

Articulation of domestic economies to the regional development of Alto Lerma, Mexico

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Resumen

En la modernidad, las economías ejidales se articulan a la dinámica regional mediante el desempeño de actividades económicas urbanas y la realización complementaria de actividades agrícolas y pecuarias. La ocupación múltiple de la población ejidal responde a la pérdida de importancia de la agricultura y a la reducida rentabilidad de la unidad de producción, al mismo tiempo expresa un cambio en la orientación de las economías domésticas en la búsqueda de mejores condiciones de vida. Nos interesa analizar las implicaciones del contacto entre las economías ejidales y el ámbito urbano. El enfoque adoptado es analítico-sintético y toma como base la información estadística y documental disponible, así como la información derivada de 439 cuestionarios aplicados en unidades de producción seleccionadas en el año agrícola 2001- 2002.

Palabras clave: economía doméstica, ejidos, desarrollo, desarrollo regional, Lerma, Estado de México.

Abstract

Articulation of domestic economies to the regional development of Alto Lerma, Mexico

Nowadays, the cooperative economies are articulated to the regional dynamics by urban economic activities and the complementary agricultural and cattle activities. The multiple occupation of the cooperative population responds to the loss of importance of agriculture and to the reduced profitability of the production unit, at the same time, it expresses a change in the orientation of the domestic economies in search of better life conditions. It is important for us to analyze the implications of the contact between the cooperative economies and the urban environment. The adopted approach is of an analytic-synthetic nature and is based on the statistic and documental information available, as well as the data from the 439 questionnaires applied in selected production units in the agricultural year 2001-2002.

Key words: domestic economy, cooperative, regional development, Lerma, State of Mexico.

Introduction

The development, seen as a society's transformation process, is characterized by an expansion of the productive capacity, increment of the productivity per worker and income per person, changes in the

structure of classes and social organization, cultural and values transformations, as well as changes in the political and power structures, which leads to a raising of the medium levels of live. Osvaldo Sunkel (1980: 10) indicates that the previous definition is real, but does not mean that the changes are necessarily coherent and sustainable to the long term, or favorable to the national economy and population's welfare.

Rello (1986: 9) mentions that the region is a space of confrontation of the social forces in conflict that are struggling for the control of the natural resources, market, financing and political power. In this way, the appropriation of the regional space will influence the production, and also the rural development and its beneficiaries.

The region's dynamic is defined by the interaction of the territorial resources (economic, human, environmental, cultural, etc.), which at the same time constitute the endogenous development potential. Interaction is the vehicle to integrate or articulate the different natural, social, and economic structures of the regional system. This way, the term articulation refers to the functional or utilitarian connection of the cooperative economies with the regional development.

The function of the cooperative economies responds in a general way to two kinds of objectives: on one hand, accumulate and consume, on the other, provide oneself with food and guarantee the family's reproduction. From there, different strategies are established, individually or in groups, generated in an environment of scarcity and shortage. Among the options are; the migratory work, negotiating with the land, changing cultivation, adopting new technologies, changing religion, forgetting the mother tongue, changing consumption habits, etc. Each one of these strategies is measured by some sort of market. In the economic countrymen-market relation the objectives and the distribution of the benefits are outlined, this means possibility of life and permanence for the new rural societies (Orozco, 2003).

Regional economic space

The Alto Lerma region is a natural physical unit, and at the same time as a region conformed by 32 municipalities grouped according to the position they are located at throughout Lerma River in the State of Mexico:

a) High course: includes 22 municipalities; b) medium course: comprising seven municipalities, and c) low course: with three municipalities (Table 1).

TABLE 1
SURFACE OF THE COMPLETE MUNICIPALITIES BY COURSE (HA.)

Coursess	Hectares	Square kilometers	Percentage
High	222 386.6	2 223.866	37.58
Médium	271 135	2 711.350	45.82
Low	98 101	981.01	16.58
Watershed	591 622.6	5 916.226	99.98

Source: State of Mexico Government, 1993, *Atlas de la Cuenca HidroGRAPHIC del Río Lerma*, Statistic Data, Volume I.

TABLE 2
REGIONAL DISTRIBUTION OF THE POPULATION

Courses	1990	1995	2000
High	1 172 826	1 414 409	1 630 587
Médium	472 535	505 714	615 436
Low	124 276	141 219	150 654
Watershed	1 769 637	2 061 342	2 396 677
Entity	9 815 795	1 1704 934	13 083 359

Source: INEGI. Population census, 1990. Population count, 1995. Preliminary results, 2000

The relation between the territorial surface and the population shows that the high course municipalities, among which is the Toluca's Metropolitan Zone (TMZ) that concentrate 68 percent of the total population (Table 2).

The territorial and social configuration of the Alto Lerma region characterizes a complex organization space, where different social and territorial process are interlaced, represented by the existence of agrarian, urban and industrial structures. Each one of these structures has needs and interests that define the ways of appropriation, control and production of the regional space (Orozco and Sánchez, 2004).

The interrelations between the territory structure, form and function are analyzed from the competence by the use of the soil (Baigorri, 1998; 157). Competence is attributable of the social demand, the interaction mechanism are human practices (Harvey, 1998: 244).

In the case of our study, the complexity and competence are characterized are identified from the structure of soil holding, distribution of the soil uses, investment and economic share from the different productive sectors.

Close to 45 percent of the regional surface is owned in cooperative, 11 percent is communal propriety and 44 percent is private propriety. 86 percent of the surface is used for agriculture, cattle rising and forests; the urban and industrial uses, as well as other uses only constitute three, one and ten percent, respectively (GEM, 1993).

In the State of Mexico 8 281 617 520 pesos were invested, from which 12.94 percent was used in Alto Lerma (1 071 677 848 pesos). The high course absorbed 71 percent of the investment; the medium and low courses only received 26 and three percent, respectively - the metropolitan municipalities concentrated 48 percent of the investment - . 50 percent of the regional investment is exercised to provide with services and infrastructure the human settlements, for education and administration, the less important was the primary sector, with two percent (21 433 556.96 pesos) of the investment (INEGI, 2002).

The most dynamic economic sectors of the state economy are the manufacturing industry, commerce and services. In the region the commerce and services sectors concentrate 89.4 percent of the economic units, which contrasts with the larger occupation of human force in the manufacturing sector (48.7 percent), which contributes with a little more than 77 percent of the census aggregated value (INEGI, 1999).

The regional primary sector contributes with 18.88 percent of the value of the state sector production, agriculture being the most important, after it, cattle rising, and the forest activity does not appear (Table 3).

Even the economic share from the primary sector of the region is significant for the entity; the investment-value relation of the production is of a deficit nature. The gross production value minus the investment (GPV - I) would have to report the created sector income (CSI) in this case the relation is negative (CSI = 3 143 912 - 21 433 556.96 = -18 289 644.96).

The investment coefficient (IC) establishes the relation between each invested peso (I) per each peso obtained in the production (VP), expresses the synthesis (CI: $I/VP =$) the average expenditure done to produce (CI: $21\,433\,556/3\,143\,912 = 6.8$) (Mederos and Sandoval, 1988).

The economic dynamism of the industrial, commercial and services sectors, in the face of the deficit character of the primary production, defines the most extensive portion of the regional territory as a problematic space, for its natural,

social and economic frailty, as well as the limitations of an economic and territorial policy impeller of the urban and industrial polarization in favor of the TMZ.

The economic, social and territorial importance of the TMZ depends on its mayor economic development, as well as the improvement of the vial infrastructure and more concentration of the urban population. In synthesis, it is characterized by being the portion of the watershed more urbanized and industrialized, along with a large territory with rural characteristics.

TABLE 3
VALUE OF TEH PRODUCTION IN THE PRIMARY SECTOR
(IN THOUSANDS OF PESOS AND PERCENTAGES)

	Total	Agricultural	Cattle	Forest
Region	3 143 912	11.61	7.0	0.27
State	16 622 832	75.0	24.0	1.0

The percentages of the region were calculated based on the total of the sector value of the state population.

Source: INEGI, 2002, Statistic yearbook of the State of Mexico, TABLE 10, México.

Cooperative economies

The term cooperative (*ejido*) appears for the first time in the Zapata's proclamation of 1911, it refers to the communal lands that were at the outskirts of the towns and that were of collective usufruct. The cooperative lands were taken from manors whose borderlines were touched by a radio of seven kilometers from the most populated are from the solicitor's nucleus. The denomination of cooperative is applied to the population nucleus that have been granted land by means of legal procedures from the January 6th, 1915 Law (Restrepo and Eckstein, 1979: 150).

The agrarian distribution in the Alto Lerma affected large proprieties that were in hand of a few families, among which are the Pliegos, with proprieties in Metepec, Zinacantepec, Temoaya, Rayón and Almoloya de Juárez; the Barbabosas and Riva and Cervantes, owners of the Atenco hacienda, located in Tenango del Valle, which expanded to Santiago Tianguistenco, and the Gavia hacienda, whose extension covered the territory of Temascaltepec, Zinacantepec, Tenango and Almoloya de Juárez. Besides the Gómez Tagle family, in Metepec;

Peréz Cortina and Henkel families in Zinacantepec; as well as De la Torre y Mier, with the Santa Catarina hacienda, which included lands from Tenango del Valle and Santiago Tianguistenco. In Acambay and El Oro, the Orvañanos family were owners of the Jordana and Solís haciendas (Table 4).

By 1952, 325 cooperatives were reported in the region and by 1994, 413 and 77 agrarian communities (INEGI, 1994), these last ones existed previous the January 6th, 1915 Law (Graphic 1).

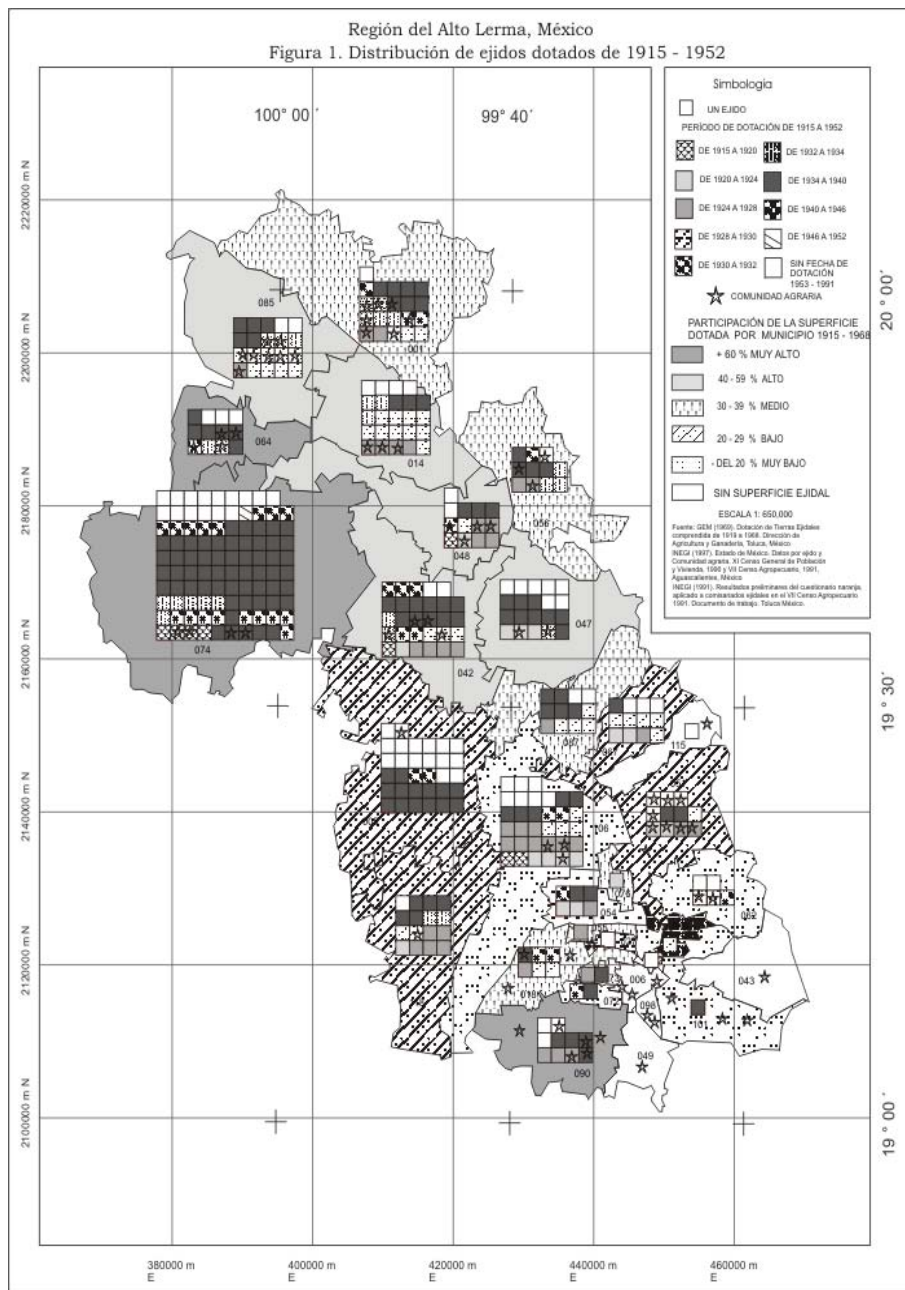
According to the most recent information, the region participates with the 39.57 percent of the cooperatives and agrarian communities, 50.3 percent of the communal land holders and 32 percent of the cooperative surface of the entity (Table 5). This way, the existence of the cooperative is constituted in a structural feature of the regional configuration of the Alto Lerma.

The 48.36 percent of the cooperatives and 37 percent of the agrarian communities of the Alto Lerma region is located in the medium and high courses, respectively. In the latter, coexist and confront the cooperative agrarian structure with the most populated and urbanized area of the region.

In the complex functional relation between the urban space and the cooperative space, the accessibility and distance are determinative factors of the products flow and work force; in the cooperative space highlights the agricultural use over new ways of land appropriation, through expropriations, buy-sale and inheritance, as well as the production of new economic spaces. The control and domination mechanism of the cooperative space are the alliances of different social actors (trans-national capital, state and municipal governments, cooperative land holders, planters). The implications of the interactions are materialized in global areas (commercial, industrial, and of services) and excluded areas of suburban aspect in connivance with reduced farming parcels and lack of services.

The urban-rural dynamics is synthesized in the identification of three kinds of cooperatives:

1. Cooperatives in deterioration: decrement of the cultivated surface, sale of lands, marginal settlements, rural settlements, localization of industries, services and commerce of regional importance, and predomination of the non-agricultural occupation.
2. Cooperatives in a transformation process: the cultivation area is the predominant, new settlements, eventual or permanent combination of the agricultural activity with some others.



3. Cooperatives far from the urban centers: the physical configuration of this kind of cooperatives does not present indications of territorial provoked by urbanization; in some cases the transformation is due to the implantation of alternative agricultural activities such as greenhouses for ornamental flowers and mushroom production. The agricultural activity is still fundamental; however, the phenomenon of cooperative's population occupation change is as acute as in the peripheral to the cities cooperatives.

TABLE 4
ENDOWMENT OF COOPERATIVES PER PRESIDENTIAL PERIOD 1910-1952

	Period	High	Médium	Low	Region
Carranza	1910-1920	2	6		8
Obregón	1920-1924	12	5		17
Calles	1924-1928	25	14	3	42
Portes Gil	1928-1930	21	19	12	52
Ortiz Rubio	1930-1932	5	13	3	21
Rodríguez	1932-1934	4	15	8	27
Cárdenas	1934-1940	27	93	20	140
Ávila Camacho	1940-1946	1	15	1	17
Alemán	1946-1952		1		1

Source: GEM 1969, *Endowment of lands between 1919 and 1968*, Diffusion department.

TABLE 5
STATE AND REGIONAL COMPARATIVE

Courses	Number of community land and agrarian communities	Number of community land owners and co-owners	Surface dividied in parcels in hectares	Not divided surface, in hectares
High	181	62 603	76 665.705	38 539.125
Médium	237	61 874	123 371.32	52 952.98
Low	72	20 052	49 755.9	22 355.78
Region	490*	144 529	251 792.925	113 847.885
State of Mexico	1 238	287 140	68 607.5	464 031.4

* Agrarian communities and cooperatives are included.

Source: INEGI, 1994, Definite results VII Cooperative census, TABLES 1A and 1B.

The regional dynamics expresses the confrontation of different forces and interests, and before this situation is important to ask, how do cooperatives face the juncture?

One of the ways for establishing the functional links among the global, the regional and the local consists on entering the individuals' world and clarify how the rural actors conceptualize, reinterpret and live every day (Long, 1999).

Social cooperative group

Exactly 439 communal land holders from the Alto Lerma region were interviewed, men predominate with 85.42 percent. In its age structure stands out the population from 60 to 65 years and more than 65 years (38.25), as well as the population group from 50 to 59 years (25.73 percent). Something more than 60 percent of the communal land holders are older than 50 years of age, 80 percent of the female communal land holders is older than 40 years (Graphic 2).

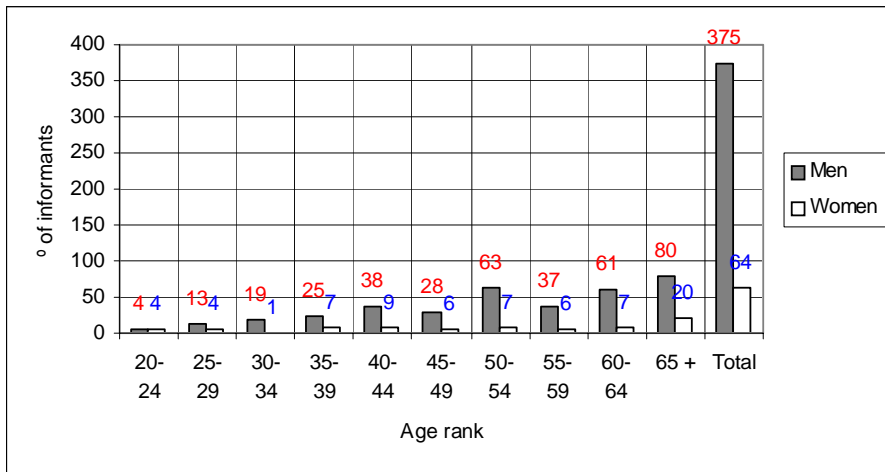
The activities in the field and the advanced age deplete the physical strength and work productivity in general; in women, the age also depletes the reproductive capacity. This presents the need of a cooperative superseding, which is promoted through short campaigns of cession of agrarian rights to the chosen heir or other communal land holders.

The trend towards maturity and aging is a general character phenomenon that is manifested in both the communal land holders as well as in the population who live in the cooperatives (3 245 people), in both cases an incipient renewal is identified (Graphic 3).

The predomination of the population segment of between 15 and 19 years of age increments the need of education and work. And in the extent that the parcel does not absorb work force, this population seeks the future in other economic activities.

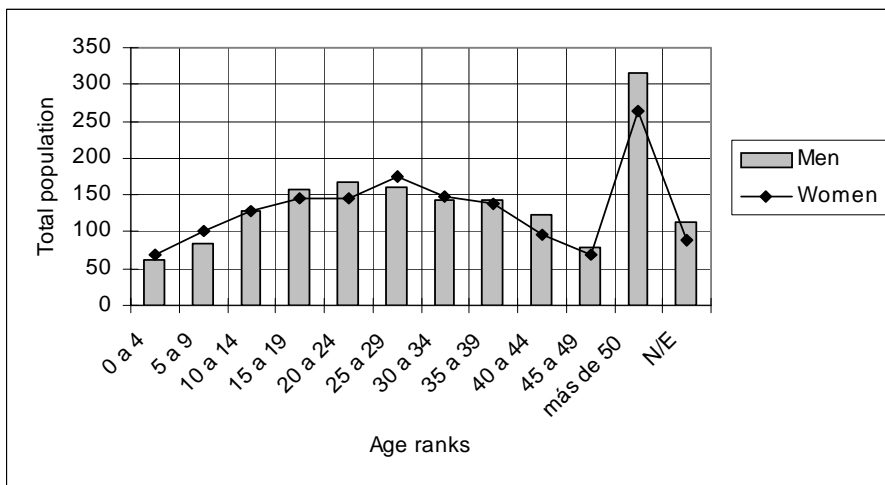
The 86.8 percent of the communal population knows how to read and write; the educational level is the most significant level of the work force preparation. 51 percent of the communal population studied only the elementary education; 30 percent secondary and 19 percent holds a high school, technical, teacher and professional education certificate. This means that in the 49 percent of the instructed population is force of change of the social and work cooperative.

GRAPHIC 2
ALTO LERMA, MEXICO, AGE AND GENDER OF THE INFORMANTS



Source: own elaboration from the data gathered during the field work in 2001 and 2002.

GRAPHIC 3
ALTO LERMA, MÉXICO. STRUCTURE OF THE COOPERATIVE POPULATION BY AGE AND GENDER



Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Occupation of the work force

There were registered 1 019 people as occupied population (OP), that constitute 31.4 percent of the total population (3 245 people). Each of the people maintains an average of three or more individuals.

The 87 percent of the Op reports the main activity and 13 percent does not specify. The population who exclusively performs the agricultural activities and the population who combines it with another activity constitute 69.55 percent of the total. In this last relation stand out as specific activities the commerce, construction and domestic service (Graphic 4).

The structure of the OP by gender shows that men predominate with 65 percent; however, 82 percent of the interviewed people reaffirms that it is important that women work.

The participation of young women in the urban work is increasing; this indicates, on one hand a change of mentality in the cooperative family, and the incorporation of yet another life strategy; on the other, it means the conscious delay of the young women union, and has an impact in the number of children, phenomenon that in the medium term will have repercussions in the families' size.

Rural-urban articulation

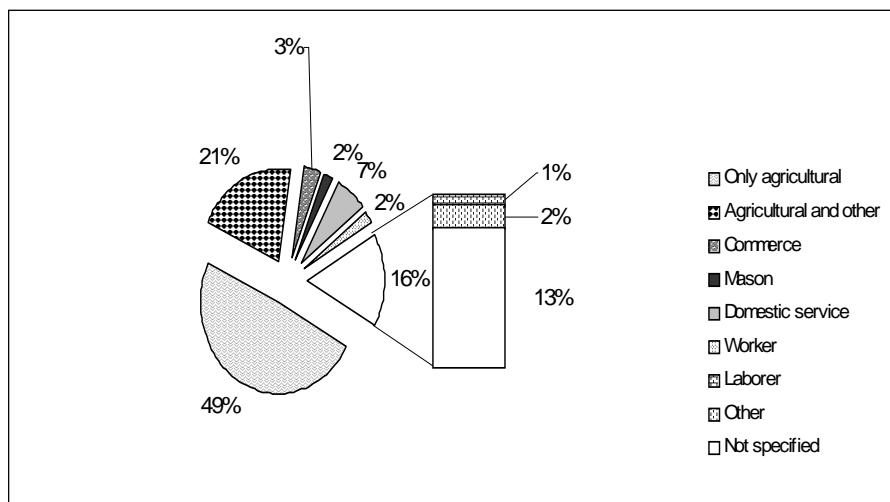
The 25 percent of the interviewees mention Toluca as one of the places they visit, the second place (24 percent) are the municipal heads, 17.3 percent visit places close to the cooperative, 11.1 percent neighboring municipalities and nine percent, Mexico city.

In general, the movement of the cooperative population of the Alto Lerma region and their relation with the exterior presents an intra-regional character that has as principal motivations work, purveyance and educational and medical services. For their displacement, 50 percent of the communal land holders use the bus, 17 percent use taxi and 17 percent both means of transportation, 11 percent use their own cars and trucks, five percent do not specify.

The accessibility levels vary in function of the cooperatives localization and the location of at least one transportation and taxi line in the large localities. For example, in the cooperative San Pedro de Arriba, Temoaya, due to its closeness with Mexico Metropolitan Zone, there is a direct transportation line to Toreo metro station, in Naucalpan. Even when this population that travels to Toluca,

Atacomulco or to Mexico City they invest more than two hours in average, it is a travel that is assumed as part of the daily life and is not considered a restriction.

GRAPHIC 4
ALTO LERMA, MÉXICO. PRINCIPAL OCUPACION



Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Occupied population who work outside

The participation of the occupied population who work outside the cooperative in one of the strategies of the rural economy to incorporate to the labour market of Toluca, Atacomulco and Mexico City (Graphic 5).

The occupied population who work in the outside the cooperative constitutes 71-24 percent, or 726 people, of the total OP. Most part of the cooperative work force that commutes are conscious of the importance of the income contributed by the non-agricultural or urban activities. The occupations that predominate are workers (15 percent), commerce (12 percent), masonry (12 percent) and various activities (18 percent).

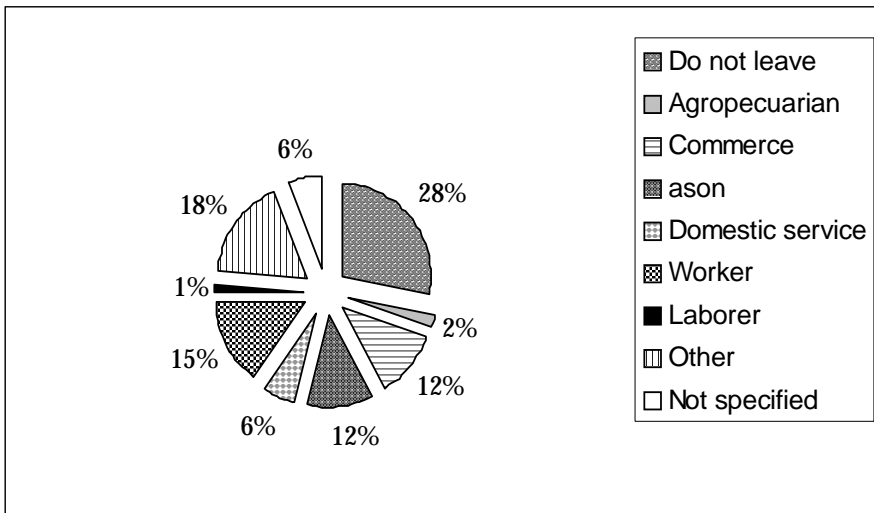
In the worker occupations, the cooperative population from the municipalities from the south of the region presents more participation; the commerce occupation, on self-employment conditions, it stands out as a general characteristic, and the masonry occupation is performed by the population from the cooperatives located in the centre and north portions of the region; among them, san Felipe del Progreso, Temascalcingo and Acambay.

The work force movement to another entity and other countries is scarce, which means that the labour market to which communal land holders and cooperative population go to is intra-regional. The daily and weekly returns predominate; this way is established a permanent relation among the origin and destiny places.

The relations of the different members of the family with the external labour market vary in function of gender and age, from the relation with the production domestic unit and the role each member of the family plays in its reproduction.

The labour reality is not only explained by the proportional change of rural to urban population or by the growth of the secondary and tertiary sectors in comparison to the primary, but by the mixing of labour spaces and processes in any of the two spheres (De Ibarrola, 1988: 50).

GRAPHIC 5
ALTO LERMA, MÉXICO. OCCUPIED POPULATION THAT WORKS FAR



Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Domestic economy

The cooperative economy is formed not only by the parcel, the land cultivation and family, but also by the variety of performed activities and the income from such activities. This way the domestic economies interact with their regional environment based on familiar, economic and social strategies.

The economic output of the cooperative units is analyzed based on the origin and amount of the incomes from 60 percent of the informants (Table 6).

The activities performed by the community land holders, and hence source of the income, allows identifying the "labour fragmentation" phenomenon or of a "multiple labour structure", whose main characteristic is the permanence in the agricultural and cattle activities performed individually, as well as the definition of a sector of community land holders whose income comes from the non-agricultural activities.

The combination of the agricultural and cattle activities with some other activities denotes the ways in which the cooperative production units complement their incomes and promote, from the inside, their articulation to the urban sphere, with which they are generating a social and labour transformation process.

When comparing the origin of the income with the obtained amount, it is observed that 24 percent of the regional income comes from the other activities, 29.7 percent of what the relation harvest-animal sale (Table 7) contributes with, as well as the combination of the agricultural activities with some others.

TABLE 6
ORIGIN OF THE INCOME OF THE COOPERATIVE UNITS
(IN PERCENTAGES)

Activities	Informants	High course	Médium course	Low course	Total
Harvert	82	9.33	7.51	1.36	18.2
Animals	19	0.91	1.59	1.82	4.32
Other activity	67	6.15	5.46	3.64	15.25
Harvest-animals -other activities	14	1.59	0.68	0.91	3.18
Animals-other activities	23	1.59	1.59	2.05	5.23
Harvest- other activities	31	4.10	1.36	1.59	7.05
Harvest-animals	28	3.18	1.59	1.59	6.36
Do not specify	175	8.65	22.55	9.11	40.31
Total	439	35.50	42.33	22.07	99.90

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Community land holders from the high course obtain most of the income from other activities, as well as from the combination of the harvest-animals sale with other activities.

Community land holders from the portion in the middle obtain most of their income from the harvest-animal sale, which confirms their agricultural pre-eminence. The average income of the interviewed land holders (264) is 16 495 pesos, but the distribution is variable by activity (Table 8).

The best paid activities in the region are: harvest-animals sale; sale of animals-other activities, harvest-animals sale-other activities, and other activities.

The harvest sale or the sale of animals in the individual does not contribute with enough income for a family to love, but in combination, they strengthen the family income.

Cost-benefit relation

In the relation investment-profit, 76 percent of the interviewed land holders invest in production (Table 9). According to the investment amounts, stand out those land holders who invest from 1 000 to 4 999 pesos and from 5 000 to 10 000 pesos. The variations in the investment amounts define land possession of less than a hectare, or more than a hectare but distributed in and outside the cooperative, as well as the presence of a reduced number of land holders who have been able to concentrate compact surfaces for the agricultural production (Table 10).

The investment capacity influences in the land productivity increment to the extent that allows some land holders to incorporate inputs such as seeds, fertilizers and manure, and in some cases, even paid technical advisory.

Only a reduced number of land holders who have entered to the corn commercial circuit and already work as small businesses when arranging the control of production and its sale.

When comparing the investment with the total investment, it is observed that the land holders from the high course invest less and attract 50 percent of the regional income, whereas in the medium and low courses the relation is the opposite. This is a consequence of the income from non-agricultural activities and their combination with the agricultural ones (Table 11).

In another cost-benefit scenario, the total regional investment and individual income from harvest and animal sale (Table 12) are considered.

The income from harvest and animal sale represents only 22 percent of the total investment, which means that 78 percent of the production expenses are

paid by the varied economic activities. In such conditions, the agricultural production and cattle activity performed as individual activities are a deficit.

In a third scenario, the income by harvest sale, by animal sale and the relation harvest-animal sale are considered (Table 13).

TABLE 7
AMOUNT OF THE INCOME PER ACTIVITY

Income	Total income	High course %	Médium course %	Low course %	Total %
Harvest	379 420	5.14	3.18	0.37	8.69
Animals	122 600	0.69	1.07	1.04	2.80
Other activities	1 046 850	13.61	6.37	4.04	24.02
Harvest- animals-other activities	316 436	4.36	1.12	1.77	7.25
Animals other activities	704 240	8.86	3.28	4.01	16.15
Harvest -other activities	487 100	8.30	1.46	1.40	11.16
Harvest- animals	1 298 100	9.37	17.43	2.98	29.78
Total	4 354 746	50.33	33.91	15.61	99.85

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

TABLE 8
AVERAGE INCOME PER ACTIVITY

Activities	Total income	Informants	Average income
Harvest	379 420	82	4 627
Animals	122 600	19	6 453
Other activity	1 046 850	67	15 625
Harvest-animals-other activities	316 436	14	22 602
Animals- other activities	704 240	23	30 619
Harvest- other activities	487 100	31	15 713
Harvest -animals	1 298 100	28	46 361
Total	4 354 746	264	16 495

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

The income derived from the agricultural activities totally pays the investment expenditure; however, there is not a net economic rating, so the land holders do other economic activities.

In the cooperative economies, the productive capability in the individual is very important; but in the collective and group sphere, the organization is a critical factor. In the cooperatives the individual organization is the one that is predominant, but there is organizational process is manifested, that, without forgetting the grievance for the land, is paying more attention of the commercialization and prices negotiation control.

The organization promoted by the Agricultural, Cattle Ministry for the Rural Development and Fishery (Sagarpa) from the Federal Government, and the Agricultural Development Ministry (Sedagro) from the State Government is limited. It is about the formation of small groups, whose increment depends on the economic resources destined to that, and on the interest and negotiation capacity of the land holders. Even in these conditions there are families and land holders groups who are using the support granted by these institutions.

Even when the predominant farming of the cooperatives is corn, the agricultural policies are actively inducing the diversification of cultivation (flowers, lettuce, cauliflower, and carrot). The change is mostly promoted as a complementary activity to alimentation and in very few cases from a commercial point of view. However, a reduced sector of land holders is supported by technological alternatives to produce flowers and vegetable in the open air and in greenhouses.

Flowers and mushrooms have turned into a viable alternative, mostly in the cooperatives from the municipalities of Atlacomulco and Ixtlahuaca (San Lorenzo Tlacotepec, Manto del Río, Ixtlahuaca and Santa María del Llano).

Another commercial culture is potatoes, although its production is expensive and the producers receive support, this culture has activated some local activities (Ejido las Mesas and the cooperative of San Juan de las Huertas), later there has been a stagnation due to the low prices of the product. Some cases of "success" are the experienced by the producers from Almoloya del Río, who cultivate in temporal culture carrot, peas, beans and broad beans, products that are difficultly commercialized at the Mexico City's Supply Centre.

The State promotion to organize is still important; the difference rests on the fact that the organization is assumed as bottom-up process, and as a need from individuals and new groups specialized in corn, ornamental plants, potatoes and other cultures.

TABLE 9
COMMUNITY LAND HOLDERS WHO INVEST IN PRODUCTION
(IN PERCENTAGE)

	Total of informants	High course	Medium course	Low course	Total
Invest	333	24.14	32.57	19.13	75.84
Do not invest	106	11.38	9.79	2.96	24.13
Total	439	35.52	42.36	22.09	99.97

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

TABLE 10
INVESTMENT RATES
(IN PERCENTAGE)

Investment ranas	Total of informants	High course	Medium course	Low course	Total
- 599	21	2.40	3.0	0.90	6.3
600-999	23	2.70	3.30	0.00	6.0
1000-4999	150	13.51	18.61	12.91	45.03
5000-10 000	96	9.0	11.71	8.10	28.81
More than 11 000	35	3.90	4.20	2.40	10.5
Do not specify	8	0.90	0.60	0.90	2.40
Total	333	32.41	41.42	25.21	99.04

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

TABLE 11
COST-BENEFIT RELATION I

	Investment	%	Total income	%
High course	741 400	32	2 193 686	50
Medium course	1 070 300	46	1 478 970	34
Low course	521 350	22	682 090	16
Total	2 333 050	100.0	4 354 746	100.0

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

TABLE 12
COST-BENEFIT RELATION 2

	Total investment	%	Income for harvest and animals sale	%
High course	741 400	32	254 300	51.0
Medium course	1 070 300	46	185 620	37.0
Low course	521 350	22	62 100	12.0
Total	2 333 050	100.0	502 020	100

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

TABLE 13
COST-BENEFIT RELATION 3

	Total investment	%	Income for agricultural activities	%
High course	741 400	32	662 900	28.0
Medium course	1 070 300	46	945 020	41.0
Low course	521 350	22	732 120	31.0
Total	2 333 050	100.0	2 340 040	100

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Self-diagnosis of the cooperative problematic

The interviewed people put the natural problems in the first place: draughts, floods, frosts and soil erosion; phenomena that impact the production and productivity of the agricultural exploitations (Table 14).

In the second place they put the economic problems such as the lack of government support and the low price of corn; in the third place they mention the technical problems: lack of assessment, negative effects of agrochemicals, limited induction and information for the use of new seeds.

In a second level they identify the social problems, where they include litigation for the land holding and agrarian rights cession, as well as inheritance and lack of organization. Within the political problems there are the party support differences, since these prevent people from organizing.

Community land holders know the problematic and the solution; however, its execution does not depend only on them, but on decision spheres that are not in the cooperatives and whose interests affect the natural, social, economic and cultural conditions of the cooperatives and the community land holders.

TABLE 14
CHARACTER OF THE COOPERATIVE PROBLEM
(IN PERCENTAGE)

Kinas of problems	Total of informants	High course	Medium course	Low course	Total
Natural	137	8.88	16.40	5.92	31.2
Social	42	5.23	0.91	3.41	9.55
Economic	113	11.16	10.70	3.87	25.73
Politic	20	0.45	4.10	0.0	4.55
Technical	45	5.23	1.36	3.64	10.23
Others	12	0.0	1.59	1.13	2.72
Do not specify	70	4.55	7.28	4.16	15.99
Total	439	35.50	42.34	22.13	99.97

Source: Work field 2001-2002.

Evaluation of the cooperative agrarian system

In this part the intention is of surpassing the empiric level and help in the formulation of action proposals.

The evaluation is based on the construction of a matrix, whose line entries are occupied by problems and threats identified throughout the analysis. The column entries correspond to the proposal of action lines to be followed and the possible scenarios (Table 15).

The problems correspond to the attributes of the system per se, and the threats refer to the exterior context, these latter are relevant and changing aspects that may influence positively or negatively (Gómez, 2002: 367).

Identification of problems

The problems have to do mainly with the cooperative social structure and with the production systems.

Cooperative social structure

Aging of land holders, cooperative family and the population who lives in the cooperative in general needs to promote the cooperative takeover in order of maintaining the cooperative parcel as a family patrimony, as well as strengthen their social security and education programs, and the regularization and certification land programs.

The results will be particularized in the specific support of female community land holders and the cooperative union, with programs that support the family social development (economic resources and training) and decrease the vulnerability of this population sector.

The increment of the population in the cooperatives demands the satisfaction of education, work and social security needs, so it is important to keep our eyes open in this situation and efforts are doubled so this population lives decorously.

In order to avoid the agrarian continuity rupture, the security in the ownership of the land and the cooperative takeover should be strengthened, under a new coordination that restores the credibility in the institutions.

The performance of agriculture as a main and complementary activity manifests that despite its deterioration, it still is a work alternative that requires being maintained as a necessary life style.

The reduced size of the cooperative parcel does not adsorb the available work force, so the population tends to migrate and in the best of cases the compacting of parcels is induced to increase their profitability; this last action line has benefited few community land holders.

The most important challenges are: strengthening the employment programs and promote the internal organization of the families, work groups, cooperatives, associations, etc. sustained in efficient and committed administrations.

The deterioration of the credit access has been solved by the cooperative families with incomes from other activities; however, a recovery of the productive support and of investment programs in depressed zones is necessary.

Before the stagnation of the land measurement and certification processes, their realization has been left in hands of the community land holders as a responsibility that has not been assimilated yet, that is faced to administration barriers and service costs. It is important not to lose sight that the results from the measurement and certification programs reported a significant advance, so it is necessary to continue with them in their original scheme of coordination and no-cost.

Corn cultivation

One of the problems considered as relevant by the community land holders is the variation of meteorological conditions and the predomination of the temporal agricultural surfaces. To this respect, it is necessary to identify the areas with different levels of agricultural capacity and indeed introduce viable cultures than are not only for self-consumption, but that are promoted in a complementary exchange regional scheme; all this based on proper land handling and contingency productive programs. This way the agricultural resources will be exploited rationally and their deterioration thus avoided.

In the cooperatives there have been identified individual and collective organization initiatives, so the exploitation support programs would be feasible.

The empirical use of technology, as well as the predomination of rented equipment has a high natural and economic price that can be lessened with the reactivation of directed technical advisory programs, as well as the supply and spare parts credits in a correspondence scheme.

The consumption work in the parcel is too little throughout the year; so the community land holders perform other activities; this contingency situation allows them hire laborers with low salaries. This population sector is located at the base of the social scale and many times the difference is set by the fact of owing, or not, some land. The consumption of work in the parcel is too little throughout the year; so the for community land holders hiring cheap laborers represents a saving, and for the laborers, an alternative of life.

The lack of employment and the income level is one of the most critical aspects, not only in the countryside, but along the country, that is the reason why it is necessary to create employments and reinforce the temporal employment program.

About self-consumption of production, it is very frequent that in the decision spheres this is handled as an important problem; however, the role it plays as base of the rural alimentation and saving of the family economy, justifies its permanence.

In the commercial sector, programs of protection and support that guarantee the product's collocation in the market should be established; as well as defining fees for the large national and imported corn consumers and with this, reactivate the regional and local markets.

The price of the corn is low in comparison to the international prices, so it is convenient to establish an absorption price that allows certain level of protection in the production of white and color commercial corn.

TABLE 15
PROBLEMS OF THE COOPERATIVE AGRARIAN SYSTEM, ALTO LERMA, MEXICO

Strategies	Social structure							Scenario	
	Promote the community land takeover	Keep the parcel as familiar patrimony	Promote employment alternatives	Recover and strengthen the productive support forms	Strengthen the social security and education programs	Investment programs in depressed zones and generation of employment	Strengthen the regularization and certification	Favorable	Non favorable
Problems in the community land owners 15 percent are women of over 40 years of age.					+		+	Specific support to female community land owners	Higher family vulnerability
Aging of community land owners and of the community land family structure	+				+		+	Reinforcement of the new agrarian continuity	Rupture of the traditional agrarian continuity
Show renewal of the ejidal structure	+	+					+	Speed up the inheritance and cession or agrarian rights processes	Individual long-term decision
Tendency to aging of the population who live in the community lands	+		+					Satisfaction of the education, work and social security expectations	Increment of the social needs
49 percent of the ejidal population is occupied only in agricultural activities		+	+	+	+		+	Facilitate the occupation as decorous and necessary way of life	Loss of interest for the agricultural way for life
The size of the parcel is not larger than an hectare		+			+			To create larger parcels	Benefit of a reduced community land group
The small parcel does not absorb the available work force			+				+	Provide employment to the available work force	Increment of the labor migration, specially among young people
Most of the land owners do not have access to credit				+				External incomes to keep producing	Depression of the productive support and agricultural policy
Total coverage in the measurement of ejidal parcels	+						+	Disposition of the community land owners to measure parcels	Destruction of the del PROCEDURE
Total coverage in the security of the agrarian rights	+						+	Disposition of the community land owners to negotiate the certification	Cost of the RAN transactions

TABLE 15
PROBLEMS OF THE COOPERATIVE AGRARIAN SYSTEM, ALTO LERMA, MEXICO

Strategies	Determine the potential areas of seasonal cropping	Establish regional programs pr viable crops	Reactivate the provision and spare parts credits	Provide technical directed assessment	Strengthen the temporal and alternative employment programs	Establish contingency programs to Project production and local markets	Scenario	
							Favorable	Unfavorable
Problems								
Corn production system								
Predomination of surface bedsprest in temporal	+	+	+	+		+	Take advantage of the production in benefit of the family	Deterioration of the agricultural production and productivity
Droughts, frosts, torrencial rains	+	+		+		+	Support in contingency situations	Total or partial loss of the production
Predominates the rented equipment (tractor and yoke)			+	+		+	Reduce expenses in the maintenance of equipment and animals	Increase in the production costs
Empirical use of hybrid seeds, as well as of agrochemicals		+		+			Maintenance of crolllo material and sustainable production	Deterioration of the soil and water. Invasion of transnational comerse...
The work consumption at the parcel is from 60 to 250 days					+		Employment alternatives	Low consumption of the work in the parcel
60 percent of the community land owners hired laborers					+		Free time for the community land owners in their leisure hours	Increment of the production costs
Low salaries of the remunerated workforce					+	+	Saving in the work force expenses	Deterioration of the life conditions of agricultural laborers
The main destination of the production is self-consumption						+	Savings in feeding expenses	Subistence production
The consumption-sale of the corn is in weak relations with the market				+		+	Importance of the local and familiar market	Deterioration of the local and familiar Exchange
Low cost of the produced corn				+		+	Protection of the prices	Deterioration of the commercial and semicommercial production
Purchase of corn for consumption						+	Taking advantage of the low prices	Increment of the deficit production units
Marginal participation in the regional market				+		+	Dynamization of the regional white and color corn market	Invasion of the exported yellow corn

TABLE 15
PROBLEMS OF THE COOPERATIVE AGRARIAN SYSTEM. ALTO LERMA, MEXICO

Strategies	Different to corn cultivation systems							Scenario	
	Strengthen the production of green-beans, wheat, barley, potatoes, vegetables and flowers	Promote the diversification of production	Promote the regional and local market	Guarantee viable mechanisms of the sale of	Provide technical directed assessment	Establish agricultural supply programs	Projects of flower and vegetables production	Favorable	Unfavorable
Problems									
Reduced bed present surface	+	+						Rationalize the use of soil, familiar and commercial supply.	Confrontation with the ideology of the comm. Land owners and the extensive uses of soil
Predominates the production for self-consumption	+	+		+	+	+		Satisfy the food and economic demands	Selective impact in the community land ownership sector
Scarce commercial impact	+	+		+	+	+		Reactivate the local and familiar Exchange markets	Transcend the local and regional market
Limitations to perform the sale of the production		+		+	+	+		Control the production process and the commercial cycle	Commercial cycle contaminated with the intermediate sellers
Empirical use of agricultural machinery					+	+		Format training and induction	Scarce possibilities for the producers' training
Strategies									
Scenario									
								Favorable	Unfavorable
Problems									
The structure of the cattle existences is diversified	+	+		+	+	+		Strengthen the commercial cattle raising	Lack of support of the cattle specialization
The cattle is only a backup for economic contingencies	+					+		Promote the competitiveness	Limited support programs of smaller cattle
Local exchange		+		+	+	+		Activate the regional market	Problems to sale the cattle
Incorporation of the little technical improvements					+	+		Improve the quality of the cattle	Lack of resources for technical improvements

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

Cultures different to corn

Stand out the reduced cultivated area, the predomination of the self-consumption production and the limitations to sell the production, as well as the empirical handling of the agricultural technology. As feasible action lines are identified the production of cultures already produced in the zone such as broad beans, barley, wheat, vegetables and flowers, and to induce the change of culture in a systematic and informed way.

It is presented the possibility of cultivating agricultural products without using agrochemicals and with a large commercial projection, which will strengthen the economical potential of the region, for this is necessary the implementation of technical advisory and agricultural consumables supply. This also represents an opportunity of agro-industrial investment.

Cattle system

The creole cattle are predominant, which is maintained as an economic backup, without invalidating this function, it is fundamental that the commercial cattle raising is promoted through the programs of support and technical improvement.

The region presents potential for the culture of alfalfa and forage as based for the establishment of the cattle for meat and milk; it also presents favorable qualities for the raising of livestock in farms for meat and eggs. In the relation agriculture-cattle raising, communal land holders use all their time; so there are possibilities of growing roots in the community.

Identification of threats

Threats had to do with work force and cooperative economy, as well as the social organization, land market and change of use of soil (Table 16).

Work force and cooperative economy

The decrease of the occupied population in primary activities and the increment in secondary and tertiary activities stand out, the phenomenon is ascribable to the deterioration of the cooperative economy and labour migration, this latter traditionally performed by men, but now reinforced by the participation of young women.

This strategy has been consciously developed by the rural families, which has allowed invigorating the domestic economies when incorporating the derived incomes. Even when the effects may be qualified as positive, they can also generate changes, and not always positive ones, in the forms of family organization and in the family structure.

The competence for the non-agricultural work and the increment of the employment demand sets a pressure on the urban zones. It is urgent to search activities so the rural and urban population has more opportunities to get a job and with that containing a social overflowing. It is important to strengthen the agriculture-cattle raising relation as an action line proved to strengthen the domestic economies.

The decrease of the indigenous sector and the trend of disappearing of customs related to land cultivation, are the evidences of ruptures that are recreated in the familiar sphere and have repercussions in the social group.

Other elements of the social change are the radio, television and gas stove -gadgets introduced in the indigenous families as the result of the migratory work -, which are producing deep changes in the family organization, connivance and the transmission of knowledge from parents to children is fading every time more.

It is fundamental that, at a national level, the protection of the cultural and social identity forms are established as based of the local development and that particular attention to the changes that the means of massive communication have been generating in the domestic unit.

Soil market and change of the soil use

The resurgence of the struggles for land shows that the cooperative land or arrangement program has left a pending issue and that the land holders will defend their right of possession, even using the force.

The illegal sale of cooperative lands without the mediation of any authorities is one of the ways to promote the change of use of soil, another way is immigration of the population that demands a place to live; the possibility that the expropriations for the establishment of general benefit works is also present.

In the cooperatives from the rural municipalities prevails the rent of land over sale. This is seen as a retrievable social interaction mechanism that will allow continuing with the agricultural activity. Sharing in halves, parceling and land

borrowing, that strengthens the social relations among land holders, constitute traditional forms of interchange that face a disappearance process since they are less practiced as the time passes by.

The regularization of the community land ownership has generate a feeling of real ownership of the propriety, but at the same time has generated differentiated answers, among those, the decision of continuing with the cultivation or selling the land.

The land division has led to the increment of prices for human settlements, industrial, commercial or of services uses. Even when the community land holders sell their lands at an attractive price, it is feasible that in the short or medium terms the benefits will be small.

It is necessary to simplify the administrative proceedings for the land certification and deeding, as well as establishing specific programs to solve cases of agrarian litigation. Besides, it is necessary establishing norms for the sale of communal lands and promoting sale ways that provide land holders wit the opportunity of having some benefits with the future appreciation, this benefit goes from getting an agreed payment for the land to provide them with dwelling or, in some cases, participate from the benefits of the projected works of the expropriation. If this does not happen, an illegal land market will prevail, as well as an urban growth process founded in the social and suburban marginalization.

Final considerations

The result of the social history and the agrarian ideology have consolidated the structural factors that characterize the cooperative development, among them: the smallness of the parcel, the individual management of the land, the family organization forms for the work, the persistence of corn for consumption cultivation and the use of traditional technology.

The abandonment in which the cooperative sector is now by an adverse agricultural policy and a regional economic policy directed to the industrial and urban development question the permanence of the natural and social resources of the Alto Lerma region in the short and medium terms.

The low profitableness of the parcels is the main reason of the extra-cooperative activities. The income from these activities constitutes a fundamental entry of the cooperative economies.

TABLE 16
THREATS OF THE COOPERATIVE AGRARIAN SYSTEM, ALTO LERMA, MEXICO

Strategies	Labor migration	Maintain the cooperative production unit with external income	Incorporation of young women to external work	Maintain the links between the origin and destiny places	Performance of non-agricultural activities	Strengthening of the relation agricultural e-cattle raising	Scenario	
							Favorable	Unfavorable
Adversities								
Increment of the population occupied in non agricultural activities	+	+	+		+	+	Make the rural economies dynamic	Increment of the work force in the urban areas
Competence for the non-agricultural work market	+	+	+	+	+	+	Occupation in several activities (part time)	Limited opportunities to obtain an employment
Changes in the cooperative family structure		+	+	+	+	+	Maintenance of the nuclear and extended family as sustain of the agricultural activity	Disintegration of the forms of family work and reduction of the number of children
Changes in the ways of family organization	+		+	+			Aspiration to live better	Adoption of different ways of life and dilution of culture and customs
Deterioration of the agricultural cooperative economy	+	+	+	+			External income	Increment in the occupation in other activities
The agricultural and cattle activities developed individually leads to a deficit	+	+	+		+	+	The combination of the activities strengthens the economy	Lack of productive support

Continúa

TABLE 16
THREATS OF THE COOPERATIVE AGRARIAN SYSTEM, ALTOLERMA, MEXICO

Strategies	Strengthen the cultural identity	Recover the patronal fiestas and godfatherhood as forms of social cohesion	Recovery of the original languages and traditions	Attention programs for the media are	Institute the protection to the cultural identity forms as base of the local development	Scenario	
						Favorable	Unfavorable
Adversities	Social organization						
Assimilation of the indigenous sector to the population as a whole	+		+	+	+	Importance of culture	Loss of the cultural identity
Disappearance of customs	+	+	+	+	+	Maintain the customs as social strength	Little economic importance
Rupture of the family organization	+			+	+	Take advantage of the communication means	Transformation of the social and familiar organization
Strategies	Land market and soil use change						
Solve the litigation problems		Right of expropriations considering the future appreciation	Sale of land in advantageous conditions	Simplify the administrative steps	Protect the cooperative land from intermediary agencies and estate	Favorable	Unfavorable
Adversities	Land market and soil use change						
Revival of the confrontations for land	+		+	+	+	Avoid clashes	Unfinished cooperative order and delays
Immigration	+		+	+	+	Relative economic and social dynamism	Demand for soil for living
Illegal sale of cooperative lands	+		+	+	+	Relative and circumstantial benefit	Increment of the irregular settlements and disintegration of the cooperative
Expropriations	+	+	+	+	+	Benefit the community land owners	Urban growth and little advantages for the community land owners

Source: own elaboration from the data gathered during the field work in 2001 and 2002.

The agricultural production is becoming a complementary resource; however, the agricultural sales, as small as they are, and the extra-cooperative income have turned into a purchasing capability that allows some to survive and in other cases they propitiate economic and social differences among communal land holders.

The movement of the cooperative population due to working reasons is the main articulation mechanism of the cooperative economies to the urban and regional spheres.

The multiple occupation of the cooperative population evidences a non-traditional process of economic revival that expresses the conflict relations between the own work forms and the imported ones from the urban sphere. This is causing a redefinition of the cooperative economies and the regional agrarian society.

At the moment when the cooperative economies articulate to one or several types of market (labour market, product market, land market and capital market), it begins a transformation process towards more heterogeneous social, economic and cultural structures, where the cooperative sector will be lessened.

In the cooperative economies is feasible that the land cultivation continues since, even when this activity loses pre-eminence as principal activity, it is constituted in one more, and not the least important, alternatives to continue living.

The economic potentiality of the Alto Lerma region is in the industry, commerce and services; the natural and social potential is in the agriculture and cattle raising. In this priority confrontation are immerse the cooperative economies, which perform economic, social and cultural functions according to their history, time and rhythm. However, the political, economic and social externalities have a definite influence in its future development possibilities.

Bibliography

- BAIGORRI, Artemio, 1998, "De la *terra ignota* al jardín terrenal. Transformaciones de usos y funciones del territorio de la urbe global", en *Ciudades* núm. 4, Revista de urbanística de la Universidad de Valladolid, Secretariado de Publicaciones, Valladolid.
- DE IBARROLA, María, 1988, "Hacia una reconceptualización de las relaciones entre el mundo de la educación y el mundo del trabajo en América Latina", en *Revista Latinoamericana de Estudios Educativos*, vol. XII, núm. 2, México.
- GEM, 1969, *Dotación de tierras ejidales comprendidas de 1919-1968*, Dirección de Agricultura y Ganadería, Toluca.

- GEM, 1993, *Atlas Ecológico de la Cuenca Hidrográfica del Río Lerma. Tomo I*. Comisión Coordinadora para la Recuperación Ecológica de la Cuenca del Río Lerma, Toluca.
- GÓMEZ Orea, Domingo, 2002, *Ordenación territorial*, Ediciones Mundi-Prensa, España.
- HARVEY, David, 1998, *La condición de la posmodernidad, investigación sobre los orígenes del cambio cultural*, Amorrortu Editores, Argentina.
- INEGI, 1984, *X Censo General de Población y Vivienda 1980. Integración Territorial*. Estado de México, Tomo 15, Volumen I y II, Aguascalientes.
- INEGI, 1990, *XI Censo General de Población y Vivienda del Estado de México, 1990*.
- INEGI, 1994, *Resultados definitivos del VII Censo Agrícola-Ganadero*, vols. 1, 2, 3, Aguascalientes.
- INEGI, 1997, *Perspectiva Estadística del Estado de México*, México.
- INEGI, 1999, *Censos Económicos, 1998*, Estado de México
- INEGI, 2000, *El INEGI da a conocer los resultados oportunos del XII Censo General de Población y Vivienda 2000*, Comunicado de prensa, 7 de noviembre, número 140/2000. México.
- INEGI, 2000, *Tabulados Básicos Nacionales y por Entidad Federativa. Base de datos y Tabulados de la Muestra Censal. XII Censo General de Población y Vivienda, 2000*.
- INEGI, 2001, *XII Censo General de Población y Vivienda, 2000*. Estado de México, resultados definitivos por municipio, México.
- INEGI, 2002, *Anuario Estadístico del Estado de México*.
- INEGI/GEM, 1992, 1993 y 1994, *Anuarios Estadísticos del Estado de México*.
- Long, Norman, 1996, "Globalización y localización nuevos retos de la investigación rural", en Sara María Lara Flores y Michelle Chauvet (coords.), *La sociedad rural mexicana frente al nuevo milenio: la inserción de la agricultura mexicana en la economía mundial*, vol. I., INAH. Casa Abierta al Tiempo. UNAM. Plaza y Valdés.
- MEDEROS, Martha y Sandoval, Raúl, 1988, *Elementos de estadística económica*, Editorial de Ciencias Sociales, Ciudad de la Habana.
- OROZCO Hernández, María Estela y María Teresa Sánchez Salazar, 2004, "Organización socioeconómica y territorial en la región del Alto Lerma, Estado de México, en *Estudios Geográficos*, Boletín del Instituto de Geografía, UNAM.
- OROZCO Hernández, María Estela, 2003, *Sistema agrario ejidal en el contexto de la Globalización: el caso de la Cuenca Alta del Río Lerma*, UNAM, México
- RELLO, Fernando, 1986, *El campo en la encrucijada nacional*, SEP, Centro de Estudios del Desarrollo Económico de México de la Facultad de Economía, UNAM, México.
- RESTREPO Iván y Salomón Eckstein, 1979, *La agricultura colectiva en México*, editorial Siglo XXI. México.
- SUNKEL, Osvaldo, 1980, "Introducción. La interacción de los estilos de desarrollo y el medio ambiente en la América Latina", en O. Sunkel y N. Gligo, *Estilos de desarrollo y medio ambiente en la América Latina*, FCE, México.