerable portion of arable community land on the Meseta, as well as elsewhere in Mexico, to become the property of persons not members of the community.

In the community of Aranza, within the municipality of Paracho, 60 family heads owned all of the arable land at the beginning of the century. During the following years, the better part of their land became the property of strangers, thanks to a proceeding called reversion sale. These reversion sales were a kind of mortgage on the properties, pledged by their owners in order to obtain loans,

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<sup>6</sup>Aguirre Beltrán, op. cit., p. 148.

mainly from merchants of Paracho. If the borrower did not repay the loan the very date and hour set forth in the reversion sale agreement, the land became the property of the moneylender. According to the reports from the community, the moneylenders (generally citizens of the nearby villages of Paracho, Cherán and Uruapan, but never members of the community) were able to get hold of every bit of arable land of the peasants of Aranza. The lenders hid or were absent each time a debt was maturing, in order to allege thereafter that they were entitled to the land. In 1920, all of the arable land of the community had in this fashion become the property of only 14 owners, and not one of them was a member of the community.

The legitimate owners had thus become mere tenants and sharecroppers on their own land. The growing discontent among the peasants over this situation led in 1933 to the organization of the Agrarian Union, through which they applied to the governor of the state, at the time General Lázaro Cárdenas, for the return of their communal land.

In 1939, the Union succeeded in forcing the first of several of the new owners to sell to the community the land he had progressively acquired between 1894 and 1914. These 60 hectares were paid for by the community at the assessed valuation of 100 pesos per hectare.<sup>7</sup> The lots were divided among 18 family heads, each of whom acquired one lot, the size of which depended on his economic status. Later on, the community obtained the devolution of the remaining pieces of land, paying for them variable prices and distributing them among the other family heads, always according to the economic possibilities of each individual, so that the size of the properties acquired by the peasants of Aranza varied between  $\frac{3}{4}$  of a hectare and  $1 \frac{1}{2}$  hectares.

In due time the Union took the necessary steps before the Agrarian Department to obtain the restitution and confirmation of its communal properties. The confirming decree was issued in 1944. Since within the legal radius of 7 kilometers from the center of the community of Aranza there did not exist any properties that might be affected under the provisions of the agrarian reform legislation, the Agrarian Department did not create an ejido in that community.<sup>8</sup>

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<sup>7</sup>All monetary figures in this paper are in pesos. At current U.S. exchange rates, one peso = 18¢.

<sup>8</sup>Sánchez Cortés, *op. cit.*, pp. 16-18.

The heads of the 173 families of Aranza (in 1944) thereby received confirmation of their communal lands, consisting of 1,500 hectares of woodland, 630 hectares of cultivable land, and 50 hectares for the village, forming a total of 2,180 hectares. It seems, however, that part of the 630 hectares of arable land which had been classified as communal property were in fact owned privately by some members of the community.

The demographic pressure on the resources of the community has led in recent years to the progressive felling of the communal woods and their gradual transformation into arable land, worked on an individual basis by the comuneros. This process is contrary to agrarian legislation, not only because it divides formal communal land, but also because the law prohibits felling the woods of the Meseta Tarasca. However, the authorities of the community sometimes accept and endorse these proceedings as the only way of meeting the arable land requirements of the growing local population.

#### Land Disputes Between Communities

For a long time now, many controversies have arisen among the communities of Paracho over boundaries of communal lands. These disputes have been caused by the lack of correctly drawn up topographic maps, or by the ambiguity or even complete absence of many colonial records (as in the case of Aranza). Successive governments have ruled in favor of one community or another, but it has never been possible to satisfy completely all the parties to these controversies. Not even the confirmation of communal ownership under the agrarian reform laws has been able to solve these problems. Latent conflicts between comuneros of different communities may at any time lead to outbreaks of violence which, year after year, have claimed many victims.

The endless proceedings originated by these disputes may possibly perform a social function through maintaining communal unity against the disintegrating forces. It is also possible that the negotiations resulting from these conflicts fortify the prestige and authority of the local leaders.

#### Present Conditions of Land Ownership

Comuneros regard themselves as the owners of the parcels of land allotted to them and, apart from their rights as usufructuaries, exercise with the consent of the community the right to mortgage, sell, or rent these lots.

The community, however, as a territorial, legal, social, and economic unit, restricts to a certain degree the use of such rights. As far as usufruct is concerned, biennial rotation on the plains and the absence of fences make it necessary to subject the cultivation of corn to a definite schedule. Unless farmers find a practical way of cultivating on a large scale crops more permanent than corn (perennial grass for pasturing or fruit trees, for example), it would not be sensible to invest in fences permitting the individual lot owner to elude the collective tradition. In other words, the right which governs usufruct is based on traditional corn growing and the necessity to keep the potential yield of the soil as high as possible without reverting to fertilizers, a technique which would practically double the availability of arable land by escaping the need to have so much land in fallow.

In spite of the resolutions adopted since 1939 (when land was returned to the communities) prohibiting the mortgage and alienation of land in favor of persons unconnected with the community, mortgage of land, known locally as empeño (meaning pledge or pawn) nowadays occurs again with an increasing frequency. An investigation carried out at the community of Aranza showed, in fact, that 20 percent of the "owners" had pledged their land during the last 10 years, more than half of it to persons who live outside the community.

The main difference between the present day empeños and the old "reversion sale agreements" is the absence of any time limit on repayment of the loan, so that the "owner" cannot lose his land. The moneylender receives the right to use the land until the loan is repaid. In the cases investigated, 70 percent of the loans had been granted more than five years before, and no reimbursement has been made to date.

As the loan does not provide for any interest payments, and since the moneylender is generally not interested in working the land himself, the owner of the lot continues working it under some type of sharecropping arrangement. In other words, interest takes the form of half the value of the crop obtained on the pledged land tilled by the owner. From this is deducted half of the seed and half of the hired labor for harvesting, which costs are paid by the moneylender. In one case, a loan of 2,000 pesos had been granted on a piece of land of approximately 1.5 hectares. Under average conditions one may assume that the moneylender obtained a net return of about 675 pesos every two years, the equivalent of an interest rate of 17 percent per year.<sup>9</sup>

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<sup>9</sup>With 30 liters of seed one can expect to obtain 1,400 kilograms, half the worth of which amounts to 735 pesos; from these, 15 pesos would be discounted for seed, and 45 pesos for harvesting labor.

The pledging of land is legally recognized through a document signed before the judge of Paracho, stating that the borrower is the owner, with full title to a rural plot. A time limit is also stated, adding, however, that "if the debt is not repaid, a new agreement shall be entered into for a period to be determined then by mutual agreement, without the money earning interest or rent being charged for the land."

The owner of the land may be compelled to pledge his property because he lacks recourse for meeting unforeseen expenses such as:

a) the traditional festivities which imply compulsory conspicuous consumption and expenses, from which no one can escape without losing much of his social prestige;

b) the expenses related to events within the family, such as weddings, illness, or death, since there is no social security and no free medical care.

Loans are difficult to obtain from banking institutions, since official banks usually do not extend loans for corn in regions where nonirrigated crops are grown.

The land owned by the peasants is divided into lots according to the different types of land available to the community. The "rich" owners are those who have the greatest number of lots. The 10 largest farms of Aranza, for example, have together 66 lots covering 130 hectares, with an average of 6.6 lots and 13 hectares per owner.

In that same community, a random sampling of 20 landowners shows that each holding included from one to four lots, with an average of 2.2 lots and a total area of 2.6 hectares. Most of these lots have an area between 1 and 1.25 hectares.

### Farm Activities

Arable land has traditionally been dedicated to the cultivation of corn, a crop which in 1950 and 1960 covered almost all of the cultivated land. A direct investigation of 41 farmers of Paracho showed an average yield of 1,857 kilograms of corn per hectare; that amount is here taken as an index of the corn production of the municipality.

The Census of 1960 recorded for the municipality a cultivated surface of 4,100 hectares, or 77 percent of the total arable land. However, the plains (the principal agricultural area) are subject to biennial rotation (one year cultivated, one year resting); thus,

the cultivated surface should be approximately 50 percent of the arable land; this would be consistent with the survey estimate based on the average area declared for each property and the number of investigated farms: 2,948 hectares of corn representing 55.3 percent of total arable land.

Planting time for corn begins in March, two months before the rainy season starts, and after the danger of frost is over. From the largest grain of the foregoing harvest, the farmer chooses the seed from both yellow and white native varieties grown in that region.

Sowing and cleaning (beneficios) are done by hand with very primitive implements (machete, shovel, pickax) or with the help of oxen and indigenous plows. The furrows generally follow the contour lines.

Table 4. Time Table and Work Employed for One Hectare of Corn

Activity	Month	Man-Days Used
Soil preparation	August-January	10
Seeding	March	10
First tillage	May-June	5
Second tillage	June-August	5
Weeding and others	August-November	15
Harvest	November-December	6
<b>TOTAL</b>		<b>51</b>

Source: Adapted from Aguirre Beltrán, op. cit., p. 162.

During harvesting time practically the whole available labor force of the villages is set to work. Aguirre Beltrán points out that harvesting was in 1957 collectively organized among all the members of the community, who gathered the harvest on one milpa (corn field) after the other, according to a long established

order.<sup>10</sup> In the adjacent villages of the Meseta, harvesting also follows a well defined schedule so that no problems will arise among them, for as said before, the lots of land are not fenced in. Nowadays, the collective feature of the harvest seems to have been lost. Men--and sometimes women too--gather the ears in special baskets carried on their backs. Women and children go again over the rows of harvested corn fields in order to glean remaining ears. If the head of a family is working as a day laborer, part of his salary consists of the "gleaning right." The whole family and every available means of transportation such as donkeys, horses, and mules are busy carrying the corn to the homes. In the corn fields nothing remains but the stubble, which constitutes a very valuable cattle food, producing between 1,000 and 1,250 kilograms per hectare of forage if it is cut and stored. Corn ears are dried, stripped of their leaves, and threshed at home; once the kernels are beaten off, the cobs are used as fuel.

The authorities of each community, the heads of tenancies, establish by what date each part of the plain ought to be completely harvested. Once this is done, the comuneros may pasture their animals on the fields. Even though there is more leeway in the execution of the other work, it is very risky to neglect the general schedule too much if one wants to be ready for harvesting on time. Thus farmers who own their own draft animals are better off in terms of having all their work done on time than those who have to rent animals.

Apart from land devoted to corn, small areas of kidney beans are grown, mostly in the family's vegetable garden where people also cultivate potatoes and other vegetables, as well as fruit trees, generally for the needs of the family. Vegetable and fruit growing is done mainly by the women of the home, who are also in charge of the domestic fowl.

Some livestock is raised, but on a limited scale, with far less importance than other agricultural activities. The farmers in the survey have only 15 percent of the total value of their agricultural and forest production in livestock. There are no cultivated pastures; livestock is raised only on fallow cultivable land, on pastures in deforested zones, or in clearings in the woods.

The stubble of the corn fields is an important feed. Part of the grain itself is also used for animal feeding, especially for fowl and small farm animals. For their farm work people prefer to use oxen instead of horses or mules because they are easier to feed.

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<sup>10</sup> Aguirre Beltrán, *op. cit.*, pp. 158, 161-62.

A very important limitation on livestock raising is the scarcity of drinking water, the supply of which falls to critically low levels during the last months of the dry season, so that the comuneros are obliged to kill or to sell a considerable number of their animals. In order to solve this problem, the Balsas River Committee helped the villages to construct storage tanks for rain and spring water.

The existing animals are descendants of the livestock introduced by the Spaniards during colonial times. They are without special production breeding, but are well adapted to the poor feeding conditions. About half of the interviewed families own one or two cows which give no milk during half of the year, and the little they produce is consumed mainly by the family itself (68 percent).

Only 27 percent of the farmers included in the survey declared that they owned oxen for their work. These animals are rather expensive; a pair of draft animals are worth between two and three thousand pesos, whereas a donkey costs only about 350 pesos.

Even though it does not have the economic importance of corn, livestock production contributes considerably to the subsistence of the comunero families in several respects:

- a) Livestock products, such as milk, meat, eggs, and wool are important for the family's nourishment and clothing.
- b) The sale of a small part of these products complements cash income and permits buying other products.
- c) Livestock constitutes a potential source of investment, although the low economic situation of most of the families makes it very difficult for them to increase their livestock. For example, only 9.5 percent of the farmers interviewed stated that they owned sheep, and another 9.5 percent goats.

In summary, land tenure institutions and farming methods are strongly linked with the past, and with local group efforts to impede land encroachment by outsiders. Cropland legally belongs to the community, but in fact has been subdivided and allocated among community members, who consider the land to be their own, and who have the right, accepted by the group, to use, sell, mortgage, and rent this land. However, some restrictions are placed on land use and disposition by the group, based upon traditional and legal considerations, in order to impede soil depletion, fencing-in, and sale to outsiders.

These efforts have been partially successful, since mortgages have permitted only the transfer of land use rights to outsiders, who then receive half of the product value by delegating the cultivation of the land to the landowner. In this way, the owner does not lose all property rights or the opportunity to work his own farm.

Economic and social development is choked off by land disputes between communities, by fragmentation of farm holdings and by lack of better crops, animal breeds and technology adapted to the limited and poor local resources. However, current land tenure arrangements are generally well adapted to present farming methods and resource preservation.

## FOREST AND HANDICRAFT ACTIVITIES

### Land Tenure of Wooded Areas and Forest Activities

Towards the end of the last century, because of the construction of railways and roads, the practically untouched reserve of woods all over the Tarascan Plateau began to be exploited on a large scale. The timbering was done by several private companies under "woodland lease agreements" signed by the native communities in the presence of a representative of the state government.

Once the times of revolution were over, and because of the considerable diminution of the timber reserves of the Meseta, the government of the state of Michoacán issued a decree in 1931 canceling all existing tenancy agreements and establishing from that date on the exclusive right of cooperative comunero organizations to work the timberland. For various reasons, however, the decree never became effective, and no really cooperative exploitation of the woods was ever achieved.

Considering the difficulties encountered in trying to organize timber working cooperatives of comuneros, President Cárdenas issued in 1937 a decree prohibiting any timbering in that region for commercial purposes.

The old tenancy agreements had prejudiced the communities since the methods used were destroying the timber resources without any major benefit for the comuneros. But the principle of communal ownership of the woods had basically been maintained. In recent years, however, the woods have begun to be used for drawing resin, and this has fostered the establishment of private companies in the purchase and processing of that product. As we shall see farther on,

the comuneros participate individually in the production of resin through rights to determined parcels or lots of communal woods. The companies engaged in the resin business prefer to enter into individual agreements instead of negotiating with the community as a whole. They thus favor the splitting of communal woods into private property units, arguing that the Civil Code provides for the right to ownership if it can be proven that the land in question has been used for more than 10 years without interruption (by prescription). Many comuneros were thereby able to register in their own names parts of communal woods, in spite of an infringement of the Agrarian Code which in articles 138 and 139 provides for the inalienable character of communal land and the invalidity of any proceedings which deprive the village nuclei of their agrarian rights. Such a situation could only arise because of the lack of official records and land surveys of rural estates in that district.

One of the reasons why the resin producing companies are fostering these proceedings is to avoid paying for timber rights, the proceeds of which (135 pesos per ton of resin) go into a fund for the material and social improvement of the community, as established by the agrarian laws for cases of exploitation of communal forest land.

### Resin

The only commercial activity developed on a large scale in the woods is the resin business. The woodland is therefore divided in "quarters," the size of which varies according to the number and productivity of resin-producing trees. Each quarter is composed of a certain number of caras, which is the name given the cuts made in a tree in order to collect the resin. The number of caras possible on each tree depends directly on its diameter: there are trees on which resin can be collected simultaneously from three caras.

The distribution of the quarters of communal woods does not obey any formal criterion. Theoretically, the local authorities agree that the extension of a quarter ought to be directly related to the capacity of any person to work it individually and efficiently. However, traditional ownership conditions, individual ambitions, and personal relations existing between the comuneros and their authorities have very much to do with the actual distribution of the quarters within the communities of the municipality. In the communities investigated, the number of caras granted to the comuneros varies from 200 to 4,000. In some communities, a preferential right is given to persons who are in the resin business and who do not own any cultivable land; in others, the same people are engaged in both farm and resin work. In that case, quarters are frequently

worked by day laborers of the same community, or through sharecropping. Many comuneros, mainly the young people, have become sharecroppers or day laborers on the woodland owned by the community.

Those who have worked the resin quarters for 10 or 20 years or more consider that they are entitled to them and are by no means willing to do without the incomes derived from resin. A large part of the woods has thus become in fact individual property. In one of the communities investigated, 85 percent of the 1,851 hectares of woodland owned has become the property of only 100 comuneros, each holding between 5 and 300 hectares. At least half of these owners have their title deeds duly registered at the real estate record office of the state. The area which is identified as "communal woodland" (15 percent) is composed of those lots which are farthest away and difficult to reach.

The resin producing areas are worked directly by the owners, other comuneros, and, in some cases, day laborers on the payroll of the companies. Additionally, a recibidor in charge of receiving, weighing, and paying for the resin, a montero in charge of supervision of the technical aspects, and a lumbero in charge of fire prevention are hired.

The income of the resin worker depends upon the production he can obtain on his parcel of woodland. For example, a person who collects resin from 1,000 caras can produce approximately 230 kilograms of resin every three weeks. In 1965, private companies paid about 0.65 peso per kilogram, against 1.00 peso paid by the resin plant owned by the ejido Lázaro Cárdenas.

The creation of this ejidal resin plant in 1964 has not basically changed the aforementioned production structure, but it has improved the incomes of the resin workers and given a new impulse to the spirit of cooperation, on the one hand, and to the organization of competing vested interest groups within the community on the other. The double incentive--the opportunity to earn almost twice as much per production unit and the profit sharing at the end of each fiscal year--has prevented the ejidal plant from having to face supply trouble, in spite of the economic and political influence of the private companies.

But the comuneros complain generally about the difficulty of obtaining communal funds for local improvements, these funds being deposited by the resin plants with the Fondo Nacional de Fomento Ejidal (National Fund for Ejidal Development). In order to use these funds, the community must call a general citizens' meeting which has to authorize the investment. Minutes of the meeting must be drawn up and signed by the different local community heads, and must include details of the project and the budget.

The ejidal resin plant Lázaro Cárdenas started its operations in November 1964 as part of a general project of the Fondo Nacional de Fomento Ejidal for the organization of ejidal forest units in the state of Michoacán to ensure the commercialization of the woods by the members of the ejidos and communities who own them.

The Fund is in charge of the required technical studies and the construction of the plants. Once the plant is ready, the management is entrusted to the Banco Agrario de Michoacán.

The communities theoretically appoint a delegate associate who represents them before the ejido-owned resin plant. He is at the same time the "receiver" of the resin and the trustee of a fund constituted by the plant to pay for the product delivered by the resin workers. For performing these duties, the delegate associate receives five centavos per kilogram of delivered resin. However, in some instances complaints have been heard about such delegate associates being unfaithful to their duties and spending the money entrusted to them.

Presently, another ejidal resin plant is being constructed at Uruapan. This has prompted the peasants of the region to organize as a pressure group in order to speed up the completion of the plant. Some leaders believe that the best system of operation would be to organize field production through a cooperative of the communities, with more effective control over production through recording in their own books the incoming and outgoing quantities. As the new plant was to take the place of some private companies, the peasants' organization had to face the active opposition of these companies which are politically influential in many state and federal government circles. Notwithstanding their power, the second ejido-owned resin plant started its operations in 1967, proving that the peasants' organizations are powerful enough, even under difficult circumstances, to have their own way, especially in the case of a project which has already proved to be an economic and social success, and to benefit without any doubt a considerable group of peasants having small resources and low incomes.

The output of the ejidal resin plant General Lázaro Cárdenas had been projected at 3,800 tons per year, and after one and one-half years, it is already processing 2,500 tons, so that the plant can be expected to lower its costs a little as it approaches full capacity.

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The project was submitted to the Fondo Nacional de Fomento Ejidal by Mr. Toledo Elorga, engineer.

During the fiscal year ending on March 15, 1966, the average price paid per kilogram was 0.966 peso, but with the distributed profit of 0.117 peso, the actual price paid per kilogram amounted to 1.08 pesos. By the end of 1966, the peasants had already succeeded in getting 1.10 pesos per kilogram. The peasants prefer to obtain a higher immediate income upon delivering the resin, than to wait until the moment of profit sharing. Consequently, distributed profits will probably diminish as producer prices increase, unless the plant is able to lower its costs through increasing its volume of production. The price difference between the ejido-owned resin plant and the private companies (0.97 peso against 0.65 peso) corresponds to the profit per kilogram obtained by the monopolistic association of private resin plants.

It is noteworthy that the ejidal resin plant, whatever its degree of efficiency may be, has permitted the achievement of positive results which have reverberations on land ownership and on the welfare of the resin-producing peasants as well as the whole community:

a) The resin plant owned by the ejido does not try to avoid the payment of the fee for woodland use. Consequently, there is diminished pressure for creating privately-owned woodland, and a higher regard for land held in community. The combination of private resin plants and private ownership of woodland impairs social and economic unity, since it encourages those individuals claiming certain rights acquired through time and habit to withdraw private lots from the common fund of community land. This weakens the negotiating capacity of the community as a whole vis-à-vis the resin plants. In economic terms, this means that the private resin plant atomizes the market where it purchases its raw materials and therefore reduces the possibility of increased prices.

b) The ejidal resin plant maintains the woodland undivided and indirectly helps ensure that this fund of resources benefits the whole community, so that every member can receive firewood, coal, and small quantities of lumber for repairing their homes and for carpentry. At the same time, the woodland permits community members who do not own cultivable land, or who own only a small amount, to obtain employment on their own account or as day laborers, thus raising employment and providing opportunities to earn at least a subsistence income.

c) The ejidal resin plant also favors a more active participation of the peasants in economic matters, since it provides the opportunity for them to organize in order to contribute more actively to production, as well as giving them a say in profit distribution. The dilemma consists in deciding if profits ought to be distributed only among producers or among all members of the community.

So far, no unanimous opinion has been reached among communities, and it is possible that the latter solution will be adopted in the form of using these profits for investments in works which will improve the material welfare of the whole community.

Resin production amounted to 794,000 kilograms in 1965, worth approximately 814,000 pesos. After discounting the payment of the communal wood fee and some salary expenses for field management of the resin plants, one can estimate that about 613,000 pesos was paid to the resin producers, an average annual income of 2,462 pesos per family head. In terms of employment, this activity would provide about 251 days per year for each resin worker.<sup>12</sup>

Breaking down this average production, a resin worker who delivered his product to the plant operated by the ejido would have earned an average amount of 3,189 pesos, against only 2,073 pesos paid to a producer for the same quantity sold to the private resin plants.

Notwithstanding the evidently positive results of the establishment of an ejido-owned resin plant as far as peasants' income level is concerned, the operation of the plant is not without difficulties. Some communities refused to cooperate with the ejidal resin plant, alleging that it was far slower in paying for purchases than the privately owned plants, but other comuneros have maintained that the private resin plants have bribed the local communal authorities to prevent them from cooperating with the ejido. Also, the delegate associates are sometimes accused of ill handling of financial and management matters in performing their duties as representatives.

### Timbering and Deforestation

As said before, no timbering for commercial purposes is allowed. For domestic purposes, the members of the community have official authorization to practice some timbering on a small scale.

The problem of timbering has given rise to a nationwide controversy. Some technicians and lumber dealers say that Mexican wood resources are at present insufficiently exploited, considering existing possibilities for technical and rational utilization which would permit the preservation of the woods and appropriate handling of their yields. According to them, the reason for underexploitation is the forest legislation which permitted "bureaucratization, while

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<sup>12</sup>Considering 12.7 kilograms per working day, according to data furnished by the community of Angahuan.

absurd limits were set on the liberty and invention of owners."<sup>13</sup> Some believe that the present state of things only results in a slowdown of the rational exploitation of timber and in clandestine exploitation and corresponding destruction of the woods through fire and felling. As far as the State of Michoacán is concerned, one has to add the problem of resin collecting, which is not prohibited in spite of causing the destruction of one million trees in 40 years.

Existing estimates of the usable timber reserves in the state of Michoacán permit investigation of the relationship between land ownership and timbering activities.

As shown in Table 5, on land owned by communities and ejidos only a very small part of the available wood products is actually exploited, whereas private owners make use of up to 80 percent of these reserves. The annual value of production has been estimated at 170 million pesos, including resin and other products. Under better management, that value in the future might reach 300 million pesos or even 600 million pesos.

Table 5. Land Tenure of Timber Areas and Forest Exploitation in Michoacán State, 1965

Type of Tenure	Area (Hectares)	Volume of Available Timberland (Hectares)	Actual Exploitation (Cubic Meters)	Potential Exploitation (Cubic Meters)	Percentage of Actual Exploitation
Ejidal	250,000		66,000	500,000	13.2%
Communal	320,000		49,500	640,000	7.7
Private Property	400,000		634,500	800,000	79.3
National Parks	30,000			60,000	
<b>TOTAL</b>	<b>1,000,000</b>		<b>750,000</b>	<b>2,000,000</b>	<b>37.5</b>

Source: Adjusted figures from "Los Recursos Forestales del Estado de Michoacán," Bosques, Vol. III, No. 5 (July 1966).

<sup>13</sup>Statement of a group of lumber dealers of the National Chamber of Silviculture, published by the newspaper Excelsior on January 19, 1967, Mexico, D.F.

The community of Aranza provides an illustration of the present condition of communal woods. In 1947, 1,512 hectares of woodland were confirmed as property of that community. The forest authorities, represented by a forest agent in charge of the accessible area along the national road from Carapan to Uruapan, may only authorize the use of "waste" wood, felled by accidents of nature, and the "dead" wood of trees which have ceased to grow due to natural causes. In the space of nine years (1956-1964) the use of 6,748 cubic meters has been authorized, or an average of 750 cubic meters per year, about half of which were felled by storms and other natural events. The rest are trees felled for construction projects for the benefit of the communities, or for sale to neighboring villages. From time to time, the members of the community apply to the Forestal Committee of the state for a permit to collect wood. Each application is followed by an investigation by the forest agent, who determines the volume of wood and the reasons for granting or denying the permit.

Timber has been cut on the hillsides of Aranza without formal authorization, but the community accepts the practice because of the scarcity of cultivable land. From 1956 to 1964, approximately 40 hectares have been cleared in this manner by about 26 day laborers, merchants, craftsmen, and sharecroppers.

Ownership conditions are unquestionably illegal in these cases. The only provisions for admitting private property within communal lands are those of the Presidential Decree of 1947, which specifies that private ownership within the communal boundaries shall be left untouched, provided the title deeds have been recorded at a date prior to the issue of the decree. In spite of that provision, there are people who have registered such cleared woodland as private property with the Real Estate Record Office after the issue of the decree. Even though these cleared lots do not seem important (less than three percent of the woodland), the process might become accelerated in the future; even now it gives rise to controversies within the community. The rate of tree felling in the community of Aranza, practically non-existent before 1950, has become more important each year between 1950 and 1960.

It is very difficult to estimate the value of timbering, and consequently the income and employment rate derived from these activities, because of all the work being done without official control. However, the farmers interviewed stated that they complement their income mainly through collecting firewood, and that the value of this production represents on the average 7.5 percent of the total production value obtained by these peasants.

**Craftsmanship**

Craftsmanship is practiced in two different ways. Most of the peasant craftsmen do work at home for merchants who supply them with materials and pay a fixed rate per piece of finished work, but a small number of families work with their own capital and material.

The manufacture of guitars constitutes the most important craft activity; the manufacturing process includes the following stages:

- a) lamination of the wood with special machines, the owners of which are paid for the use of the machinery;
- b) drying the wood in the sun, a job mainly entrusted to children;
- c) cutting and assembling, which is done by craftsmen;
- d) finishing and varnishing, which is generally done by women, although in recent years a group of persons has begun to specialize in this to the exclusion of other activities.

Lack of family capital and difficulties in selling guitars individually and on a small scale have favored the intervention of merchants. The price they pay per guitar depends upon its quality, and varies between 20 pesos and 115 pesos each; manufacture requires between 8 and 24 hours. The merchant supplies pre-cut pieces and the craftsman assembles them, but does not do the sandpapering or varnishing.

Prices paid to craftsmen and sales value of guitars according to their quality are shown in the following table:

**Table 6.**

Quality <sup>a</sup>	Value paid to craftsman per unit in pesos	Value paid for sandpaper and varnish in pesos	Value of materials in pesos	Sales value of guitar (simple edge) in pesos
3	45.0	18.0	37.0	150.0
4	50.0	19.0	58.0	275.0
5	80.0	26.0	58.0	275.0
6	110.0	26.0	85.0	300.0

<sup>a</sup>Qualities 1 and 2 are generally manufactured by craftsmen who work independently. The numbers of the different qualities refer to the following:

- |                 |                          |
|-----------------|--------------------------|
| 1 - Avocado     | 4 - Walnut               |
| 2 - White cedar | 5 - <u>Palo escrito</u>  |
| 3 - Red cedar   | 6 - <u>Ojo de pájaro</u> |

Sales prices indicated are the minimum, for as quality improves (especially finish), prices may be higher. Even at that minimum level, the merchant has a comfortable margin which covers marketing expenses on the one hand and profit on the other.

Apart from standard-sized guitars, small toy guitars are manufactured (the so-called yucas) made of wood from the hills. This activity is engaged in mainly from September until the end of the year. Once Epiphany is over (January 6), production is suspended.

One hundred sixty craftsmen live in the community of Aranza; 115 manufacture guitars, 17 are lathers, and 28 do sandpapering and varnishing jobs. Only 23 percent of them have their own shop; the others are hired craftsmen. Daily income of a lather or a guitar maker amounts to 25 pesos when he is working; women who sandpaper or varnish are paid 10 pesos per day.

Generally, the family head does farm work and his children do craft work, though the farmer himself sometimes gives up farming and engages in craft activities.

The positive result of this kind of activity, apart from its bearing on the income level, consists in preventing the community from losing its youngest and most dynamic element through migration. In some instances, it has also permitted more than one family to become independent of the big merchants through manufacture of their own products.

The overwhelming majority of the hired craftsmen do not benefit presently from any social security law and are not protected by the provisions of the federal labor law.

At this point, it is useful to review briefly the nature of the main institutional changes which are affecting forest resource use in the area.

Commercial exploitation of timber through lease agreements between the local communities and outside private companies was discontinued after the Revolution. Communal ownership of woodland was explicitly established in the legal documents which restored land to these communities. Further resolutions prohibited new large-scale timber operations in order to impede woodland appropriation by outsiders and to protect land and forest resources. Small-scale timber activities by the members of the community were allowed.

However, two new developments are again undermining the communal status of the woodlands and the conservation of forest land. One, resin extraction, which is allowed in spite of the ban on timbering, has attracted the interest of several private companies and has fostered individual appropriation and ownership by some of the members of the community themselves. These companies have in this way avoided paying the tax on forest activities carried out within the boundaries of communal land. This has been made possible by the lack of well-defined land surveys. A second development has been demographic growth and the resultant limited employment opportunities for the additional population, which have driven some of the comuneros to cut and burn forest land in order to grow maize. Although this process has been kept under relative control in the past, it now seems to be increasing.

As part of a more general program for organizing units of exploitation on forested ejidal and communal land, two public resin plants have been set up recently in this area. This operation, the investment requirements of which were financed partially by the fund derived from the tax on communal forest activities, has been relatively successful because it has ensured a more active participation of the comuneros working resin in both the field operations and in the decisions concerning profit distribution. At the same time there has been a downward trend in the oligopsonistic consortium demand, raising prices by almost 50 percent. An indirect effect has been the stopping or reduction of illegal individual appropriation of communal woodland.

Another very important activity carried out in the region is the manufacture of guitars and other woodcraft. This activity is financed and run by a few local merchants who use the available underemployed manpower of peasants who have preserved pre-Hispanic handicraft skills. The peasants work in their own homes and are paid by the piece according to the type and quality of the work being done. The merchants in this way avoid the problems of labor unions and the expenses of social security.

In spite of the importance which these two activities now have, and the impact which they may have in the future, the center of the peasant's life is still his tiny piece of farmland. To unify in a more systematic way the three activities so far described, two economic units are used in the next two sections. In one, the reference unit is the farm, which will encompass crops, livestock, and forest activities. In the other, the unit will be the family, within which farm and nonfarm activities are combined.

## FARM ECONOMIC STRUCTURE AND RESOURCE USE

The amount and quality of land controlled is very important to the economic standing of members of the communities of the Meseta Tarasca. In this regard, arable land seems to be the most coveted good, since possessing it ensures a subsistence income.

The degree of inequality with respect to the distribution of cultivable land is not very great. The best estimate made concerning land distribution in the municipio indicates that only 10 farmers, of a total of 1,020, cultivated more than 20 hectares. In other words, one percent of the farmers controlled about 12 percent of the cultivated area. Another 37 farmers, cultivating between 5 and 20 hectares, controlled about 10 percent of the total. But the remainder, the majority of the farmers (95 percent), managed the largest portion of land (78 percent of the total) (Table 7).

Table 7. Cultivated Area by Farm Size, Paracho, Michoacán, 1966

Farm Size	Number of Farms	Cultivated Area (Hectares)	Percentage	
			Number of Farms	Cultivated Area
Farmers over 20 Has.	10	352	1.0%	11.9%
Farmers from 5 to 20 Has.	37	285	3.7	9.7
Farmers less than 5 Has.	963	2,311	95.3	78.4
<b>TOTAL</b>	<b>1,010</b>	<b>2,948</b>	<b>100.0</b>	<b>100.0</b>

It is possible to separate three simple types of farms, taking into account the amount of arable land managed during the year by each farmer and the type of land tenure arrangement used to control the managed land. These types of farms are used to describe and analyze the main features of farm production. It must be remembered that the whole farmland area is divided in sections (usually two, on the plains) and that each family has permanent plots (without fences) allocated in each section. In any given year, one section is cultivated while the other is fallow and open for common pasture use. Even though the members of the community consider themselves

the owners of these lands, each farmer in the survey reported only the amount of arable land cultivated during the survey year, not including under "owned" and "managed" the plots lying fallow. In other words, each farmer would have reported roughly double the amount of cropland had the system been one of unrestricted, fenced-in, private property ownership.

The groups chosen for study were the following ones:

a) Large Farmers. Farm operators, generally owners, or owners, and sharecroppers, who cultivate from 5 to 20 hectares. These farmers are considered to be among the most well-to-do landowners of the municipio. A sample taken among these large farmers of Paracho showed that they own an average of 5.3 hectares, and that they cultivate an additional 5.6 hectares under sharecropping arrangements (see Table 8). This means that the farmers interviewed double their tillage through cultivating other people's land. It seems, however, that the quality of the land they acquire from other landholders is not very good, for the average rent paid per hectare amounted to only 270 pesos, as compared with the 479 pesos per hectare paid as rent by the sharecroppers of less than five hectares. Besides the lower rent, another fact supports the assumption of lower land quality; the value of the agricultural production of these large farmers reaches only double the production value of the smaller owner-sharecropper, in spite of having landholdings three times larger. The technology used is very similar among the groups studied.

b) Small Owner-Sharecroppers. These farmers control less than five hectares of land, cultivated totally or partially under sharecropping arrangements. They represent approximately 36 percent of the total number of farm operators. This group is composed of peasants who work exclusively as sharecroppers and of landowners who increase their own landholdings through cultivating other people's lots on a fifty-fifty basis. As said earlier, the land cultivated under sharecropping arrangements sometimes belongs to the person who cultivates it, but he has pledged the lot to somebody else.

Whichever kind of sharecropping is involved (whether or not the cultivator owns the land), a long established custom between the parties to the agreement requires that the farmer who assigns his land (or the moneylender, as the case may be) furnishes half of the seeds and pays half of the hired labor expenses during the harvest, and receives in return one half of the yield at the end of the farming year. On the other hand, the peasant who cultivates the land commits himself to take care of the farm work as required during the year, and to contribute all other production elements.

These small owner-sharecroppers controlled, according to the results of the direct investigation, 3.3 hectares of arable land apiece, of which only 0.9 hectares were their own, the remaining 2.4 hectares being sharecropped. The rent for these lots was almost entirely paid with the product of the harvest, very little being paid in cash.

c) Small Full-Owners. These farmers own less than five hectares and take no land in sharecropping. They represent the largest farm group, numbering about 595 persons. The average farm size reported was only 2.4 hectares of land.

### Economic Structure of the Factors of Production

For the three tenure groups, 41 economic (farm) and 41 social (family) surveys were conducted through direct interviews with the farmers. Of the 41 matched interviews, 21 were with large farmers having from 5 to 20 hectares,<sup>14</sup> six were with owner-sharecroppers having less than five hectares, and 14 interviews were with small full-owners (no sharecropping and having less than five hectares). The total farm area, the cultivable area, and the cultivated area for the years 1955-66 is given below for the three groups (averages are in hectares):

Farm Group	Farm Area	Cultivable Area	Cultivated Area
Large Farmers	10.9	10.8	8.0
Small Owner-Sharecroppers	3.3	3.3	2.8
Small Full-Owners	2.4	2.4	2.1

As mentioned, the farmers seem to consider as farm area only the cultivable land available each year, so that no difference is found between farm area and cultivable area. The figure used to provide data per unit of land was the cultivable area, or the cropland available during the year.

<sup>14</sup>A proportionally larger number of farms of size 5-20 hectares was selected for the sample (21 farms out of 37), than in the less-than-five hectare group (20 farms out of 973), because of the larger variance encountered in the first group. It was also expected that modern technology was more likely to be found in the larger size group, but this expectation was not fulfilled.

With respect to land tenure and control of the managed land, the group which depends least upon its own land resources is that of small owner-sharecroppers, who are the proprietors of only 27.3 percent of their cultivated area, whereas the large farmers own 48.6 percent of the cultivated land (Table 8).

Table 8. Average Farm Size by Tenure Group, Paracho, Michoacán, 1966

Farm Group	Farm Area (Hectares)			Percentage Owned
	Total	Owned	Share	
Large Farmers	10.9	5.3	5.6	48.6%
Small Owner-Sharecroppers	3.3	0.9	2.4	27.3
Small Full-Owners	2.4	2.4	-	100.0
TOTAL	5.5	2.9	2.6	52.7

On examining the structure of ownership, one can see a very marked flexibility in the land market among peasants, above all among the small proprietors who supplement their own holdings with sharecropped land.

The labor force engaged in work on these farms is relatively small, the average labor input not exceeding 181 man-days per year for the small farms. Comparing these labor requirements with the total family labor force available, which exceeds 600 days per year, the small farms could be considered sub-family units, meaning that the land they control at the prevailing technological level is insufficient for putting to use the whole productive labor capacity of the family throughout the year. The large farms require 571 man-days per year for farm work, approaching the limit qualifying them as fully employed family farms (Table 9).

But in spite of the lack of opportunity for family self-employment, we find that paid labor is engaged on the lots in proportions which vary between 33.1 percent and 57.1 percent of the whole labor force employed. This may be explained by the seasonal changes in demand as, for example, during corn harvesting. On the other hand, there is no excessive labor requirement for harvesting

that crop. About 50 man-days are needed for harvesting the eight hectares of corn cultivated by the large farmers, which accounts for only 15 percent of the labor hired by that group of farmers. Another explanation, which seems more logical and which we shall return to later on, is based on the difference existing between the salaries of farm operators for artisan work and of farm day laborers, favoring the former.

Table 9. Farm Labor Use by Tenure Group, Paracho, Michoacán, 1966

Farm Group	Average Labor Use (Man-Days per Year)			Percentage Own Labor
	Total	Own	Wage Labor	
Large Farmers	571	245	326	42.9%
Small Owner-Sharecroppers	168	82	86	48.8
Small Full-Owners	181	121	60	66.9
<b>AVERAGE</b>	<b>307</b>	<b>150</b>	<b>157</b>	<b>48.9</b>

Capital and technology are used on a very small scale and in a very traditional way. Capital assets of the small peasants amount to approximately 2,200 pesos, mostly in livestock. The large farmers have capital assets of about 9,700 pesos--6,500 in livestock and 3,100 in farm implements. The three groups studied need to supplement their own limited draft animal resources by renting animals.

Table 10 gives data on payments for capital use (flow) per year. Services coming from the farmer's own capital stocks represent most of the total payments for capital use. In the most extreme case, that of the small owner-sharecroppers, the use of outside capital represents 37.7 percent of the total.

In this region a rather active exchange of farm productive inputs exists in spite of a traditional technology, with the small full-owners being the most self-supporting group with respect to the use of their own land and labor. However, there is not much difference among the groups in terms of capital use.

**Table 10: Value of Payment for Capital Use, Paracho, Michoacán, 1966**

Farm Groups	Value of Capital Services (pesos)			Percentage of Own Capital Services
	Total	Own <sup>a</sup>	Rented	
Large Farmers	1,255	961	294	76.6%
Small Owner-Sharecroppers	419	261	158	62.3
Small Full-Owners	292	198	95	67.8
<b>AVERAGE</b>	<b>655</b>	<b>473</b>	<b>182</b>	<b>72.2</b>

<sup>a</sup>Imputed at the rate of 0.08 of the owned value of capital, including own capital stock, cash expenses, but excluding loans.

**The Relationship Between Production and Resources Used: Efficiency**

In the farms studied, the value of agricultural output, represented mainly by corn, amounted to 77.5 percent of the total production value of the farm, the rest being contributed by livestock (15.0 percent) and forest products (7.5 percent).

There is no evidence of important differences among the groups studied as far as the preponderance of each type of production. We can say, however, that the small full-owners seem to give relatively more importance to forest products (Table 11).

Real expenses (in cash as well as in kind) incurred by the farmers are composed mainly of charges for the use of factors of production belonging to other people (land, labor, and capital), as already indicated by the analysis of the economic structure of these factors.<sup>15</sup> This fact has an important bearing on farm income (the value of production kept by the farmer and his family after deducting all expenses other than his own land, labor, and capital). Although the small owner-sharecropper obtained a total farm production value of 4,623 pesos per year, against 3,462 pesos for the small full-owner, the farm income of the small owner-sharecropper after deducting total expenses was only 2,395 pesos against 2,625 pesos for the small full-owner (Table 12).

<sup>15</sup> Payment for contracted factors of production (land, labor, and capital) represents between 70 and 79 percent of the total value of real expenses.

**Table 11. Value of Farm Production by Tenure Groups, Paracho, Michoacán, 1966**

Farm Groups	Total Production (Average Value per Farm, in Pesos)	Percent Distribution by Origin of Production		
		Crops	Livestock	Forest
Large Farmers	9,411	78.0%	16.1%	5.9%
Small Owner-Sharecroppers	4,623	79.5	12.9	7.6
Small Full-Owners	3,462	73.6	14.8	14.8
<b>AVERAGE</b>	<b>5,832</b>	<b>77.5</b>	<b>15.0</b>	<b>7.5</b>

**Table 12. Value of Farm Production, Expenses, and Income, Paracho, Michoacán, 1966**

Farm Groups	Distribution of Value of Production			Income as Percentage of the Total
	Total (pesos)	Expenses <sup>a</sup> (pesos)	Income (pesos)	
Large Farmers	9,411	4,035	5,376	57.1%
Small Owner-Sharecroppers	4,623	2,228	2,395	51.8
Small Full-Owners	3,462	837	2,625	75.8
<b>AVERAGE</b>	<b>5,832</b>	<b>2,367</b>	<b>3,465</b>	<b>59.4</b>

<sup>a</sup> Expenses include charges for contracted land, labor, and capital, as well as seeds, feed for animals, and other purchased inputs.

Expressed in relative terms, the difference in available income may be restated if we say that of each 100 pesos of production, the small owner-sharecropper retains as income 51.80 pesos, whereas the full-owner retains 75.80 pesos. The explanation for the difference comes mainly from the fact that the small owner-sharecropper has to pay almost 25 pesos for land rent out of each 100 pesos obtained from gross receipts, while the small full-owner pays nothing for land rent. Relative payments for labor, capital, and other expenses balance out, so that ultimately the sharecropper pays 24 percent more than the owner.

The larger farmers receive net farm incomes more than twice that of the small owners, with 5,376 pesos out of a total production of 9,411 pesos. But they too have to pay a relatively high amount (42.9 percent) for the use of contracted factors of production.

Therefore the farm income of the operator and his family is dependent on two main factors: economic size, as measured in terms of value of production, and form of ownership.

The over-all degree of efficiency as measured by the input-output ratio is quite similar among small farmers. As a matter of fact, small owner-sharecroppers and full-owners use inputs amounting to averages of 84 and 86 pesos, respectively, for each 100 pesos they obtain from production<sup>16</sup>. The large farmers use on the average a higher amount of inputs (113 pesos) to produce the same 100 pesos of output. This does not mean that they are actually losing money but that they probably require more inputs of their own to make possible the larger scale of farming. At least that is true with respect to absolute family labor on the family's own farm, and to total labor input per hectare which is 75 man-days for the large farms, compared with no more than 52 man-days for the small farms.

Table 13. Input-Output Ratios for Farm Resource Use, Paracho, Michoacán, 1966

Farm Groups	Value in Pesos		Input-Output Ratio
	Production	Inputs	
Large Farmers	9,411	10,650	113.2
Small Owner-Sharecroppers	4,623	3,886	84.1
Small Full-Owners	3,462	2,963	85.6
TOTAL	5,832	5,833	100.0

<sup>16</sup>Total inputs include actual expenses (both in cash and in kind) as well as imputed costs for the use of own resources, capital, land, and labor belonging to the farm operator and other family members.

Regression analysis indicates a larger land productivity for the small farms (1,230 pesos per hectare) than the large farms (840 pesos per hectare), which, together with the greater need for labor by the large farms, reinforces the conclusion that the small farmer is more efficient than the large farmer. The linear regression made for the value of production (pesos), and the arable land (hectares), value of capital stocks (pesos), labor force (man-days), and value of improved inputs (pesos),<sup>17</sup> showed only land and capital as statistically significant variables for small farmers, and land alone for large farmers. The productivity factor for labor does not differ significantly from zero in either case, which would suggest that no additional labor is required under present circumstances for farm production. A negative outcome for improved inputs is only a reflection of the small number reporting (only two or three cases altogether), and consequently does not mean that the eventual use of improved inputs, adjusted to local conditions, would not effect an increment in production.

#### Family Labor Allocation and Farm Wages

The availability of family labor is far higher than the labor force actually employed on the land, so that the farm operator must make a decision as to the time he wants to dedicate to agriculture and the attention he wants to give to matters other than farming, as well as to the hired labor he wants to employ in farm work.

The survey shows that the daily income of the owner derived from sources other than farming is higher than the salary paid to day laborers on the land (see Table 14). That difference may explain why the landowners choose to hire labor. In fact, the decision to substitute hired labor for the family farm labor force is economically justifiable, provided there exist sufficient sources of employment in artisan work. It is difficult to state whether productivity of hired labor is as high as that of the farmer's own family or not, because usually the hired labor replaces the farmer's sons who may or may not be good farmers, and the farmer himself works side by side with the hired hands and supervises them.

Farmers do not in fact work off-farm in artisan activities more than half of the time available for nonfarm work. The remaining time they are idle. If the idle time of the farm operator is considered, the daily income earned per available working day is therefore considerably lower than the actual income earned per day worked (see Table 15). On the whole for the three groups studied, the income

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<sup>17</sup> Improved inputs considered were hybrid seeds, fertilizers, new irrigation facilities, improved pastures, etc.

from sources other than the land amounts to only 7.0 pesos per available day, whereas the wages of the employed farm-day laborers amount to 6.3 pesos. The net balance in favor of work done in artisan activities is therefore only 11.1 percent. This way of looking at the reward for nonfarm work implies a simple rationalization of the observed behavior in terms of a "backward-bending" supply curve of labor. In other words, the farm operator would stop work beyond a certain amount outside of his farm, having realized a certain income per available off-farm day (and consequently a determined yearly "target income") almost equal to the wage of a farm day laborer. However, the argument as stated does not take into account the farm operator's behavior in hiring farm day laborers, nor the seasonal variations in both supply and demand for labor.

Table 14. Farm Wages Paid and Off-Farm Income per Day Received by Farmers, Paracho, Michoacán, 1966

Farm Groups	Farm Wage Paid (Pesos per Day)	Nonfarm Income Received <sup>a</sup>	Ratio of Income Received to Wages Paid
Large Farmers	6.4	15.7	2.4
Small Owner-Sharecroppers	5.6	11.6	2.1
Small Full-Owners	7.0	14.2	2.0
AVERAGE	6.3	13.8	2.2

<sup>a</sup>Especially from artisan work.

Table 15. Off-Farm Income and Off-Farm Time Available for Farm Operator, Paracho, Michoacán, 1966

Farm Groups	Off-Farm Income per Operator (Pesos)	Available Off-Farm Time per Operator (Man-Days)			Off-Farm Income per Available Day (Pesos)
		Total <sup>a</sup>	Worked	Not Worked	
Large Farmers	1,363	172	87	85	7.9
Small Owner-Sharecroppers	1,575	251	136	115	6.3
Small Full-Owners	1,614	232	114	118	7.0
AVERAGE	1,517	218	112	106	7.0

<sup>a</sup> Computed as a residual from the assumed available time of 310 days a year and the time worked on own farm.

The farm operators with the greatest amount of idle time are the small full-owners who, as we have said before, are also those who hire less wage-earning labor. Actually, the small owner-sharecroppers and the small full-owners pay for 86 and 60 labor days per year, respectively. The supply and demand of labor undergo cyclical changes; during harvest time, for example, the farmer needs more workers than the family provides. During part of the year there is work to do on the farm, and outside the farm there is demand for artisan labor. Part of the year there is no work at all, either on his own land or elsewhere.

The low level of farm technology and the high population density prevailing in the Meseta tend to support the hypothesis of an unlimited supply of labor among small farmers whose families possess no nonfarm skills.

The average farm income for a family's work-day on its own farm, discounting the wages paid to hired labor and other farm expenses, is higher (23.10 pesos) than the average artisan income per day (12.50 pesos), which in turn is higher than the average farm wage (6.30 pesos).<sup>18</sup>

<sup>18</sup> Farm family income (3,465 pesos) divided by total family labor on its own farm (150 man-days a year).

On the other hand, it is difficult to believe that there is a limited or "target" income among these peasants, because of the flexibility that prevails in the use of the farm factors of production, the relatively high percentage of sales in spite of the low level of output, and the trips as braceros to the United States. All of these point to consistent efforts to increase the family income, and to a desire to acquire goods produced elsewhere.

The present use of farm and family resources, especially family labor, does not seem illogical, but rather the contrary. In fact, even the small farmers hire farm laborers, in spite of their having the most idle time. On the other hand, the small farmers make a relatively efficient use of their limited available land and capital resources and reach a higher degree of farming efficiency than the large farmers. Also the flexibility of farm factor use shown by these peasants does not point to a static and fixed farm structure, but to reasonable arrangements for making the best possible use of local farm resources.

This background information establishes the fact that the limiting factors on the increase of farm production are land and capital, in accordance with the technology and the working habits prevailing in that region, and that labor can be engaged with relative ease, without its availability constituting a problem which might hinder the increase of production.

On the contrary, considering the existing opportunities on and off the land, the problem is that there is not sufficient work available for the full employment of the labor force; this situation has a very important effect on the family income.

## INCOME AND EMPLOYMENT AMONG PEASANT FAMILIES

### Components of the Family Income

The farm operators of Paracho, including the members of their families, do not limit their activities to farming and timbering; there exist other activities, mainly artisan work and commerce, in which they can participate. The survey shows that the available income derived from the farm amounts to only 40.4 to 56.8 percent of total family income (Table 16).

In other terms, roughly half of the family income is derived from the land, whereas the remaining half comes from nonfarm activities.

Table 16. Amount and Composition of the Annual Income of Each Family, Paracho, Michoacán, 1966

Farm Groups	Mean Family Income (Pesos)			Composition of Off-Farm Income (Pesos)		
	Total	Farm	Off-Farm	Rent	Work	Other
Large Farmers	9,455	5,376	4,079	15	3,789	274
Small Owner-Sharecroppers	4,650	2,395	2,255	0	2,255	0
Small Full-Owners	6,503	2,602	3,901	46	3,855	0
AVERAGE	6,869	3,458	3,411	20	3,300	91

On breaking down the different components of family income into ownership of the factors of production (land and capital) and reward from family labor one can see that family labor is the most important source of income. Of total income 64.1 percent is due to the activities of the producer and the members of his family. The rest is obtained from the ownership of land and capital (Table 17).

The main differences in family income between the groups studied are to be found between small owner-sharecroppers and large farmers. The latter increase their income substantially through owning land and capital and obtain at the same time the highest labor income. The small owner-sharecroppers are, on the other hand, obtaining the lowest labor income because of the lower contribution of members other than the farm operator. Only 16.6 percent of the families interviewed declared that they received incomes from the work of family members outside the farm.

The average family size of the owner-sharecropper appears to be the smallest of the three groups (5.3 members) which may be due to the fact that these farmers also have the lowest average age of the three groups. Nevertheless, the owner-sharecropper family has an average of 2.1 working members, a figure identical to the average for all three groups.

Consequently, the fact that income from family members (other than the farmer himself) is much lower for the owner-sharecropper group than the others cannot be explained by a shortage of economically active family members, but might be explained by the relatively lower average age of these family members.

Table 17. Labor Income and Income from Ownership Among Farm Families, Paracho, Michoacán, 1966

Farm Groups	Total Family Income	Labor Income (Pesos)		Income From Ownership of Land and Capital (Pesos) <sup>a</sup>	Income From Other Sources (Pesos)
		Total	Farm Operator		
Large Farmers	9,455	5,625	2,380	3,145	274
Small Owner-Sharecroppers	4,650	3,366	2,356	1,010	0
Small Full-Owners	6,503	4,930	2,258	2,672	0
AVERAGE	6,869	4,640	2,325	2,315	91

<sup>a</sup>Income from ownership of land and capital was obtained by imputing to land owned the rental value ordinarily paid by small farmers, to capital as indicated in Table 10, and to labor the rate of 7.30 pesos. The values obtained for each group were used to calculate the proportions for each factor; these proportions were multiplied by the farm income of each group.

The level of average per capita income in the region is very low. Among the peasants investigated, the annual amount earned per capita was only 1,068 pesos, approximately 20 percent of the national per capita income of Mexico in 1965.<sup>19</sup>

However, the average per capita family income derived from agriculture and forestry amounted to only 533 pesos. This means that if there had been no important nonfarm earning possibilities the family per capita income would have dropped almost by half, to only 10 percent of the national per capita average.

Each family worked an average of 414 man-days per year, which is 63.6 percent of the total time available to the family. In other words, 36.4 percent of the available family labor was unemployed.

<sup>19</sup>Anuario Estadístico de los Estados Unidos de México, 1964-1965, Secretaría de Industria y Comercio, Dirección General de Estadística (Mexico, D.F., 1967) gives a national per capita income for 1965 of 5,144 pesos at current prices.

However, that unemployment was considerably more serious among the small owner-sharecroppers where it reached an estimated 55.5 percent, on the other hand, the large farmers seem to have been better off, since their unemployment rate amounted to only 21.4 percent.

In general, the amount of work is divided in almost equal shares between the farm operator and other family members. The only exception is the small owner-sharecropper where the other family members work half the amount of time and earn an income half the size of the farm operator. However, there seems to be a stronger preference among farm operators to work on their own farm than among the other family members.

#### Evaluation of Employment and Family Income Conditions

On the average, and taking into account the three ownership groups of Paracho, the employment and income conditions per family can be summed up as follows:

a) <u>Income derived from work (in pesos)</u>	<u>Per day</u>	<u>Total</u>
237 days unemployment		none
150 days farming activities	7.30	1,100.00
<u>264 days other activities</u>	<u>12.50</u>	<u>3,300.00</u>
651 days per year	6.80	4,400.00
b) <u>Income derived from land ownership, capital, and other sources (in pesos)</u>		
Total income per year		<u>2,469.00</u>
<b>TOTAL FAMILY INCOME:</b>		<b>6,869.00</b>

The total average income per working day in a year reaches about 10.60 pesos, 5.30 pesos of which is derived from the farm and 5.30 pesos from off-farm sources (Table 16).

The amounts paid for each type of work in the region seem to obey a certain methodical arrangement. The first step of the ladder corresponds to the day laborers, earning only 6.30 pesos for each working day, including remunerations in cash and in kind. For the second step, the work done by the farm operator and other family members on their land, the remuneration is estimated at 7.30 pesos per working day, but this figure does not take into account those

farm incomes derived from the ownership of land and capital (taking into account income from ownership, the average income per day worked on the farm increases to 23.10 pesos). The third and last step of the ladder corresponds to activities other than farming, with an average of 12.50 pesos for each day worked by farm operator and other family members. The remuneration for work is consistently below the level of the minimum salary as established for 1964-65, the gap being especially great where wages for farm day laborers are concerned, since the wages which were actually paid amounted to only 55.8 percent of the minimum salary. For activities other than farming, the situation is considerably better, with earnings more or less comparable to those prescribed by the legal minimum salary.

The difference between the rural minimum salary and the actual wages is put into perspective when it is remembered that even unemployed peasants are hiring wage-earning farm labor. In economic terms, the established minimum salary overestimates the demand for labor and underestimates the available labor force. It is therefore very difficult to comply with the minimum salary requisites even if and where considerations of social welfare make it advisable.

The average family income of the interviewed farmers is equivalent to 93 percent of that which would be earned under legal minimum wages for farm workers, but equivalent to only 61 percent of that which would be earned under legal minimum wages for other activities.

However, the income of the large farmers, who have the highest level of the three investigated groups, exceeds the rural legal minimum, but is only 80 percent of the minimum established for nonfarm activities. On the other hand, those who receive the lowest actual income are the small owner-sharecroppers, since they are earning only 63 percent of the rural legal minimum and 41 percent of the minimum for other activities.

In summary, the position of the family as far as employment and income from any source whatsoever are concerned appears to be very unsatisfactory, for the families work, on the average, only 64 percent of the total time available to their active members, which means 237 days of unemployment out of a total of 651 available days during the year. Even after discounting Sundays and holidays (which could account for approximately 130 days for a family with 2.1 active members), active persons are still idle about one day out of every three working days.

The situation is even worse among the small owner-sharecroppers who are unemployed, according to a similar evaluation, four out of every seven days. Under such circumstances, holidays and vacations seem to lose much of their meaning, for when leisure is unwanted, it ceases to be a benefit and becomes instead a social and economic burden.

The income situation seems to be equally unsatisfactory if a comparison is based on the level of the legal minimum salary established for 1964-65 for farming, on the one hand, and activities of a nonfarm type on the other. Apparently, however, the earning situation is less unfavorable than the employment situation, for the average level of actual income more or less approaches the legal minimum for agriculture, even though it is far from reaching the level of minimum income for other activities.

### Share of Farming and Forest Activities in the Family Income

The main role of farming and forest activities consists in providing the peasant family with the indispensable means of subsistence above all food, fuel, and some raw materials such as wool and wood used for clothing and building. Among the small owners, the goods consumed by their own families amounted to 1,917 pesos per family, corresponding to 51 percent of the total production value of the farm. The list of these goods is headed by corn, amounting to 1,313 pesos; the rest is mainly composed of livestock and timber products.

The large farmers consumed more products of their own farm than the small owners. The average consumption reached 2,779 pesos; however, this was only 29.5 percent of the total production value.

The consumption of corn varies less between large and small farms; on the large farms an increase of corn production of 100 pesos increases corn consumption only 26 pesos.

If there were means available to achieve a higher degree of capitalization and technology for increasing the production of corn, considerable surplus could be realized which might be commercialized or used for increasing livestock; either way, it would offer the peasants the possibility to improve their food supply and at the same time provide a rather important marketable surplus for this low income group.

Whereas for the small farmers the value of the sales of their farm production was only 1,067 pesos, which is 28.4 percent of total production, it reached 5,708 pesos, or 60.7 percent, for the largest farmers. A comparison of both groups shows the chief factor in this rise to be corn, the large farmers being able to sell 3,349 pesos worth more than the small farmers (Table 18).

**Table 18: Average Farm Production and Sales Values, Paracho, Michoacán, 1966**

Type of Production	Farms Less than 5 Has.			Farms Over 5 Has.		
	Production Value (Pesos)		Rate of Sales %	Production Value (Pesos)		Rate of Sales %
	Total	Sold	%	Total	Sold	%
Crops	2,886	986	34.2	7,340	4,335	59.1
Livestock Products	528	132	25.0	1,440	814	56.5
Animals on the Hoof	111	-179	73.0 <sup>a</sup>	246	337.0 <sup>b</sup>	
<b>TOTAL</b>	<b>3,760</b>	<b>1,067</b>	<b>28.4</b>	<b>9,410</b>	<b>5,708</b>	<b>60.7</b>

<sup>a</sup>The value of animals sold on the hoof is a net value (sales minus purchases). A negative value represents larger purchases than sales.

<sup>b</sup>Net sales value larger than the animal production value represents dissaving, which results in a diminished livestock inventory.

In summary, farming and forest activities are very important for the peasants of the region. For the small owners, they represent an important source of consumption, with 51 percent of the production being consumed by the family, as well as constituting a subsidiary source of cash income (28.4 percent); for the larger farmers, proportions are reversed: 60.7 percent of total production is sold and only 29.5 percent consumed.<sup>20</sup> If we consider only net farm income (i.e., excluding production used for paying farm expenses), consumption by the family of their own production becomes even more important. Among the small sharecropping owners, consumption then reaches 89.6 percent, against 51.4 percent for the large farmers.

<sup>20</sup>Sales and consumption explain only 79.4 percent and 90.2 percent, respectively, of the total production of small and large farmers; the remaining percentage corresponds to payment in kind to other people, use of the farmer's own inputs, and changes of the livestock inventory value.

But agricultural and forest activities of peasants are not only important as determinants of the local family income of land-holders. The economy of the farm also seems to determine the actual wages of the farm day laborers in the area. The wage level closely corresponds to the average value of farm production per working day available to the family. Average wages paid to the day laborers do not differ substantially from the total average product available per day. The figures are 6.30 pesos and 6.10 pesos, respectively. The latter figure is obtained by dividing the estimated product of a small farm (about 4,000 pesos) by the number of man-days available to the family labor force (approximately 651 man-days). To a certain extent, this represents the average salary or income available for each active family member per available day of the year (310 days) or, in other words, the level of subsistence which would be imposed upon the peasant families if they had no income derived from activities other than farming.

It would seem very difficult to increase the level of actual wages to hired workers through anything but legal measures. At any rate, an increase would be obtainable only if greater employment possibilities outside farming activities could be made available. As things presently stand, with the current level of unemployment among the labor force used on the farm, the possibility of establishing an equilibrium between actual wages and the legal minimum appears to be extremely remote.

### THE ECONOMIC DEVELOPMENT OF PARACHO

Between 1930 and 1960, the growth rate of the population of Paracho was more or less comparable to the demographic growth of the nation, so one can assume there was no major emigration to other parts of the country.

As population increased, people tended to concentrate in urban areas (in our case the town of Paracho), where they found better employment opportunities in crafts and in commerce and services.

However, in spite of the 53.7 percent growth rate of urban population between 1950 and 1960, the active population dedicated to branches of employment other than farming increased by only 23.5 percent; this implies that urban employment possibilities were growing at a slower rate than the urban population. During that same period, the active farm population increased 19.8 percent, from 2,034 to 2,437 persons. On the other hand, according to an

estimate, there were in 1966 approximately 1,010 estates constituting productive farming units, and about 249 persons working in the resin business, making a total of 1,259 families. This is sufficient to account for the majority of the economically active persons recorded by the Census (Table 19).

Table 19. Indexes of Economic and Social Change in Paracho, Michoacán, 1950-1960

Item	1950	1960	Index of Change
Total population	0,924	13,464	123.2
Rural population	6,853	7,205	105.1
Urban population	4,071	6,259	153.7
Total economically active people	3,336	4,045	121.2
Total number of farm workers	2,034	2,437	119.8
Total number of non-farm workers	1,302	1,508	123.5
Nonfarm population devoted to trade and transport	1,004	1,316	131.1
Arable land (hectares)	4,828	5,326	110.3
Resin production (kilograms)	40,300	11,200	526.5
Literate persons	4,423	5,220	170.0
Illiterate persons	4,023	5,535	137.6
Total number of shoeless people	2,708	2,348	86.7
Total number of day laborers	1,242	2,259	182.0

Source: Census of Population and Census of Agriculture

Part of the increase noted among the active farm population can probably be attributed to the increase in resin drawing, where the production increased more than five times, from 40.3 tons in 1950 to 211.2 tons in 1960. In part this increased work force has been absorbed by the extension of farm activities through deforesting, which helps to explain both the 10 percent extension of cultivable land area and the observed tendency of diminishing yields of corn per unit of land cultivated.

The combined consequences of increased resin production and greater farm activity between 1950 and 1960, estimated respectively at 426.5 percent and 5 percent, resulted in a 35 percent increase in total value of production. Since the number of farm workers increased by only 19.8 percent, the value of production increased more rapidly than the farm work force. Thus there was not only an increase in farming and timbering activities, but also an improvement in average income.

In light of the available evidence, it can be concluded that there has been a real increase in the value of the municipality's gross product between 1950 and 1960, derived from an intensification of resin drawing and a higher rate of craft and commercial activities, as well as a lesser degree of increase in farm activities.

In other words, the municipality of Paracho had an economic growth which permitted it to absorb a considerable fraction of the growth of active population, even though one can see a certain impairment of the quality of the occupations, since low wage earning activities are becoming progressively more important. Furthermore, this economic growth takes place within the framework of a relatively low income level compared with the average level of the nation. Also, the unemployment rate is high among the active population.

Because of the interesting bearing this type of economic development can have on the great number of Mexicans belonging to the agrarian sector, who are reduced to making the best of very poor natural resources in regions with a relatively dense population, it is worthwhile to sum up some of its most characteristic features:

1. The total demographic growth is more rapid than the increase of farm production (excluding resin), and especially more than the increase of corn. This implies that proportionally, the consumption of production within the municipality itself increases whereas the "exportable" share of that production (to be sold outside the municipality) diminishes. However, a high volume of raw materials (above all resin) and products of craftsmanship permits

the municipality to integrate itself into the national economy with a greater variety of products which represent a higher value than corn.<sup>21</sup>

2. However, as long as the predominant crop, corn, continues to be grown with traditional techniques, i.e., without fertilizers or improved varieties, and as long as no new crops are introduced and livestock is neither increased nor improved, it will be difficult for farming to reach a substantially higher production level. The most important natural resource of traditional farming, the land itself, remains limited and cannot be increased without the risk of destroying forest areas, which would lead to soil loss through erosion.

3. The increase of individual handicraft activity required a relatively small capital input, as expensive facilities and specialized machinery were not needed. The private interests of the big merchants, who found available a sufficient amount of cheap and at the same time skillful labor, did coincide with the public and social interest of the community with its requirement for increased employment. The resin business, in turn, did not call for important capital investments. The ejido-owned resin plant Lázaro Cárdenas had been budgeted with a cost of 908,764 pesos, and its operation benefited at least 500 peasant producers, so that the investment per active peasant amounts to approximately 1,817 pesos.

#### Income Distribution and Autonomous Family Investment

The importance of farm income for family consumption and the existing relationship between ownership conditions, farm size, and the amount of available income have already been discussed. In addition, families receive some income from activities other than farming. Taking into account both sources of income, we can make a rough estimate of the income levels of the peasant families interviewed. The majority, then (76.4 percent), receive average incomes between 4,650 and 6,503 pesos per year. On the other hand, only 0.8 percent reach family incomes clearly exceeding an annual amount of 10,000 pesos.

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<sup>21</sup>The national per capita corn consumption between 1961 and 1965 was 174 kilograms (117 pesos at Paracho prices), whereas farm production at Paracho was estimated at 168 pesos per capita (1965), so that the "exportable" value can be estimated at 30.4 percent.

Even though the income distribution does not show too many differences, the general income level is low with regard to the possibilities of autonomous investment. Based on the information obtained from a sub-sampling of peasant families of Michoacán, an estimate was made of the relationship between the income level and the consumption level.<sup>22</sup> The simple correlation established for families with incomes of less than 40,000 pesos per year indicated a marginal propensity to consume of 76 percent, which means that one might expect the family to spend, out of every 100 pesos of additional income, 76 pesos, and to invest or to save the remaining 24 pesos.

However, the minimum income level permitting the families of the peasants to save or to invest was established at 10,728 pesos; when income falls below that limit, the tendency is to spend more than is earned, with the consequent probable indebtedness of the family. If we apply these findings from the whole area of Michoacán to the particular income distribution obtained for Paracho, we find that practically all the families (99.2 percent) receive an annual income of less than 10,728 pesos, so one may assume that, considering the low prevailing income, many families of Paracho have a tendency to be chronically indebted. The empirical evidence supports this assumption. Almost one-half of the interviewed families admitted contracting some debts. Forty-seven percent of these families stated that their debts amounted to less than 500 pesos, 32 percent declared debts between 500 and 5,000 pesos, and the remainder declared more than 5,000 pesos. There was no difference between owners and sharecroppers in this respect. It is possible then to expect that because of indebtedness, these peasants will in time go out of farming as owners. This did happen once, before the revolution started, in one Paracho community whose history was studied. However, the present circumstances may preclude this happening again, for at least two reasons. First, the legal set-up for land pawning does not allow foreclosure. Second, even if the debt pulls down farm income, through the sharecropping effect, the local money lender may invest these farm proceeds in handicraft (provided that there is an increasing demand for handicraft) which would have the opposite effect of raising the income level for those peasants also engaged in handicraft activities.

The low level of peasant incomes is an important fact for planning or for any measure of promotion and economic assistance, especially assistance through loans for agriculture. In spite of

<sup>22</sup>The sub-sampling of family expenses included 20 percent of the families investigated; at Paracho, the pertinent information could only be obtained in eight cases.

the fact that simple calculation shows that the use of fertilizers on corn not only will cover the additional cost, but even show a considerable profit per hectare, it is very unlikely that the peasant would actually repay a loan granted to him. Instead, he will consume the added production. In such a situation, banks would not be interested, since their operations strictly obey commercial rules. The only help for these peasants would come from such banks as Crédito Ejidal, where the criteria are more flexible, or from institutions which are organized simply to grant social subsidies. Any intent to help the peasant and to recover the principal of the loan would have to consider the granting of substantial amounts of credit, so that at the same time the income level also would increase substantially.

Taking into account the farming and timber economy of the municipality as a whole, a relatively important percentage of the total income of the area may be directed towards investment in spite of the patently low income level of the peasants. Such investment is made possible by certain institutional features already discussed, such as the pledging of land and the forest fee derived from resin.

Those who receive the incomes paid by the peasants' land and capital are a handful of merchants who live in the town of Paracho and who occupy the highest level of the economic scale of the municipality. One can assume, without great risk of error, that the income of the richest merchants of Paracho is easily higher than the income level of the most well-to-do farmers; therefore the merchants earned at least 37,000 pesos per year. These merchants can in turn be expected to save and invest in craft activities or local trade, playing the usual role of a businessmen class within the framework of regional economic development. Therefore, a relatively important share of the farm product of the municipality may finally increase the profits of these merchants through reinvestment, at least to some extent. Paradoxically, a community with an extremely low income level can thus, if we take it as a whole, invest through two institutional mechanisms:

a) the amounts paid by the resin companies to the Fund for the Promotion of Ejidos, the investment being made in accordance with the resolutions taken by the community;

b) the pledging of land--due to a tendency of the peasants to perpetual indebtedness, a handful of members of the community, who dedicate themselves to commerce and business, see their income increased and are able to save and to invest. However, this process depends upon the personal decision of a small number of individuals who may, at any moment, change their pattern of consumption, saving, and investment, without the community being able to do much about it.

The total available for community investment through these two mechanisms amounts to 11.6 percent of the estimate value added by forest and farming activities.

### Prospects for the Development of Paracho

The conclusions derived are based on the existence of a social institution, the community, which survived for centuries through its adaptation to a surrounding world that did not usually contribute anything to strengthen the institution. A governmental agency which might, during a first phase, organize the rural communities, and during a second phase enlarge its action upon the ejidos and the private owners of small farms, would need to have characteristics which apparently do not exist at the present time in any single agency.

In order to give a practical idea of the type of programs needing more attention in the future, and the social and economic motives behind them, three problems can be mentioned:

#### 1. Corn production and the corresponding problems of the national market

According to studies of the Banco de México, future prospects of the national corn market point toward an annual surplus of perhaps more than 550,000 tons by 1970. The production of corn is closely associated with a vast number of minifundio growers, corn being their most important crop. For this reason the minifundio might suffer more than other groups, from any curtailment of credit or technical assistance programs geared to corn production. At Paracho, growing corn today means not getting any institutional loans.

On the other hand, in the case of Paracho--applicable also to other depressed zones with small farms and corn as the only crop--the surplus which might exist for urban consumers would depend upon the number of the local population to be fed and the technological level of the productive farm process.

Any loan and technical assistance granted to the production of corn can be prevented from resulting in a surplus for "export" through complementary and simultaneous measures to be taken as follows:

a) Loans and technical assistance ought to be directed towards improved inputs requiring labor for their application and contributing directly to the increase of outputs (insecticides, fertilizers, improved seeds).

b) No loan should be granted for machinery to be used instead of labor, since this would only increase the agricultural unemployment rate.

c) In order to prevent the stabilization of the population in farm activities from producing a diminution of actual salaries, the increase of farm production ought to be in proportion with or higher than the increase of active farming population.

d) If the problem of saturation of the national market should arise sooner or present itself with more intensity than foreseen, it would be possible to switch the "exportable" surplus to animal feed, so that the product would be transformed into animal protein, which has no market problems and may even be financially more rewarding for the local economy.

Investigations and tests carried out on the Meseta Tarasca with chemical fertilizers show that the best compounds permit at most a doubling of the yield of corn. All these experiments prove that the use of fertilizers is worthwhile. However, at least two considerations might account for the present tendency of farmers not to apply fertilizers, even if money were available. First, the farmer has to consider the vagaries of weather. For a farmer growing three hectares of maize and obtaining a family income of 5,850 pesos a year (from all sources), the additional income effect of the lower investment in fertilizer application might be nearly 315 pesos a year, provided that the weather is favorable. But failure in one year out of four might wipe out 44 percent of the net profit accumulated during three years (945 pesos), even if the lending party does not charge a higher rate of interest for payment delays. In the second place, land renting on a fifty-fifty sharecropping basis reduces net profits by half and reduces incentives for the peasant.

The technical personnel engaged in popularization campaigns and assistance state that, according to their experience, the peasant population is perfectly ready to accept technological change, and that the peasants show their interest through attending demonstrations, asking questions and even offering their lots for carrying out experiments. But at the community of Aranza, where people seemed to be as interested as anywhere, one finds neither new machinery nor new crops, perhaps indicating that lack of adequate and rounded knowledge of an inter-disciplinary nature, and lack of financial means prevent the peasants from investing in new technical developments. In the future, the best solution would be a combination of research, direct technical assistance, and loans to be granted for several simultaneous and complementary developments, according to a clearly defined timetable over four to five years.

### Problems connected with land ownership

Because of the private ownership system of cultivable land, corn is generally grown on a small scale based on family labor and traditional techniques, complemented by the raising of primitive livestock breeds. Both of these activities are well adapted to the prevailing local conditions, especially the lack of water. This type of farming corresponds to individual and group interests as long as each farmer continues to grow only one crop, to harvest according to a schedule established by mutual agreement among the comuneros (easily reached because of their cultural characteristics), and to observe the tacit agreement not to fence in his lot.

The private property system, as it is practiced in the communities of the Meseta Tarasca, has permitted a traditional kind of agriculture to survive through adaptation to the poor capital resources, and has permitted at the same time the directing of a certain surplus to the improvement of local economic development. Removing the limitations of property rights and transformation of the system in favor of unrestricted private property could be justified socially and economically only if the communities were sure of the support of active organizations which would promote introduction of new crops with increased availability of capital and required technical knowledge. New mechanisms must be provided to replace prevailing land conservation efforts. Developments might include the use of fertilizers, and cadastre and land inventories, including delimitation of cultivable land, woodland, and pastures.

Monopolization of the land by a few persons might be prevented through some type of social security program in combination with medium and long-term loans to ensure the subsistence of the population while waiting for the new investments to bring about tangible results.

The problems of the wage earning farm hands or those who are part of the family labor force can be solved only indirectly through creation of employment, since the remuneration level will necessarily be kept low as long as there is excess labor. The organization of peasant unions and the legal minimum salary will become efficient tools only after the development rate has been increased.

The doubts about communal boundaries sometimes give rise to local conflicts, obviously implying a loss of time, effort and resources for the whole community. This phenomenon is caused mainly by the lack of institutions capable of organizing efficient real estate record offices.

The system of communal ownership performs some functions which can be summed up as follows:

a) It permits the social group to protect itself against external economic forces (for example, the resin plants and the lumber dealers), which frequently reduce the basis of subsistence of the community, particularly the cultivable land and the woods.

b) It permits the group to control the use of the natural resources, in order to ensure the future of the community as a whole. For that purpose, the individual is permitted to use cultivable communal land, provided that he tills it himself. In addition, this provision is complemented by collective arrangements to facilitate full use of all available land for the growing of crops. However, certain restrictions are placed on individual rights in order to preserve the cultivable land resources. The right to transfer or sell the land is recognized, but sales are ordinarily permitted only among members of the community to keep these restrictions effective.

These controls are weakened when the demographic pressure becomes too strong, so non-agricultural land use is permitted without regard to the future. In that case, the community will seek to defend itself, by means of a certain number of social control mechanisms, against members who might become too prosperous and monopolize the land.

From all of this we can conclude that the system of communal ownership is fully justified in the case of areas with very poor agricultural potentialities. Reasonable requests can be made for a legal definition of a system of communal land ownership which would be more true to reality and for better regulations concerning the use of the forests.

### 3. Problems of communal forest operation

Mexican legislation generally regards forest resources as belonging to the nation, so that any forest exploitation must be subject to standards providing for the preservation and renewal of the trees. For that reason, any production derived from the woodland needs the approval and supervision of the state, without regard to ownership conditions prevailing at each site.

As mentioned before, in the case of the communities of the Meseta Tarasca, a presidential decree has prohibited any commercialization. The decree represents official acknowledgment of the difficulties which prevent the commercial organization of forest activities directly by the concerned persons, and of the doubts as to the possibility of negotiating equitable agreements among the parties if corporations of commoners and lumber dealers should be granted permits to exploit communal woodland.

"This political dilemma exists all over the country with regard to forest exploitation by ejidos and communities."

On this subject, a report prepared by the U.N. Food and Agricultural Organization (FAO) states that the forest production of the country reaches only 10 percent of its potential level, and that the management of woodlands is greatly impaired by the present ownership system.<sup>23</sup> The forests of Mexico cover an estimated area of 43.7 million hectares, located mainly on privately-owned land, but with one-third belonging to ejidos and communities, occupied by squatters, granted in partnership or rented, or in other smallholdings.

The FAO report specifies that rational management of forests is difficult because of their division in small lots, "whereas, considering the conditions prevailing in Mexico, large units are required." The conditions referred to pertain to the system of communal ownership. So far, "approximately 20 years have been necessary in order to put four million hectares, corresponding to a little more than ten percent of the forest surface of Mexico, under the management of methodically organized units." These units, covering between 50,000 and 1,000,000 hectares, provide management of the woods according to good silvicultural practice. The management is generally entrusted to a private industrial forest company, in the charge of a qualified technician who is paid by the company, but who is at the same time responsible to the government. If the owner of the woods sells the standing forest he can only sell to the private company. He can also refuse to sell it at all.<sup>24</sup>

Considering the fact that these first units have been organized where commercial conditions were particularly promising, the organization of additional units would be, in the near future, slow and more difficult. It is therefore recommended that in future forest policy a more active participation of the government be prescribed. Whenever it is advisable, the government ought to handle directly the management of forest land. The corresponding expenses would be covered by the income derived from the woods, and the owner of the land would be paid directly. In other instances, the aforementioned units, modified according to the needs of each case, might offer the best solution; in some cases, it might be best to organize associations among ejidos, communities, and the government.

<sup>23</sup>Inventario Forestal Nacional, México, 1961-1964 (General Report) (Mexico: FAO, 1965), pp. 7-11.

<sup>24</sup>ibid., pp. 34-38.

As far as the native communities of Paracho are concerned, the commoners complain mainly about the lack of organization for more rapid handling of the matters of the Fondo Nacional de Fomento Ejidal, the body which receives the payments of the forest fee.

The private resin companies practiced an openly discriminatory policy as long as they did not have to face governmental resin competition. The bearing of such a monopoly on the income level of the peasants has been demonstrated by the case of Paracho, where the resin delivered to the ejido-owned resin plant brings 58 percent more than the same product sold to a private resin plant. Therefore, as a short-term solution, the organization of wood handling units under government control is recommended; this policy is already under way. The possibility is being studied of establishing throughout the country three large silvicultural units, each requiring an investment of 200 million pesos. They would use Mexican machinery and be financed by private banking institutions.

If that project is not feasible, another possibility is a combination of regulating units associated with proprietors, commoners, and ejidos, along with effective supervision by the government; this would imply a greater flexibility of the Fund for the Promotion of Ejidos and a commitment by the government to pay the forest technicians, who ought to be remunerated directly according to their responsibilities. This solution would include three equally important aspects: an equitable profit for private industry, a rational use of the resources in the charge of the government, and a just, human and in no way "patronizing" treatment for the small owners and all members of ejidos and communities.

### MINIFUNDIO DEVELOPMENT IN NATIONAL PERSPECTIVE

In order to use the features of Paracho's development for the purpose of making broader farm policy recommendations, it is necessary to state explicitly some of the goals and objectives which seem to this author most desirable, in the light of the current trend and achievement reached by Mexico's past development.

One of the fundamental issues within Mexico's farm policy has been the simultaneous achievement of rapid economic growth with social stability and more equal land distribution patterns. Both of these apparently conflicting objectives have been attained in Mexico. In the prerevolutionary stage, the Mexican case illustrates the dangers of "internal colonialism" where economic growth is associated with the production of commercial crops for external markets.

The revolutionary and post-revolutionary policies have corrected some social injustice by providing land access and security of land tenure to a large segment of peasants with smallholdings. Simultaneously, policies for rapid development of a relatively small number of farms were adopted. In other words, the dual nature of the farm structure of Mexican agriculture (mainly minifundios and large farm enterprises) has served well the needs of fast development. However, rural population growth, the prevailing low income, and farm underemployment of the minifundios have resulted in a large number of people remaining, for all practical purposes, outside of the market for many modern-day products.

However, it is not implied that the need for policies designed to incorporate the minifundio more fully into the modern world be based on economic considerations alone. The modernization process does not consist solely of logically conceived and well-designed investment programs, improved technology, and more efficient markets. As Peter Dorner puts it, "It is also a complicated process of institutional changes, redistribution of political power, human development, and a concerted, deliberate effort in public policy for redistributing the gains and losses inherent in economic progress."<sup>25</sup>

It is explicitly recognized that in order to continue present trends in Mexican economic growth, it is necessary to expand the internal effective demand for nonfarm products, which might be done in part through a deliberate effort in public policy to raise the peasant's income and purchasing power. Moreover, this economic consideration is complementary to the social stability and political integration of Mexico. However, the so-called modernization process is not an automatic consequence of a few changes in credit allocation and public investment favoring programs for peasants. The large number of peasants, the difficulties involved in such programs, and the limited resources available for public action in agriculture lead to the conclusion that certain choices must be made within the minifundio sector; policy must focus on those projects which are more conducive to accelerated development in the short and middle run. In other words, the need is to define programs of action for more specific minifundio groups. In terms of economic potentiality, at least two broad categories of minifundio can be distinguished:

a) Those with high potentiality because of the existence of characteristics favorable to achievement of substantial gains in peasant family income, such as larger land resources, irrigation, and good markets. This group by itself could directly bolster internal demand through income effect, and indirectly improve the income of the minifundio without high economic potentiality by providing increased local farm employment.

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<sup>25</sup>Peter Dorner, The People Left Behind: A Review, Land Tenure Center Paper No. 44, Madison, Wisconsin, May 1968, p. 18.



b) Those presently without high economic potentiality because of small landholdings, a poor resource base, and other reasons. Much of this group will eventually have to be transferred to the nonfarm sector. For the time being, more education, specialized training in nonfarm activities, and some social security assistance are the best ways of aiding the development of their most valuable resources: human talents and labor.

Roughly speaking, the first group encompasses the minifundios with 5 to 10 hectares of cropland and the minifundios regardless of size located within the irrigated districts. These districts as a rule have good communications facilities and adequate market channels. This group of ejidatarios and small private owners are probably already receiving assistance from several quarters--credit, technical assistance, and other types of help. However, it is felt that not enough concentrated effort from appropriate agencies has been made to assist this type of minifundio.

A brief illustration is here provided to demonstrate more concretely the economic potentiality of the irrigated minifundio and to show clearly the important implications of stepping up present rates of assistance in terms of economic growth, gains in family income, and demand effect. This illustration also serves as a means of comparison between Paracho, with dry farming and poor farm resources, and minifundios belonging to the group with better farming possibilities.

Less than 100 miles from Paracho, and also in the state of Michoacán, lie several irrigated valleys surrounded by mountains which become less steep as one approaches the sea. The ejido is the predominant tenure form, due to a vigorous peasant movement which practically eradicated the pre-reform hacienda in the area. A government-owned sugar mill has been set up in the municipio of Taretan to provide credit and technical assistance to the ejidatarios growing sugar cane. But not all ejidatarios grow sugar cane. Some of them, aware of the growing opportunities offered by animal production, are trying to move from crop production to a more diversified production structure.

This group of ejidatarios manages farms averaging 7.9 hectares of irrigated land. The most important advantage of irrigated land over dry land is the possibility of growing two crops a year, instead of only one. At present those ejidatarios obtain 80 percent of the value of farm production from crops and the remainder from livestock production. While 90 percent of the sugar cane ejidatarios received credit, only 20 percent of the ejidatarios not growing cane received credit. In spite of this limitation, the latter group has the largest capital stock value per hectare of all ejidatario groups surveyed in the Taretan area. This capital is composed mostly of livestock and fruit trees.

This group of ejidatarios has been singled out to illustrate a case where more concentrated help from the government will be likely to start rapid agricultural development in the region. To illustrate the potential of minifundios, another group of small private owners who already have a high level of development in the irrigated region will be used.

These small owners manage only 7.2 hectares of irrigated land, but have achieved a level of production (from all farm sources) six times higher in value than the reference group of ejidatarios. They have managed to obtain a similar amount in value of crops but have added to it a considerable value in animal production, especially milk. A high concentration of capital is required to ensure this level of productivity. Capital investment on these small properties is eight times larger than on the ejido parcels, more than half of it represented by livestock and fruit trees. This group is regarded as a local benchmark in small farm improvement. It demonstrates that more land is not required; instead what is needed are enlarged sources of credit and technical advice.

The characteristics of Paracho are such that they undoubtedly fall into the broad group of minifundios defined as presently without large farm economic potentiality. In other words, taking farming alone, there are no special factors which will set Paracho apart from thousands of poor rural Mexican communities. But in Paracho there exist very good opportunities for developing non-agricultural output from forest and artisan industries, which might provide the basis for a local growth process. Additional empirical evidence is required to substantiate more fully the potential involved in nonfarm development, but by pooling the skill for crafts of the local population, the idle manpower, and the partially unused forest resources of the communities, major possibilities might be opened up. These nonfarm avenues of development are presently outside of the jurisdiction of the agricultural assistance agencies, but their inclusion, along with more conventional farm programs, is clearly preferable to occasional public relief or having the problems of these communities ignored completely because of their poor economic potential.

In Paracho the expansion of these nonfarm activities will be closely related to larger purchases of some basic industrial equipment and nonfarm inputs. The program might include the organization of new lines of production (timber, wood processing, furniture, musical instruments other than guitars, and other wood products) which might require new techniques and technicians, and vocational schools.

Notwithstanding its poor natural resources, the area of Paracho has shown a sufficiently high economic development to be able to stabilize and employ the better part of the observed demographic growth with relatively small investments derived mainly from the municipality itself. Paracho, in comparison with other depressed regions, provides a case of successful development and presents a nucleus of many experiences and lessons which might be put to use in economic and social development policies in other comparable zones of the country.

There are many important questions related to the programs of incorporation of peasants into modern life, but it seems more relevant to ask whether or not there are powerful political groups opposing peasant modernization. At first glance, the answer is negative. Not even the large farmers will oppose any measure which does not threaten further land expropriation nor directly cut their sources of credit (which are largely provided by the private sector). Technicians working for the government certainly will not object to larger programs, nor will politicians.

Even though no strong interests are likely to object to the peasant modernization process, and even assuming that there are enough funds available (including funds provided under the Alliance for Progress), there still seems to be a link missing in the chain of events leading to a more effective use and expansion of these funds. This gap might be connected with the lack of opportunity of the peasants to put pressure on the highest decision-making echelons. In spite of its good intentions, the National Confederation of Peasants (CNC), and for that matter many agrarian leaders, politicians and technicians have not succeeded in organizing an independent and effective farmer movement, which could provide a voice for, and ensure larger and broader action in favor of the peasants.<sup>26</sup>

Besides the general considerations of social and political stability and larger internal demand, several positive factors favor an eventual reconsideration, reorganization and expansion of the agrarian policy. In the first place the Mexican government is now in a position to administer more complicated programs. In the second place there is a group of intellectuals, politicians, technicians, and students who are fighting for the betterment of the peasants, a lot, often with success. Finally, the private sector not only is

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<sup>26</sup>One main reason probably being that the CNC is an institution which has a double role. On the one hand, it represents the peasants, but on the other hand, it constitutes one of the pillars of the Institutional Revolutionary Party (PRI), the government party. CNC has difficulties in being a strong, unfettered, upward channel of communications for the peasant.



interested in creating a larger demand, but in many instances is participating directly in business with peasants. This may create problems regarding the fair distribution of the profits involved, which may lead to government participation and regulation. Consequently, in one way or another, peasants are going to become further involved in the national economy, which will require policy action.

Although there are no easy solutions to the complexities and difficulties involved in the future of the peasants, it is hoped that the Mexican farm policy makers will show in the future the same ingenuity which they have repeatedly demonstrated in the past, in order to use the talents of the Mexican peasant for the peasant's own benefit and improvement, which in turn will no doubt lead to the further advancement of the nation as a whole.

#### POLICY IMPLICATIONS

Certain policy implications can be drawn from the limited development which has taken place in Paracho:

1. As long as the predominant crop--maize--continues to be cultivated with traditional techniques, farm income from this crop is not likely to be increased without danger of destruction of forest areas and soil erosion.
2. The communal land tenure system as presently operating has performed several positive functions. It has ensured land use flexibility through individual ownership. By restricting land use and land disposition, it has contributed to land conservation, to a reasonably equalitarian pattern of land distribution, and to the exclusion of outsiders from direct intervention and control of the land. The features which impair better land use--land fragmentation, some woodland deforestation, and mortgage of farmland--can be lessened only when more employment opportunities and larger family incomes become a reality. Legal and cultural regulations will be more effective only when greater than subsistence incomes have become accessible to every family in the community.
3. Unfortunately, no substantial prospects for increasing family income are presently found in agriculture. Land in crops has been increased more than is advisable from the point of view of land conservation. Application of fertilizers and use of better seeds might increase yields considerably, but costs would take the better part of the increased output and risks would further reduce farm profits.

As yet, nothing substantial in the form of systematic or adequate research has been conducted in experiment stations, nor have adequate programs of credit and technical assistance been carried out. Livestock seems to offer better prospects, but lack of water and shortage of improved pastures are serious limitations.

4. So far, forest and handicraft activities have provided the more reliable sources of additional income and employment. Besides improving local conditions, these activities have several positive consequences from a national perspective:

a. Population pressure on the land of these communities has been lowered, and consequently programs of conservation of natural resources have been added.

b. Local population has not resorted to migration to the cities, which already have encountered problems in providing employment and services in response to the massive rural migration.

c. Local population growth will reduce the corn surplus, which will in turn help reduce the national corn surplus foreseen for Mexico during the next 10 years.

d. The higher volume of raw materials and handicraft products has permitted the municipio to become integrated more fully into the national economy with a diversified supply of products, which provide foreign exchange (through both artisan work and tourism), and furnish substitutes for imported resin and timber.

5. Up until now, only limited investment has been required. It has come from the government (resin) or the private sector (resin and craftsmanship). Part of it has come indirectly from the peasants themselves, in the form of proceeds from the resin tax on communal woodland exploitation, and the share of corn obtained by the local merchants who lend money to landed peasants. Payment for land use to nonpeasants amounted to an estimated 10 percent of the total agricultural and forest product of the municipio in 1966. Part of these land payments are reinvested to increase the output of the artisan sector if demand conditions are satisfactory.

The problem of forest underutilization must be decided on a nationwide basis; it implies legal changes and a thorough reorganization and expansion of the forest service. The new programs must provide for adequate participation of the peasants in forest benefits and management. These initial steps could be taken in communities such as Paracho, where the problem is identified. Subsequent steps may include the establishment of timber-using industries in the area. Publicly financed companies of joint

public-private-community enterprises might be preferable to purely private companies because of problems of unfair price practices and the possibility of excessive concentration of power, both problems which in the past and at present are associated with private companies in the area.

Paracho merchants and artisan entrepreneurs perform useful functions as far as their private interests coincide with community and national interest, but their activities are generally associated with a lack of concern for social security regulations and control of the artisan market by a few individuals. A better arrangement might be cooperatives of artisan workers, both for organizing production and for marketing, provided that the local peasants were adequately organized and aided by financial and technical public institutions.

In summary, the main problem illustrated by the Paracho case is the underemployment of a large proportion of available manpower and forest resources. The case demonstrates, however, that local peasants have a favorable disposition to change, and that the labor skills of these peasants can be channeled to nonfarm activities, thus reducing unemployment and increasing family income in cases where the natural resource base is too poor to allow full farm employment. The solution of this problem requires only modest financial investment, but necessitates rather substantial efforts to foster local economic organization for the benefit of the peasants, and to enhance their traditional skills.