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# **Social Marginality and Subsistence Agriculture – Way of Life in Rural Communities in Central Mexico**

María Estela Orozco Hernández  
*Autonomous University of the State of Mexico  
Mexico*

## **1. Introduction**

This discussion is focused on the conditions of social marginalization that prevail in numerous rural communities and on the effectiveness of the national strategy that should secure human improvement, food supply and the sustainable management of natural resources. Social marginalization characterizes a precarious structure of opportunities, which exposes the families to privations, risks and vulnerabilities that escape individual control (CONAPO, 2005) and show the distance between the components of social development and economic growth. The sociopolitical environment underscores the regulation to exploit lands, forests, common use water and the rights on the land (DOF, 1992), as well as the selectivity of productive and social support to assist the needs of marginalized zones and in extreme poverty (DOF, 2001). The scarce space destined to alimentary security and sovereignty establishes the rhetoric of administration, not of the State responsibility to guarantee the supply of food to the least favored population. The mixture of private right laws and laws that regulate the use of lands, water, and forests tends to transform the social relations and cultural bases of rural communities and places them in disadvantageous situations.

The study analyzes the way of life in sixteen rural communities in San Felipe del Progreso, State of Mexico, characterized by a significant proportion of indigenous population, self-consumption agricultural systems, high degree of social marginalization and the degradation of natural resources. The results reveal that the accumulated needs of education, labor, alimentation, healthcare services, as well as natural and economic limitations to produce maize, put the families in permanent risk and broaden the gap between the objectives of rural development policies and the growing social and environmental vulnerability of this social sector in risk

## **2. Research approach**

The perspective of cultural ecology points out that the adaptation of a preindustrial society to the environment is a process that depends on technology, social structures and relationships with nearby societies. These relations may induce changes in the society under study (Steward, 1963: 43). In the adaption process and under pressures from the environment, social groups reorganize technology (tools and knowledge) to make the most

of natural resources and emit responses that may be favorable to achieve reproductive success, health and alimentation (Daltabuit Godas, *et al.*, 1988: 9). When domestic economies implement diverse strategies generated in an environment of scarcity and lack; migratory labor and its economic contribution to the preservation of land cultivation becomes distinguishable (Orozco, 2005). The variety of economic activities performed by the members of the familial group assembles the vital, socialized and systematic activities that define their way of life. The way of life and the environment are the territorial patrimony of each community; it includes the right to access natural resources, productive practices and distribution of benefits (Ortega, 1998:33). The exploitation of natural diversity for production incorporates the variation that comes from the interaction of the environment and the management of land; the management practices performed on the *ecosystems* depend on the ecologic characteristics of the land and the social and cultural dynamics in which producers are involved (Toledo *et al.*, 1987: 95).

The formulas of agrarian reorganization maintain agricultural, livestock and forest systems. Not only are these systems structured by rules and resources, they also incorporate the function of the places where social life occurs – plots, households, yards, pens, orchards, arable lands, etc. The dwellers hierarchize and limit their spaces and use them as places for leisure, production, social interaction and experimentation (Ávila, 1996:65).

### 3. Methods and materials

The methodological procedure consisted of analyzing statistical and cartographic information and regulatory laws, recognizing the terrain, interviews of the opinion leaders and applying structured interviews; the capture and analysis of data, the discussion of results and conclusions were carried out in successive stages (Fig.1).

Sixteen rural communities were selected according to the degree of social marginalization, presence of indigenous population, soil and vegetal degradation and the existence of self-consumption agricultural production systems (GEM, 1969), (Table 1).

The universe was composed of 4,282 producers and the sample was calculated through the following formula (Sierra, 1995: 195):

$$n = \frac{o^2 \times p \times q \times N}{E^2 \times (N - 1) + o^2 \times p \times q}$$

N = universe size

n = sample size

$o^2$  = confidence intervals

p, q = variances

$E^2$  = sample error

$$\begin{aligned} n &= \frac{2^2 \times 50 \times 50 \times 4282}{10^2 \times (4282 - 1) + 2^2 \times 50 \times 50} = \frac{4 \times 2500 \times 4282}{(100 \times 4281) + 4 \times 50 \times 50} \\ &= \frac{42820000}{428100 + 10000} = \frac{42820000}{438100} = 98 \end{aligned}$$

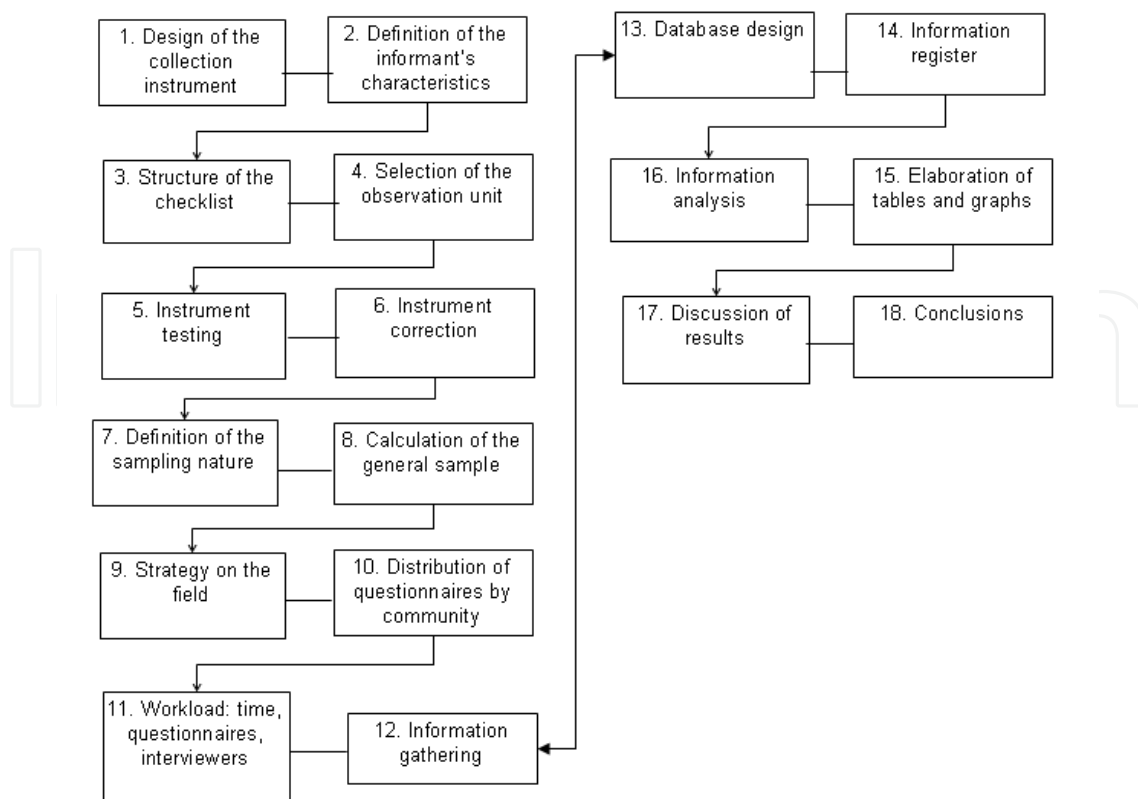


Fig. 1. Methodological procedure

| Locality/community         | Total population | Population of 5 years of age and older who speaks an indigenous language % | Marginalization index | Marginalization degree |
|----------------------------|------------------|--|-----------------------|------------------------|
| San Antonio Mextepec       | 1386             | 34.7   | 0.47346               | High                   |
| Santa Ana Niché Ejido      | 1440             | 17.36  | - 0.17536             | High                   |
| Santa Ana Niché Centro     | 1413             | 14.2   | -0.492284196          | High                   |
| Fresno Nichi               | 2191             | 17   | -0.404930658          | High                   |
| San Agustín Mextepec       | 4163             | 37.0   | - 0.04792             | High                   |
| San Jerónimo Bonchete      | 2074             | 34.7   | 0.35895               | High                   |
| San Jerónimo Mavatí        | 825              | 3.5  | 0.01458               | High                   |
| Ejido Emilio Portes Gil    | 2955             | 33.0   | - 0.85748             | Mid                    |
| San Nicolás Mavati         | 1052             | 6.46   | - 0.02701             | High                   |
| San Antonio de las Huertas | 3392             | 27.6   | 0.150402072           | High                   |
| San Juan Cote              | 2081             | 20.6   | 0.489687546           | High                   |
| Guadalupe Cote             | 1402             | 48   | 0.787029751           | Very High              |
| San Miguel de la Labor     | 4839             | 51   | 0.794843418           | Very High              |
| San Nicolás Guadalupe      | 5455             | 61   | 0.487461481           | High                   |
| Calvario del Carmen        | 3925             | 22.1   | 1.210425504           | Very high              |
| Estutempan                 | 561              | 17   | 0.601020733           | High                   |
| <b>16</b>                  | <b>39154</b>     | <b>34.0</b>  |                       |                        |

Source: GEM, 1969, CONAPO, 2005

Table 1. Selected rural communities

The mistrust among the inhabitants and the distance between communities allowed applying eighty-eight check lists out of the ninety-eight that were estimated. The analysis schema incorporates variables which allowed designing the questionnaire that was applied in the study zone (Fig. 2).

The social conditions are integrated by the set of factors that characterize the accessibility to basic goods and services necessary to live, education, healthcare, alimentation and housing; the economic conditions integrate the factors that define the productive base and include the activities that are performed to satisfy the basic needs, employment, income and technology. The systems of land use comprise the set of activities, strategies and instruments whose objective is obtaining products and benefits. These systems conjugate the environmental or ecologic component (physical base), and the technologic and economic-social components. The first of them articulates the production forms developed by the community; the second component integrates the set of instruments and means of production and the practices of land management; and the third contains the ways of distribution and consumption of the products, social organization, population, land tenancy and rationality and agrarian ideology. Each component is related to the others and the hierarchy between them depends on the development degree accomplished by each society at a particular moment (Chonchol, 1996:23).

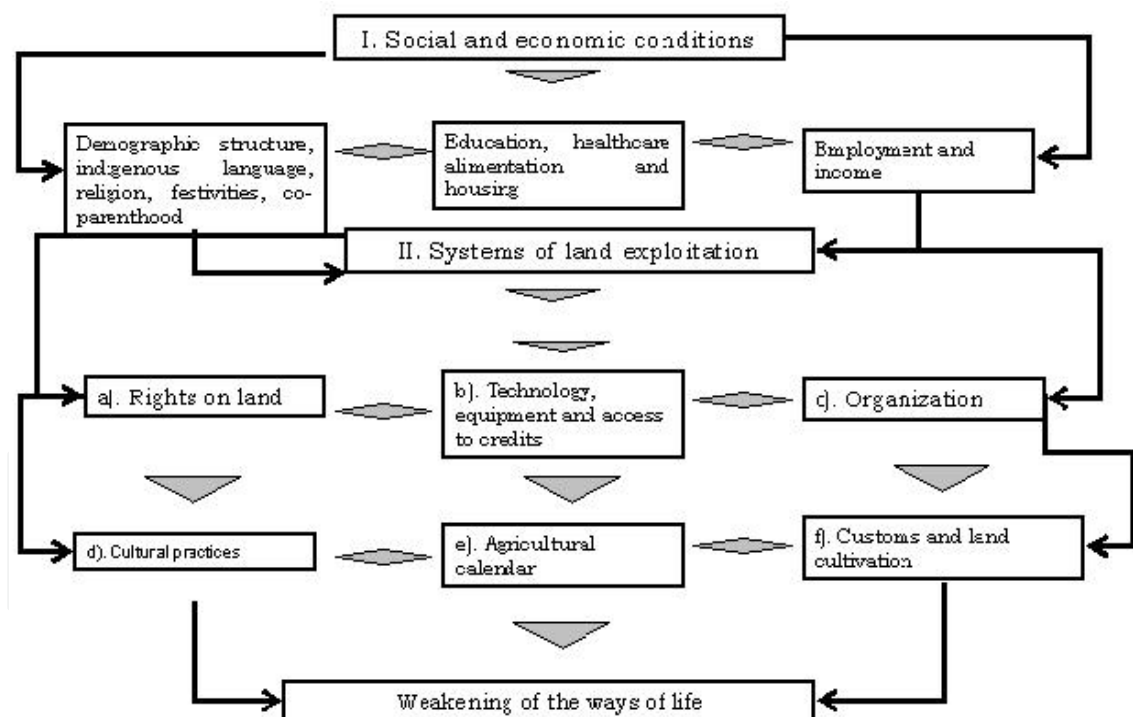


Fig. 2. Variables and indicators of the measuring

The survey was carried out in July 2010, the information was captured in a data processor and tables and graphics were produced. The state of the way of life of the rural communities was determined by a cause-effect matrix. In the valuing we took into account field observation, information from the survey and five magnitudes of effects: minimal (1), mild (3), moderate (5), high (7) and maximum (9) (Jaimes *et al*, 2006:720).



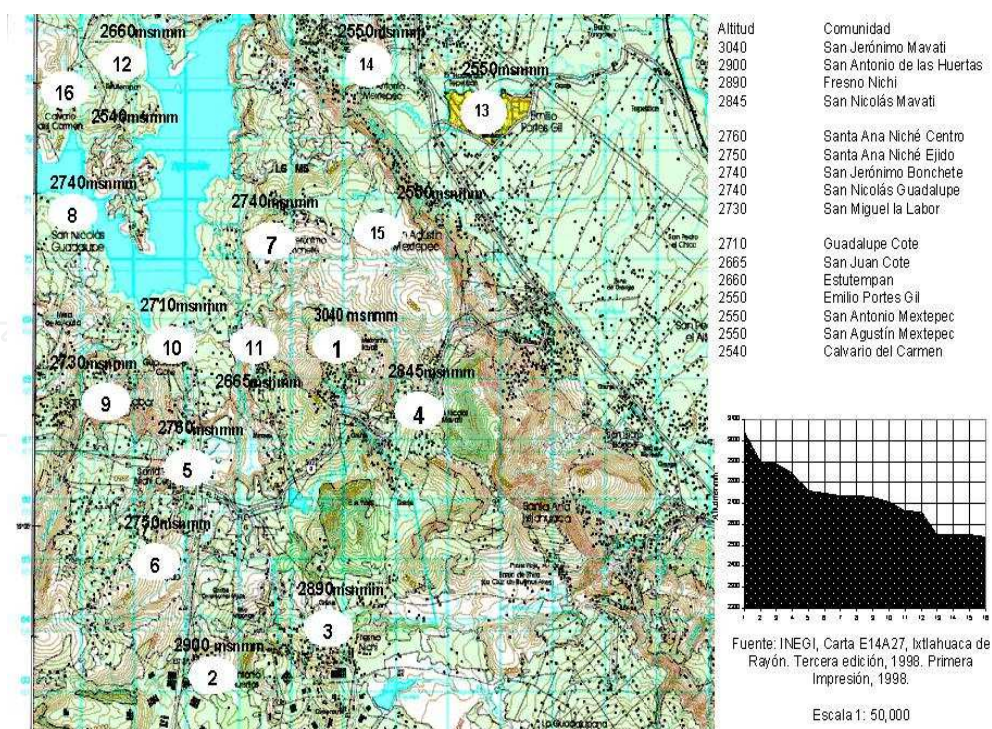
#### 4. Territorial context

The municipality of San Felipe del Progreso is an emblematic case of economic, social and environmental delays. In the 1980's, this municipality was located in the Fundamental Region of Peasant Economy (*Región Fundamental de Economía Campesina, REFEC*) and an area of primordial attention due to its degree of alimentary marginalization (Sánchez, 1980:45, COPLAMAR, 1982:11).

Nowadays San Felipe del Progreso is identified by being part of the Mazahua ethno-region. It has eighty-seven localities and 100201 inhabitants, with five of the localities (San Felipe del Progreso, Calvario del Carmen, San Miguel la Labor, San Nicolas Guadalupe and Ejido San Pedro el Alto) having more than 2500 inhabitants (INEGI, 2005). It has high social marginalization index (CONAPO, 2000; 2005) and 25% of its population speaks an indigenous language (INEGI, 2005).

An important sector of the population works the land for self-consumption; in numerous areas both agriculture and grazing have suffered from soil erosion. About 1.4% of the cultivable soil is eroded; forest areas are damaged from immoderate commercial logging, extensive exploitation of shrubby zones to obtain firewood and the practice of shifting cultivation and slash and burn. These factors have favored the broadening of cultivation zones and the expansion of grazing spaces (GEM, 2004).

The selected communities are located circa 30 km away from the municipal head; the productive base is composed of soils with varied depth which are irregularly distributed in sierras, hills and prairies; the ecologic conditions propitiate a temperate climate with a regime of summer rains and the annual mean precipitation is 800-900 mm (Fig. 3).



Source: INEGI, 1998, Map E14A27 Ixtlahuaca de Rayón. Scale 1: 50,000.

Fig. 3. Distribution of the rural communities and altitudinal profile

The expansion of agricultural surface onto forest soils is the cause of water erosion, washing of soils and loss of natural vegetation. The soils of volcanic origin are used for the seasonal cultivation of maize and grazing.

The hydrologic component is composed of seasonal creeks that feed Tepetitlán dam, used to control floods and irrigate small nearby farms.

## 5. Social conditions

The demographic component approximates social, economic and cultural features of the communities. In the survey there was a population register of 486 people, 50% women and 50% men, the population structure indicates a reduction of infantile and elderly population and the broad sector of population from 18 to 45 years of age which requires a job (Fig. 4).

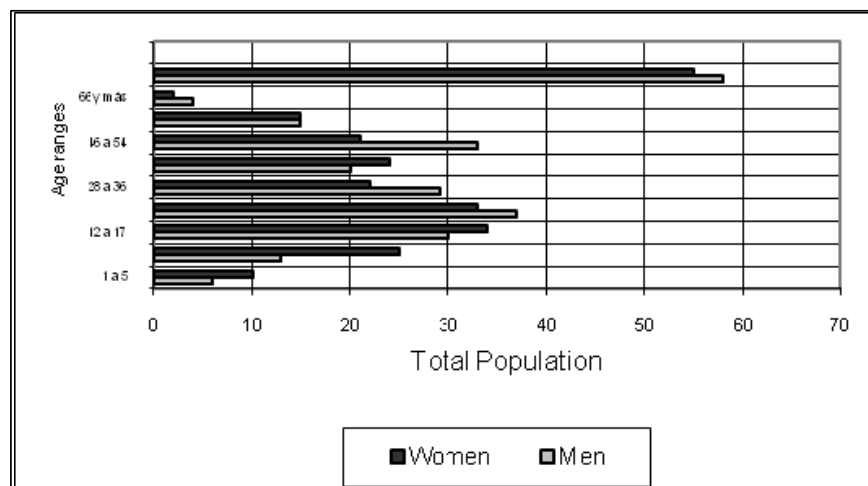


Fig. 4. Population structure

Seventy-six percent of the population could read and write; and only 51% (249 people) had some schooling. The schooling levels with high frequencies in the population were elementary and secondary schools (Table 2). The low qualification level of the labor force and lack of employment opportunities created few chances of accessing remunerated labor and healthcare services.

| Schooling level | Population | %  |
|-----------------|------------|----|
| Elementary      | 135        | 28 |
| Secondary       | 78         | 16 |
| High school     | 26         | 5  |
| Technician      | 4          | 1  |
| Graduate        | 6          | 1  |
|                 | 249        | 51 |

Table 2. Schooling level

Above half of the respondents used local medical consultation, while 11% has got medical service in Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social, IMSS*) and the Institute of Security and Social Services of the Laborers of the State (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE*). Attention to gastrointestinal diseases was common in children, respiratory in youths, and cardiovascular and diabetes in adults. Treatment was limited to infusions of medicinal herbs<sup>1</sup>: knowledge on the properties of the plants is limited. Concerning the frequency of food consumption, distinguishable were maize, tortilla and beans; while the low consumption food items were meat, fish and poultry (Fig. 5). Fish is eaten only in the community of Estutempan, and by and large, the diet is complemented in rainy season with some seasonal plants<sup>2</sup>.

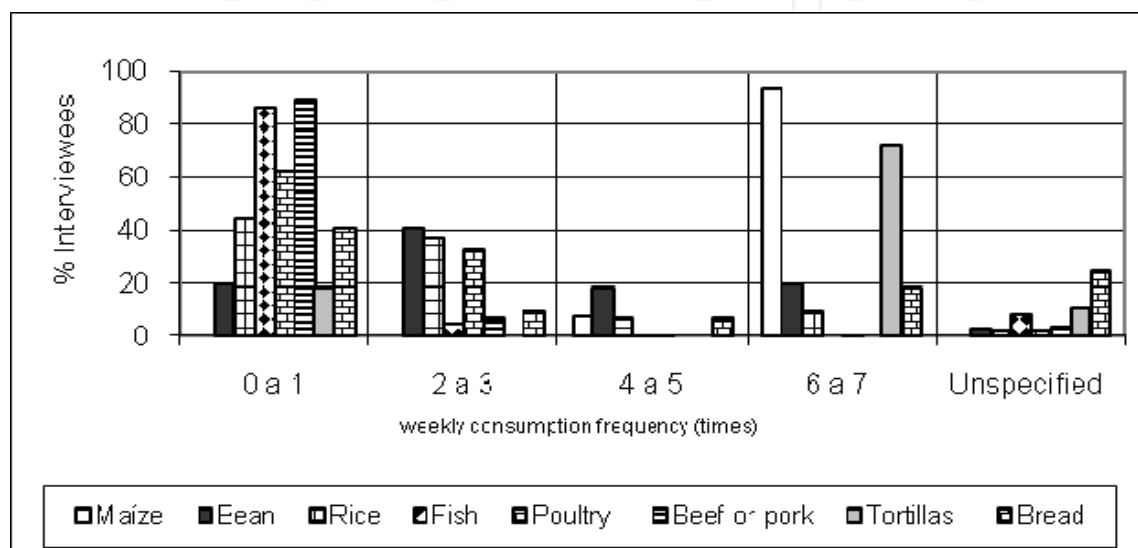


Fig. 5. Frequency of food consumption

The national survey on alimentation and nutrition in the rural environment for the State of Mexico (ENAL) indicates an increment in the per capita consumption of foods of animal in the period 1996-2005<sup>3</sup>. However high-risk malnutrition (7.7%) and stunted growth (22.3%) persist in the infantile population (Ávila Curiel *et al*, 2005:44). The diet scarce in proteins

<sup>1</sup>*Laccaria laccata* (cammomile), *Punica granatum* (pomegranate), *Eucalyptus globulus* Labill (blue gum), *Gnaphalium sphacellatum* (mullein), *Ruta Chalapensis* L. (fringed rue), *Schinus molle* L. (Peruvian pepper), *Brickellia veonicaefolia* H.B.K. Gray (marjoram), *Ternstroemia Pringlei* Rose (tilia), *Chepodium ambrosioides* L. (epazote), *Aloe vera* L. (aloe), *Pinus patula* Schl. Et Cham. (patula pine), *Andropogon citratus* (lemongrass), *Peumus boldus* Molina (boldo), *Satureja macrostemun* (mountain tea), *Heterotheca inuloides* Cass (arnica), *Ambrosia artemissifolia* L. (artemisia), *Crataegus mexicana* Moc. et Sess (Mexican hawthorn), *bougainvillea spectabilis* (bougainvillea), *Litsea glaucescens* H.B.K. (laurel), *Allionia incarnata* Choisy (windmills), *Cedronella mexicana* Benth (toronjil), *Artemisia, laciniata* Willd. (wormwood), *Mentha arvensis* var. (peppermint) and *Spigelia Longiflora* Mart. et Gal. (donkey herb), (Martínez, 1994).

<sup>2</sup>*Brassica campestris* cruciferous (turnips), *Chenopodium Nuttalliae* Staff (huauzontle), *Chepodium mexicanum* (ashen quelite), *Amaranthus hybridus* L. (smooth amaranth), *Coriandrum sativum* L. (coriander) and wild mushrooms (Martínez, 1994).

<sup>3</sup>The consumption of beef or pork increased 21.4 to 25.1 grams, chicken meat went from 30 to 36.5 grams and fish consumption was 7.3 grams in both surveys. However, there is greater malnutrition in children who within his family speaks an indigenous language (13.4%), compared with those younger than five years in whose families to speak only Spanish (Ávila Curiel *et al*, 2005:44 y 45).



manifests in the malnutrition the children have and the exposure to the effects of stomach and respiratory diseases.

As for the households, 26% and 59% had 1 - 2 and 3 - 4 rooms respectively, while 78% had kitchen and 40% used gas stoves. Nonetheless the use of firewood in traditional hearths as an energy source still prevailed. The architecture of the households exhibited improvement of material conditions: brick walls, concrete roofs and cement floors (Table 3). Nevertheless, 16% of the households with dirt floor represent a highly vulnerable sector.

| WALLS       | %   | ROOFS    | %   | FLOORS | %   |
|-------------|-----|----------|-----|--------|-----|
| Adobe       | 28  | Tile     | 32  | Dirt   | 16  |
| Brick       | 69  | Sheet    | 8   | Cement | 82  |
| Sheet metal | 3   | Concrete | 60  | Mosaic | 2   |
|             | 100 |          | 100 |        | 100 |

Table 3. Household construction materials

There was higher malnutrition and propensity to gastrointestinal diseases in children under 5 years of age who lived in households with dirt floors and defecate on the floor. As for the household services, official data indicate that 63% of the inhabited households had piped water (INEGI, 2007) and the inhabitants pointed out that water supply is performed via springs, creeks and wells. They agreed on the fact that the water had good quality, but only 18% of the families received water every day, while most received it every other day or weekly.

A collective complaint is the insufficiency of the distribution network, excessive chlorination, scarcity and a faulty management by the committee in charge of distributing it. Introducing potable water in some communities has not been possible because of their dispersion and the ceaseless phenomenon of irregular settlements. Sewage system covers 20% of households; only in few cases does this network connect to the public network, and the discharge of residual waters in gorges is common.

### 5.1 Social organization

Organization is the base of social and economic life of the communities and it is expressed through the cultural elements of the place where social life and coexistence occur. 84% of the respondents identified with the community based on the following reasons: they were born in the place, they are happy with the peaceful, quiet, and familial coexistence.

Twenty-seven percent of the population speaks Mazahua language, despite more than 60% of the informers considers that it is important to speak the native tongue, they stated that youths and children are scantily or not at all interested in learning it. 65% of the families profess Catholicism and 20% are Evangelic. As part of the religious practices there is a celebration held for the patron saint by means of *mayordomias* –system of position and charges– and god-parenthood prevails; godparents help with the work in the plot and care for the children. 45% of the interviewees verified the participation in vigilance and religious activities, likewise the customs of praying, benediction of the first groove planted and mass

in the harvest are preserved; whilst the customs which tend to disappear are: the use of wooden plow, mass by the end of the season and the harvest godfather, in general there is an agreement on the fact that increasingly the groups gather less frequently and the celebrations have decreased in splendor due to widespread poverty.

In regards to authority, 90% of the informants recognized in the first place the delegate; in the second the ejido commissary and the priest. In the requests for the government the people distinguishes agrarian support training, advising, employment, financial programs, sewerage system, street lights, paved roads, honesty, fulfillment of and information on supportive programs. The interviewees identified “*Oportunidades*” Program of Human Development, which promotes inter-sector actions for the education, health and alimentation of the families which live in extreme poverty conditions. Data from the survey reveal that only 32% of the interviewees received support from this program and national data from 2011 *Oportunidades* fiscal balances verify that the prospective population amounts to more than 50.6 million Mexicans who experience some degree of poverty (DOF, 2010).

Less moderate figures account for the growth of population in extreme poverty, probably urban poverty is on the increase, while the pauperization of most of the rural population becomes acuter; so is outlined by *Oportunidades* Program in 2010, whose beneficiary universe was 5.8 million (GF-SEDESOL, 2010: 4) barely 12% or 15% of the population in poverty conditions.

## 6. Economic conditions

The employed population represented 42% (205 people) of the population, 37% is completely devoted to livestock activities and 60% combines them with another activity (Fig. 6). 25% of the informants indicated that some of the family members works in masonry and domestic service in Mexico City, San Felipe del Progreso and the City of Toluca, and at least they contribute with 3 to 6 USD a day or 13 to 26 USD a week. From time to time, some producers obtain money from selling sheep and a reduced group receives income from working in other activities. 80% of the income is destined to alimentation; 20% to sow maize, with a tight margin to save and access additional satisfiers.

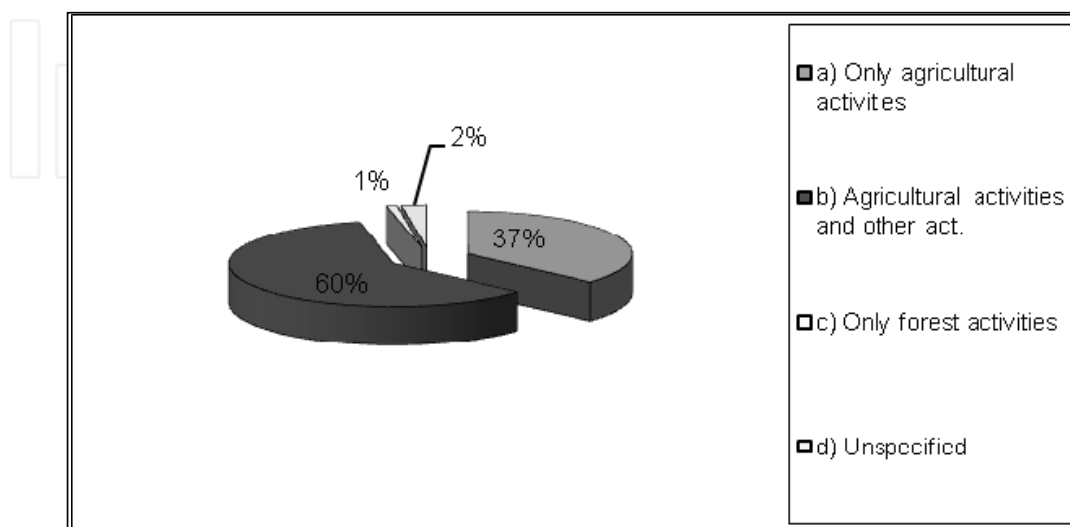


Fig. 6. Occupational distribution of the population

The report on indigenous people human development in Mexico produced an income index for this population sector of 0.59536 and a per capita income of 3.541 USD (Fernández *et al*, 2006); four years later the minimum wage for the area under study was \$54.47 MXN (SAT, 2010). In this context, 25% of those interviewed received income between 4 and 8 USD, and 75% did not receive revenue by being unemployed and having consumed the production of maize.

## 7. Production system

The bases of labor organization are land and family; above half of the families is composed of four or more members (Figure 7).

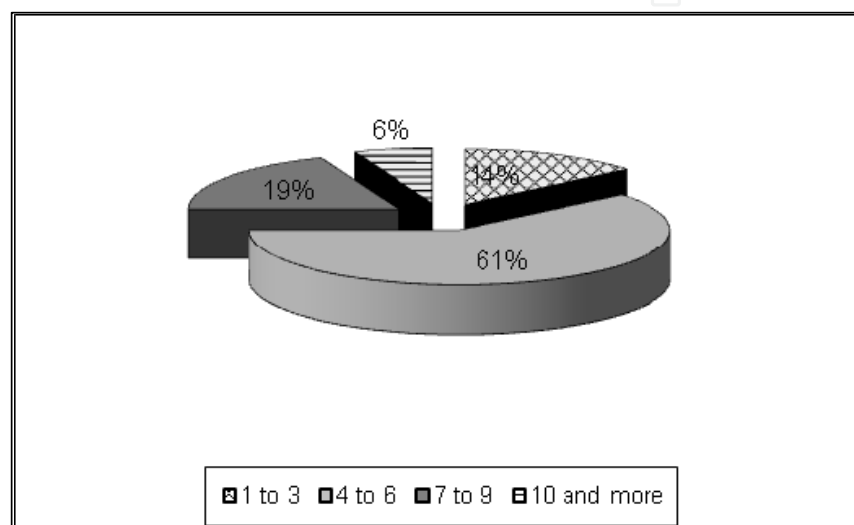


Fig. 7. Number of members per family

Labor division is fundamental for the functioning of the economic unit, the distribution of tasks distinguishes the function of the children and youths in works in the field and the scant importance given to school, and in the absence of the father, the mother takes up the responsibility of looking after the plot.

The production and reproduction of the domestic units: it works from the complementary activities of their members in tasks distributed according to their gender and age; only within this logic of complementary labor is the survival of peasant systems understood (Bonfil, 1996:68).

The set of rural communities has a surface in social property of 9,846 hectares, 89% of the surface is allotted and 11% of it is destined for communal use (INEGI, 1991). Lands of common use are fir forests and an assortment of oak, pine, strawberry tree and cedar. Due the advancement of agriculture and the fragmentation of forest coverage in small cultivation plots, in the landscape one can notice the patches of disperse forest, the loss of natural vegetation and the affectation of the habitant of wild animals.

The interviewees point out that reforestation (65%) and firebreaks are carried out; likewise they recognize firewood extraction and periodic burns as the cause for the persistence of plagues on trees and soil erosion.

Most of the informants recognized themselves as ejido owners, 41% from two to twenty years as owners; 32% from twenty-one to forty years; and 6% more than forty years as so. Only 15% mentioned that their plot was measured by the Program of Certification of Ejido Rights and Entitlement of Urban Plots (*Programa de Certificación de Derechos Ejidales y Titulación de Solares Urbanos, PROCEDE*). The federal character of this program made it a national priority, it was a basic instrument of the 1995-2000 Agrarian Sector Program; with a voluntary character, the purpose was to guarantee juridical certainty to ejido proprietors and foster productive association (Orozco, 2003: 143).

The implications of the program are not completely known, however the interviewees have a good impression of the measurements and certifications of the plots, not only for the security of their families, but also to allot the lands and cede them to their children so that they obtain the certification of plot rights

These benefits have not improved the conditions of life; agriculture is not enough to satisfy their needs, they do not ask for loans because of the high interest rates and sell fractions of land due to their bad economic situation. It is common that proprietors promote the subdivision of the arable lands with housing ends, once inhabited the plots turn into areas of precarious settlements that lack services and infrastructure, and facing the impossibility to work the individual plot, it is frequently hired, used in sharecropping or for a divided use. 86% of the interviewees possess a plot and 14% two or more in social property, 28% has private property plots. In both cases maize is sowed seasonally along the year on an average surface of one to two hectares. Producers invest two days of work on sowing and nine days on harvesting, 36% pays day laborers; 88% uses the crop for self-consumption; and 15% for consumption and sale; 43% considers that production is not sufficient, their daily consumption is 2.5 kilos a day. Even if the yield and production volume of maize are low, agriculture is a very important alternative for alimentation.

The cost of sowing a maize hectare varies from plot to plot; it depends on the plot size and the economic solvency of the producers, the expenses were calculated between 80 and 280 USD, including day laborers, agricultural supplies and pre and post sowing and harvesting works.

In sowing maize 81% of the informants uses crossbreed seeds and 77% applies agrochemicals, has fowls available as food and few working animals, livestock is fed on stub, grass and maize, and they grow broad bean, oat, gourd, bean and from time to time wheat for self-consumption. 77% and 43% of the respondents used hired yokes and tractor respectively. While 85% of the respondents did not have financial credit, only 15% received support from the Program of Support for the Countryside (*Programa de Apoyo al Campo, PROCAMPO*) worth 1000 MXP per hectare (81 USD).

The data express discouragement to apply for a loan and the scarce benefit from the support, and the producers, far from using the resource for production, use it for food and dressing, in this respect the economic support is negligible. The situation has an explanation in the operation of a new financial structure implemented in the country as from 1994, which established mortgage, thus plot certification became indispensable to back the loans and apply for PROCAMPO supports (Orozco, 2003:182).

Facing the absence of productive investment, there is a low technologic level that is expressed in sowing maize with no other care but the work prior to rainy season (April -

May), the observance of cultural practices before sowing distinguishes plowing and first and second harrowing. Plowing consists in preparing the land with grooves and break clods, they use a tractor in even zones and yoke in sloped zones; then white maize is planted, whose phenological cycle is 140 days long. In the case of a loss by rain delays the custom is to reseed black maize, whose growth cycle is 90 days long. Once sowing is performed, the second harrowing is carried out, it consists in covering the seed in wet soil, they place the seed under the groove to use the moisture and then turn the soil, activities after sowing are fertilization and weeding. In spite of the unfolding of work and resources invested according to the possibilities of producers, the result is no income from selling the harvest.

## 8. Discussion of results

The relationships between communities is expressed in a way of life based on self-consumption agricultural production, family size, division of labor, land tenancy and external income make a difference between survival and starvation (Table 4).

| C/E   | EF1 | EF2 | EF3 | EF4 | EF5 | EF6 | EF7 | EF8 | EF9 | TOTAL | %   |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| C1    | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 7   | 7   | 77    | 17  |
| C2    | 7   | 9   | 7   | 7   | 9   | 9   | 9   | 1   | 1   | 59    | 13  |
| C3    | 9   | 9   | 9   | 9   | 9   | 7   | 9   | 1   | 1   | 63    | 14  |
| C4    | 1   | 1   | 9   | 9   | 9   | 9   | 9   | 7   | 1   | 55    | 12  |
| C5    | 7   | 3   | 3   | 9   | 9   | 7   | 1   | 1   |     | 40    | 9   |
| C6    | 7   | 7   | 7   | 7   | 9   | 9   | 9   | 1   | 1   | 57    | 13  |
| C7    | 1   | 1   | 1   | 1   | 7   | 9   | 9   | 7   | 7   | 43    | 10  |
| C8    | 1   | 1   | 1   | 1   | 9   | 7   | 9   | 9   | 9   | 47    | 11  |
| TOTAL | 42  | 40  | 46  | 52  | 70  | 66  | 64  | 34  | 27  | 441   | 100 |
| %     | 10  | 9   | 10  | 12  | 16  | 15  | 15  | 8   | 6   | 441   | 100 |

Causes

Effects

- C1. Agriculture and extensive rearing
- C2. Exploitation of shrubby zones for firewood
- C3. Slash and burn and shifting cultivation
- C4. Reduced cultivation surface
- C5. High production costs and absence of technical and financial support
- C6. Absence of productive organization
- C7. Minimal instruction level
- C8. Low income

- EF1. Loss of forest coverage
- EF2. Increase in water erosion
- EF3. Reduction of soil fertility
- EF4. Low land yields
- EF5. Poor improvement of the production means
- EF6. Limited capability of collective management
- EF7. Scarce employment opportunities
- EF8. Alimentation poor in proteins
- EF9. Deficient housing services, irregularity and water scarcity

Table 4. Weakening factors of the rural way of life

In the ecologic and cultural dimensions, the social conditions and production systems of the studied communities are based on an action-reaction-feedback relation system stimulated by the internal and external social environments. In this perspective, the familial groups amplify their adaption capability through varied survival strategies that allow them to overcome the limitations and adversities in order to secure social reproduction.



Within this logic the families opt for decisions made in contingency and risk conditions, outstanding is labor migration, labor division by age and gender, increment of pressure from the dwellers through extensive agriculture, slash-and-burn and shifting agriculture and the exploitation of shrubby zones for firewood, which linked to the absence of a productive organization leads to a limited management to obtain technical and financial support that would allow improving the production means and cultural practices; all of this undermines not only the basic resources (soil, water and vegetation), but also the way of life of the producers.

The analysis of empirical data shows that the weakening of the rural way of life is expressed in the progressive deterioration of basic resources for production (soil, labor force and investment); this causes the natural socio-technical de-capitalization of the production system of maize which, associated to the increase of education, employment and social security needs as well as the demise of cultural features, places the familial groups in permanent crisis and projects a phenomenon of social and environmental deterioration that progressively increases the vulnerability of this population sector.

## 9. Conclusion

The abandonment of the policy of productive support and the extension of a social policy that tries to eradicate marginalization and poverty, as well as the subordination of agrarian and agricultural policies to the new environmental laws that regulate the access and exploitation of natural resources overlook the progressive deterioration of the cultivation systems, the fundamental base for the way of life of rural communities.

The deterioration of the rural way of life expresses the accumulative effects that appear in the alimentation poor in proteins, in deficient housing services, irregularity and scarcity in water supply, in the demise of cultural features and the associated customs, in the low or inexistent incomes, as well as in the affectation of indivisible natural resources (communal use lands), and to sum up in the increase of social marginalization and poverty. The situation experienced in these places underscores the gap between indigenous households and national development, and makes the dysfunction of the statements and results of rural development policies evident.

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## 11. References

Ávila, Agustín (1996) "Etnia y movimiento campesino en la Huasteca Hidalguense", *Organización de productores rurales en México*. Fernando Rello (coordinator). UNAM / Facultad de Economía. Mexico: 65-96.

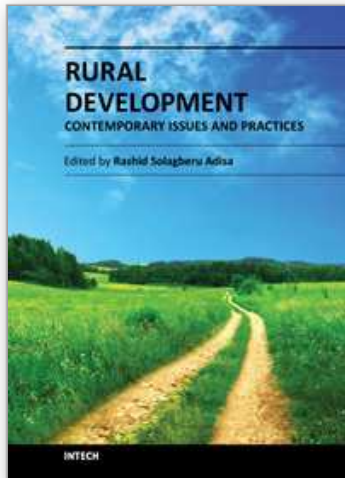
- Ávila Curiel, Abelardo, Carlos Galindo Gómez, Adolfo Chávez Villasana (2005). *Encuesta Nacional de Alimentación y Nutrición en el Medio Rural*. ENAL 2005 Estado de México, DIF, Toluca, Mexico.
- Bonfil Sánchez, Paloma. (1996). Las familias rurales ante las transformaciones socioeconómicas recientes, *Estudios Agrarios*, October – December, No. 5, Revista de la Procuraduría Agraria. Mexico: 79-104.
- Chonchol Jaques (1996)., *Sistemas Agrarios en América latina, de la etapa prehispánica a la modernización conservadora*. FCE, Mexico, Mexico City.
- Consejo Nacional de Población. CONAPO (2005). Datos básicos. Índices e indicadores de marginación, <http://cat.microrregiones.gob.mx/dbasicos/inicio.asp?refnac=150740097>, Consulted Tuesday December 2nd 2010.
- Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados (COPLAMAR) (1982), *Alimentación, necesidades esenciales en México, situación actual y perspectivas al año 2000*, volume 1, Siglo Veintiuno Editores, Mexico, Mexico City, pages: 301.
- Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados COPLAMAR (1983). *Necesidades esenciales en México. Situación actual y perspectivas al año 2000*. Vol. 5. Geografía de la Marginación. Siglo XXI Editores, Mexico.
- Daltabuit Godas, Magalí, Torres Ríos, Alicia and Pérez Plaja Fraterna (1988). *Coba: Estrategias adaptativas de tres familias mayas*. Universidad Nacional Autónoma de México, Mexico, Mexico City: 114
- DOF (Diario Oficial de la Federación) (1992), *Ley Agraria*, publicada el 26 de febrero de 1992, Presidencia de la República de los Estados Unidos Mexicanos, México. Secretaria de Gobernación Dirección General de compilación y consulta del orden jurídico nacional <http://www.ordenjuridico.gob.mx/>
- DOF (Diario Oficial de la Federación) (2001), *Ley de Desarrollo Rural Sustentable*, Nueva Ley publicada el 7 de diciembre de 2001, Presidencia de la República de los Estados Unidos Mexicanos, Mexico.
- DOF (Diario Oficial de la Federación) (2003), *Ley General de Desarrollo Forestal Sustentable*, published on February 25<sup>th</sup> 2003 Presidencia de la República de los Estados Unidos Mexicanos, México. Secretaria de Gobernación Dirección General de compilación y consulta del orden jurídico nacional <http://www.ordenjuridico.gob.mx/>
- DOF (Diario Oficial de la Federación) (2010), Acuerdo por el que se emiten las reglas de operación del Programa de Desarrollo Humano Oportunidades para el ejercicio 2011, published on December 31<sup>st</sup> 2010. Presidencia de la República de los Estados Unidos Mexicanos, Mexico.
- Fernández Ham, Patricia, Alejandro Tuirán Gutiérrez, Manuel Ordorica Mellado, Guadalupe Salas y Villagómez, Rosa María Camarena Córdova, Enrique Serrano Carreto (2006). Informe sobre desarrollo humano de los pueblos indígenas de México 2006. (e-version base 2000). Comisión Nacional para el Desarrollo de los Pueblos Indígenas, Programa de las Naciones Unidas para el Desarrollo, Mexico: CDI-PNUD, November 2006. Mexico City.

- Gobierno Federal- Secretaria de Desarrollo Social (GF-SEDESOL, 2010), Oportunidades, un programa de resultados, Secretaria de Desarrollo Social, Mexico, Mexico City, pages 40.
- Gobierno del Estado de México (GEM) (2004), San Felipe del Progreso Planes Municipales de Desarrollo Urbano, Secretaría de Desarrollo Urbano  
<http://www.edomex.gob.mx/sedur/planes-de-desarrollo/municipales/san-felipe-del-progreso>
- Gobierno del Estado de México (GEM) (1969). *Dotación de tierras ejidales comprendidas de 1919-1968*. Dirección de Agricultura y Ganadería. Toluca. Mexico.
- Instituto Nacional de Estadística, Geografía e Informática INEGI (2000). *Tabulados Básicos Nacionales y por Entidad Federativa*. XII Censo General de Población y Vivienda, 2000. Mexico.
- Instituto Nacional de Estadística, Geografía e Informática INEGI (2007) “II Censo de Población y Vivienda 2005. Principales resultados por localidad 2005 (ITER). Estado de México, Mexico  
(<http://www.inegi.gob.mx/est/contenidos/espanol/sistemas/conteo2005/localidad/default.asp?c=7317>: 22 febrero de 2010.
- Instituto Nacional de Estadística, Geografía e Informática (INEGI) (1991), *Documento de trabajo inédito: Resultados preliminares del VII Censo Agropecuario*, Coordinación Censal Estatal, Toluca, México.
- Instituto Nacional de Estadística, Geografía e Informática (INEGI), Map E14A27 Ixtlahuaca de Rayón. Tercera edición, 1998. Primera Impresión, 1998. Scale 1: 50,000.
- Jaimes, Edgar J *et al* (2006), Metodología multifactorial y participativa para evaluar el deterioro agroecológico de dos subcuencas en el Estado de Trujillo, Venezuela, *Interciencia*, October, year/vol. 31, number 010, Asociación interciencia, Caracas, Venezuela, pp. 720-727.
- Martínez, Maximino (1994), *Catálogo de nombres Vulgares y Científicos de Plantas Mexicanas*. Fondo de Cultura Económica, Mexico, Mexico City, pages. 19-1247.
- Orozco Hernández, María Estela (2003), *Organización del Sistema Agrario Ejidal en el contexto de la globalización: El caso de la Cuenca Alta del río Lerma*, Estado de México, Universidad Nacional Autónoma de México, Mexico, pages: 279
- Orozco Hernández, María Estela (2005). Articulación de economías domesticas al desarrollo regional del alto Lerma, *Papeles de Población* No. 46, October – December, Universidad Autónoma del Estado de México: 189-222.
- Ortega Valcárcel, José (1998) El patrimonio territorial: el territorio como recurso cultural y económico. *Revista de urbanística de la Universidad de Valladolid*. *Ciudades* 4, 1998. Secretariado de Publicaciones, Valladolid: 33-48.
- Sánchez Burgos, Guadalupe (1980), *La región fundamental de economía campesina en México*, Centro de Investigación del Desarrollo Rural, Editorial Nueva Imagen, Mexico, Mexico City; pages:153.
- Servicio de Administración Tributaria, (SAT) (2010). Salarios mínimos 2010. Gobierno Federal  
([http://www.sat.gob.mx/sitio\\_internet/asistencia\\_contribuyente/informacion\\_fre\\_cuenta/salarios\\_minimos/](http://www.sat.gob.mx/sitio_internet/asistencia_contribuyente/informacion_fre_cuenta/salarios_minimos/)). Consulted on December 22<sup>nd</sup> 2010.
- Sierra Bravo, R. (1995). *Técnicas de investigación social. Teoría y ejercicios*, décima edición, Editorial Paraninfo, Madrid, pp. 1-70.

- Steward, Julian H. (1963). *Theory of Culture Change. The methodology of multilinear Evolution*, University of Illinois, Press Urbana, United States of America, pp: 1-237.
- Toledo M, Carlos, Cedillo A., Cuahutémoc, González M, Adolfo (1987) “La ecología y el sistema de producción agrícola de una comunidad en el municipio de Apaxtla”, Guerrero, *Revista de Geografía Agrícola*, numbers 7-8, July 1984- January 1985, UACH, Mexico: 94-121.

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## **Rural Development - Contemporary Issues and Practices**

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Development of rural areas has witnessed increasing attention globally, especially over the past three to four decades. The highpoint in the renewed global interest in the development of rural people and their environment was reached with the setting of the Millennium Development Goals (MDGs) in the year 2000. All of the set goals are basically rural development goals. With less than four years to the deadline for the achievement of the MDGs, it is almost certain that the goals are far from being achieved in, especially, most developing countries for whom the MDGs were essentially set. The struggle thus continues for rural development. As long as problems of poverty, disease, illiteracy, unemployment, poor infrastructure, environmental degradation and others persist (or increase) in rural communities, better and more result-oriented solutions to perennial and emerging problems of rural communities would be required. But rural development, in spite of the variations in thresholds of rurality among nations, is not exclusively a Third World or &ldquo;developing countries&rsquo; process, owing to its multi-dimensionality. It is a global phenomenon that obviously requires global strategies. This book not only looks at rural development from its multi-dimensional perspectives, it is also a product of the experiences and expertise of distinguished scholars across the continents. Aiming to provide a comprehensive single volume that addresses salient issues and practices in rural development, the book covers themes ranging from sustainable agriculture, biodiversity conservation, strategic environmental assessment, renewable energy, rural financial resources, assessment of protected areas to statistics for rural development policy. Other subject matters covered by the book include social marginality, land use conflict, gender, cooperatives, animal health, rural marketing, information and communication technology, micro-business, and rural economic crisis. The book is thus an invaluable source of useful information on contemporary issues in rural development for researchers, policy makers, and students of rural development and other related fields.

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