

SOCIAL DETERIORATION AND ENVIRONMENTAL DEGRADATION OF FOUR WOODLAND REGIONS IN GUERRERO STATE, MEXICO¹

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INTRODUCTION

In 1994, the National Forestry Inventory estimated that there was a total of 56,800,000 hectares of forest cover in Mexico. In this country, as in many others, forests are seen as common property with many different potential users, and a high degree of extractability; in other words, they are “common pool resources” (Ostrom, 1990). In Mexico, however, the system of common access to forest ecosystems is consistent with the nature of property, given that 75% of woods are owned by indigenous communities and traditional community holdings called *ejidos*². This situation gives rise to special perspectives and conditions. As the rural communities own the largest share of Mexican woodlands, we would expect these communities to be highly involved in the management and conservation of these ecosystems. However, we must also take into account the conditions of extreme poverty in which these communities live, the low levels of social participation in forestry production processes and the low social appreciation of forest resources, which can be understood if we consider that for decades the communities’ rights to exploit these resources were denied to them and given over to concessionaries.

Even though the State recognizes the rights of these forest communities over their lands and woods, it also considers forest resources as goods with a patrimonial value for the country; therefore, their use is subject to a series of legal restrictions and regulations of a federal character. The management of the forestry sector by government institutions is consequently highly centralized.

These regulations and restrictions generally refer to prohibiting the exploitation of threatened species and the regulation of logging practices. The legislation establishes the need to base this type of extraction on inventories and management plans to be carried out by professionals, who should also mark the trees being felled, supervise the operation and, at least in theory, make sure that conditions which allow the regeneration of populations and systems subject to exploitation are maintained.

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² Agrarian laws distinguish two types of social ownership of the land: the *ejidos*, which were founded by the government donating land to a group of persons who applied for it and the indigenous communities, who the State recognized as having ancestral rights over the lands which they had traditionally occupied. Another fundamental difference between these two types of land-holdings is the pattern of inheritance of these rights: the members of the *ejidos* can only pass on their rights (to the use of resources and participation in decision-making) to an heir. In the indigenous communities, all men who are born there and stay there have access to agrarian rights. In this text, we use the term *ejido* or indigenous community to refer to the type of land tenure the community has. The term “community” is used in its widest sense to talk about a group of people who inhabit certain territories, use the resources found there and in this way maintain ties of kinship and identity.

These demands are based on a concern for the forests subject to extractions; however, from the point of view of many owner communities, these demands constitute limits on their rights of use, which are subject to the actions and interests of bureaucrats and technicians. The problem with this policy, therefore, has been that while forestry activities present greater economic barriers than other activities (such as subsistence agriculture and stockbreeding) and are subject to regulations which other productive options competing with the forest for land use are exempt, no system of incentives for the owner communities who successfully manage or conserve the forest, has been considered.

This analysis is based on distinct suppositions:

- That forest resources are the most important productive resources that the forest communities own;
- It should also be possible to exploit and manage the forest species in such a way that their preservation is guaranteed;
- It is recognised that the forests are a source of diverse services and goods, including both timber and non-timber products. In spite of this diversity of present and potential uses, in Mexico, forests still tend to be considered in economic terms, basically as a source of timber.
- Finally, it is proposed that given the particular conditions of population, land-tenure and poverty in the Mexican forest regions, the exploitation of forest resources under an environmentally and socially appropriate management scheme would prove to be an important base for a conservation strategy for many communal woodlands. However, it is recognized that the appropriation and community management of resources are arduous and complicated tasks, which require a significant investment of both human and economic resources, and which have been achieved in relatively few cases in this country up to now.

The objective of this study is to analyze the distinct factors and conditions which have contributed to the alarming deterioration of forest resources in the four regions of Guerrero State with temperate forests: *la Sierra de la Costa Grande*, *el Filo Mayor de la Sierra*, *la Sierra de la Costa Chica* and *la Montaña de Guerrero*. In the first two regions a predominantly *mestizo* population is the norm, whereas in the last two, the population is mainly indigenous. In addition to the deterioration of forest areas in these four regions, conditions of extreme poverty and abuses by government authorities can also be observed. Although these same conditions are common to the four regions studied, our principal aim is to pinpoint the specific forms the processes of environmental and social deterioration take in each region, comparing – as far as the level of generalization in this analysis will permit – conditions in the *mestizo* and the indigenous regions.

Guerrero State covers an area of 65,267.79 km². In 1995, the population of the State was 2,916,567 inhabitants according to INEGI (National Institute of Statistics, Geography and Computing)³. The majority of the population is rural (55%) and lives in localities of less than 2,500 inhabitants, which suffer from a serious lack of services and problems of

³ The data presented in this paper refer to the 1990 Census, at the time of writing, the data from the Census 2000 were still not available.

communication. The urban population⁴ represents 39% of the whole and is distributed amongst five major cities.

Guerrero is a state with strong contrasts; the city of Acapulco is home to 54% of the state's urban population and more than 20% of the general population. This city is both an economic and a tourist enclave in one of the poorest states in Mexico. We see, therefore, that even though 6 out of every 10 employed *guerrerenenses* work in the countryside, the tertiary sector generates 70% of the state's GNP (Bartra, A.1992).

The topography of Guerrero is extremely rugged as the *Sierra Madre del Sur* crosses most of the state. 3,132,854 hectares of its entire surface are covered by forest, which represents 48% of the state territory. Over the last thirty years, the distinct forest regions have suffered from intense deforestation processes. Temperate forests cover 1,766,929 hectares and low deciduous forests and sub-humid tropical forests 1,365,926 hectares. The temperate forests are located principally in the medium and high grounds of the *Sierra Madre* and the rainforests are found in the foothills of the *Sierra*, mainly in the basin of the River Balsas. According to information provided by Semarnap (Department of the Environment, Natural Resources and Fisheries), only 2296,140 hectares (9.5% of temperate forests) have enough natural resources to be considered "exploitable" wooded areas⁵. The rest of the forest areas show significant deterioration processes, or are inaccessible due to a serious shortage of road links.

Guerrero is one of the Mexican states in which political violence has been a constant historical feature. Over the last 100 years, people's lives have been characterised by extreme violent oppression. "Landless wage laborers as well as *ejidatarios* and small-holder peasants have fought against oppression by government and private interests through formal channels ... But characteristically, the stories of worker organizations and small-scale landholders ... have been infused with a more violent, subversive, and anarchic outlashes by the poor. Indeed the word Guerrero means warrior in Spanish" (Wexler, 1995:11). Violence is currently the most serious problem in the state, particularly in the forest regions "While drugs and killing appear together in occasional media snippets, the violence in Guerrero pervades everyday life. Armed hold-ups ... occur in the public streets and more often along rural roads. In one span of 36 months preceding the October 1993 elections, 45 opposition party officials were assassinated in Guerrero" (Wexler, 1995)⁶.

Political violence and the military presence have intensified as a result of the public appearance of new guerrilla groups, the Popular Revolutionary Army (EPR) and the Insurgent Popular Revolutionary Army (EPRI). The EPR and EPRI operate in the mountainous regions of Guerrero and in parts of the neighboring state of Oaxaca.

⁴ In localities of 15,000 inhabitants or more.

⁵ For a forest area to be considered commercially viable, it must usually have timber supplies of 80-100m³/ha.

⁶ In 1999, a special visitor from the United Nations on extrajudicial executions, recognized Guerrero as an entity where this type of violation is systematically carried out.

1. THE HISTORY OF FOREST OPERATIONS FOR TIMBER PRODUCTS

The exploitation of forest resources in different parts of Guerrero has been developed over distinct periods. Initially, this activity was principally developed in the mountain areas of the *Costa Grande* and to a lesser extent in the *Costa Chica*. Between 1912 and 1945, the American-owned “Land and Timber Company” bought large areas of land in the *Costa Grande*⁷, where some of the richest forest areas of the state are located. During the same period, other American companies settled in both the *Costa Grande* and *Costa Chica*. From 1940 onwards, four Mexican companies, directly associated with the circles of national political power, obtained concessions, which allowed them to access communal woodlands, completely marginalizing the local population from the benefits generated by these operations.

In the nineteen-fifties, peasant resistance to this sacking of communal woods by the timber merchants was first observed; at the beginning of the sixties, the teacher Lucio Cabañas headed the struggle of three communities against the company *Maderas de Papanoa*. However, this was “a defensive struggle which lacked the necessary alternatives to organize autonomous exploitation of forest resources” (Bartra, 1997) Their demands were therefore limited to the suspension of extractions in the forests. In the same decade, a mobilization of peasants representing different productive sectors (coffee growers and cocunut planters), and an insurgency in favor of the democratization of the municipalities, spread throughout the *Costa Grande* and other regions of Guerrero. The response of the State was unequivocal and brutal, which caused a section of the civil opposition movement to take up arms in opposition to this brutal regime

In the nineteen-seventies, the federal government responded to growing social discontent, to the military opposition and to the presence of the guerrillas with a two-way strategy, both economic and military. In 1972 – the year in which the greatest rise in guerrilla movements was registered – the state company, Forestal Vicente Guerrero (Fovigro), was founded and given the right to exploit all the forests in the state “because Mexican political power rested within a relatively closed circle, the state-owned company fell under the jurisdiction of the “Commission of the Balsas River” headed by Guerrero Governor Rubén Figueroa. It was clear when Figueroa sent the Mexican army into the sierra with formally announced orders to protect government logging installations, that Fovigro would serve multiple purposes. As a cover for counter insurgency attacks against the guerrilla, Fovigro hardly gained any legitimacy in the public eye, but fomented the distrust and anxiety of the local population” (Wexler, 1995). The economic presence of the State was accompanied by an increased military presence and the foundation of Fovigro coincided with the intensification of a brutal counterinsurgency campaign in the mountain communities. (Gomezjara,1976; Wexler,1999; Bartra, 1999).

Despite the initial intention to monopolize forestry production in the state, Fovigro lacked the sufficient financial and administrative resources to effectively manage the whole task of exploiting forest resources. A few years after its creation, the state government once again

⁷ This company at one point possessed 217,946 hectares (Wexler, 1999)

gave the green light to several private companies to extract wood from several communities' land, principally in the regions of *Filo Mayor* and *la Montaña*, reconstructing a pattern of scattered "mining" development, similar to that which had prevailed before the seventies.

Towards the mid-eighties, five *ejidos* formed the *Coalición de Comunidades Forestales* of the *Costa Grande*. The coalition aimed to bring about the end of Fovigro's concession using peaceful means. In 1989, after years of pressure and financial losses, Fovigro finally disappeared; it was until then that the government finally conceded the right to produce and commercialize their forest's timber to the communities of Guerrero⁸. Now that their central goal, the defeat of the forest concession, had been achieved, the coalition was dissolved. Some time later, most of the *ejidos* who had participated in the coalition, formed the *Unión de Ejidos Forestales y Agropecuarios "Hermenegildo Galeana"* (Uefahg). Although this group was based on the relations and efforts previously made by the coalition, it faced a different and more complex challenge, that of encouraging and organizing communal forestry production.

In the rest of the state, in regions such as *la Sierra de Filo de Mayor* and *la Montaña de Guerrero*, where Fovigro had never operated, private timber merchants began timber extractions from the nineteen-sixties onwards. In these regions, a system of social organization around the exploitation of forest resources has never really been developed or is still in the embryonic stages.

From 1975 to 1987, the governments of Guerrero maintained a strong, paternalistic style of government based on a heavy army presence on the one hand, and far-reaching state intervention in the rural economy and society on the other. This situation experienced a radical change of direction under Francisco Ruiz Massieu, who was a loyal representative of the Salinas⁹ project, with whom he maintained close ties. From the beginning, the new government's priorities were tied to the tertiary sector¹⁰ of the economy and "not in the impoverished and inhospitable countryside ... Public spending was concentrated in luxury urban developments and only a few meager crumbs ever reached the countryside alongside the federal funds which the governor was not able to intercept". (Bartra 1997:171).

The large-scale abandonment of the countryside was critical for the forestry sector, and was the principal cause of the growing levels of deterioration in the conditions of production and of the woods themselves. Ever since the disappearance of Fovigro, timber extractions have been carried out in a fragmented and uncoordinated way, under conditions of a generalised "rentism" and based on a kind of "forest mining" exploitation. Signs of this abandonment are the obvious lack of roads in rural areas, affecting forest production, and

⁸ The concession of the publicly-owned company survived much longer than the other concessionaries in Mexico, longer even than the enactment of the Forestry Law of 1986, which established that the owner communities of the forest lands were the only ones legally capable of being titleholders of the forest operations.

⁹ I refer here to the regime of president Carlos Salinas, who strongly promoted policies of commercial and financial opening and structural adjustment programs (cutbacks in social spending and the presence of the state in different areas of the social and economic life)

¹⁰ Principally tourism.

the absence of recent photogrammetric flights, so that current forest management programs are still based on data provided by a flight in 1986.

2. AN OUTLINE OF REGIONALIZATION IN GUERRERO

The forest areas of Guerrero display certain ecological, socio-economic, ethnic and political conditions, which determine to a great extent, the particularities which the forest “problem” acquires in each of them. In this paper, we have considered four regions thus generalizing the regionalization of Guerrero to a certain extent. These four regions are:

- *la Costa Grande*, including the southern slopes of the *Sierra Madre del Sur*.
- *la Sierra de Filo Mayor*, which takes in the northern slopes of the *Sierra Madre del Sur*,
- *la Montaña de Guerrero*, particularly the northern slopes,
- *la Costa Chica*, including the southern slopes of the part of the *Sierra Madre del Sur* known as *la Montaña de Guerrero*,

The *Costa Grande* is the region which stretches from the northern part of Acapulco to the border of Guerrero with Michoacán; included within this region are 10 municipalities, which are mainly concentrated along the coast. The majority of the inhabitants of the *Costa Grande* are *mestizos* (people of mixed indigenous and Spanish descent). The municipalities in the mountain areas – which are the forest municipalities – have a low population density (4 inhabitants per km² for Coahuayutla to 21 inhabitants per km² in Coyuca de Catalán), while the coastal municipality of Benito Juárez has a density of 57 inhabitants per km².

The classification of marginalization levels in the mountain municipalities ranges from high to very high¹¹, in contrast to the municipalities located on the Pacific coast, where marginalization is classified as medium to high. In the municipalities and communities of the *Sierra*, the absence of roads is notable and those that do exist can only be used during the dry season. Subsequently, this lack of roads represents one of the most serious problems for these communities, affecting both productive activities and quality of life¹², despite the fact that average incomes are relatively higher than in other forest regions of the state. Violence is part and parcel of daily life in this region, “a known pit stop for the international trafficking of illegal arms” (Wexler, 1995)

The dominant type of vegetation in the forest areas consists of pine-oak woods and sub-humid tropical forests in the low parts of the mountains. We consider four municipalities located on the northern slopes of the *Sierra Madre del Sur*, to the north of the *Costa Grande*, as part of the *Filo Mayor* region. As in the *Costa Grande*, the majority of the inhabitants of this region are *mestizos*. The lack of roads and the isolation suffered by these

¹¹ The degree of marginality is a form of measurement which the National Council for Population and Housing (CONAPO) developed in 1995. This measure captures three dimensions: education, occupation and housing conditions. Seven indicators are considered: illiteracy, population employed in primary sector, dwellings without running water, drainage systems, electrical energy, with mud floors and the average number of occupants per room. This methodology recognizes five levels of marginality: very low, low, medium, high and very high.

¹² Isolation results in difficulties for commercializing agricultural production, problems with supplies, and in a lack of health and education services.

communities are also central problems which can cause serious productive and social limitations. The classification of marginalization in the different municipalities is high in some cases and very high in others. High levels of violence can also be witnessed in this region, associated with the cultivating and trafficking of drugs. Pinewoods can be found in the highest parts of the region and moving downwards, mixed vegetation can be seen, principally mixed woods of *Pinus-Quercus*; as we reach the lower-lying regions we can observe zones of ecological transition until we arrive at the area where the low deciduous forest lies.

The *Costa Chica* region stretches from the southern part of the port of Acapulco to the border with Oaxaca state. 11 municipalities are included within this region, with a total population of 323,069 inhabitants, the majority of whom are concentrated along the coasts, including a significant number with Afro-american origins. This region shows population densities which range from 29.3 inhab/km² in the municipality of Cuauhtepac to 56.2 inhab/km² in San Marcos. In the mountain municipalities, an important indigenous presence can be noted with the Amuzgo, Tlapaneco and Mixteco groups. These groups are predominantly monolingual. There are 74,709 indigenous inhabitants, making up 23.12% of the total population of the region of the *Costa Chica*, although they are the majority in the mountainous regions. Here, marginalization levels range from high to very high¹³. In the mountain towns, the same problems of communication and isolation exist as in the *Costa Grande*. The inhabitants of these communities suffer from an even higher level of violence, repression at the hands of the armed forces¹⁴ and of racism towards the indigenous communities, of greater poverty and less control over the common forest resources.

Here, the forests are principally pinewoods and pine-oak woods. In the lower-lying parts of the mountains, patches of sub-humid tropical forests also exist. In many zones of this region evident deterioration processes can be seen.

The region known as *la Montaña de Guerrero* is located in the northeast of the state and covers an area of 10,775.4 km². It takes in 25 municipalities. In 1990, *la Montaña* contained 250,393 inhabitants, more than 80% of whom are indigenous. For decades malnutrition and infant mortality in *la Montaña* have been the highest in the state; 79% of the adult population is also illiterate. Marginalization levels are also amongst the highest in the country. Serious pressure is exerted over the forests, caused by high levels of subsistence agriculture and livestock farming, with one of the most serious outcomes being soil degradation.

During the eighties and the beginning of the nineties, the forest cover in *la Montaña* decreased at a rate which oscillated between 4% and 30% per annum. (Sansekan-Tinemi y GEA, 1997). At the beginning of the nineties, it was estimated that in *la Montaña* around 300,000 hectares of conserved vegetation still existed (less than 35% of the regional

¹³ These categories could prove to be too abstract; in these four regions, the population lives in conditions of: extreme malnutrition, high illiteracy rates (50% or more among the adult population) and lack of medical services.

¹⁴ The army and state-based and federal police, but also private paramilitary groups.

territory). The rest of the land was being used for agricultural and livestock farming and/or showed serious levels of vegetational and soil degradation.

In this region, two major zones can be distinguished: *la Montaña Baja*, where the deciduous forest is the dominant ecosystem, and the region of *la Montaña Alta*, where pine-oak and pine forests exist. *La Montaña Alta* is characterised by problems of access and a widely dispersed population¹⁵. The majority of the inhabitants of this region belong to Mixteco and Tlapaneco indigenous groups, who are often monolingual and who generally live in conditions of extreme poverty. As in the *Costa Chica*, in *la Montaña Alta*, problems of violence and repression, related to the production of drugs and the presence of the army are daily realities. In this region, temporary migration of peasants who work as agricultural day laborers is very high.

3. THE AGRARIAN¹⁶ PROBLEM IN THE *EJIDOS* AND FOREST COMMUNITIES

73% of Guerrero State is in the hands of the social sector. In the *ejidos* and most of the indigenous communities, agricultural plots are owned by certain families, while the forest areas are areas of public access and common use.

In the region of *la Costa Grande*, the great majority of the woodlands are *ejidos*; indigenous communities do not exist in this region. The forest *ejidos* of the *Costa Grande* are relatively recent, being set up in the sixties and seventies and given to the few families who inhabit the most precipitous parts of the mountainside. These *ejidos* contain large areas of land and important forest resources, within the context of low population density. In many of these *ejidos*, there are problems with the definition of boundaries, often leading to confrontations and affecting timber production. In some cases, the confrontations are so serious that two presidential resolutions¹⁷ concerning this matter have yet to be passed and the Department of Agrarian Reform has been declared incompetent. “Agrarian conflicts and family feuds define social ties in this region. To add to the already tense climate ... (drug cultivation) has placed even greater values on land and subsequently heightened the desire of the peasants to protect their claims (Wexler, 1995). This climate, added to the difficulties of communication by road during the rainy season, has given rise to absenteeism on the *ejidos*.”

In some *ejidos* of the mountain regions, especially those that do not exploit the forest resources controlled by the communities, common lands such as forest areas, represent territorial reserves for the inhabitants, whose access, although restricted to community members, is not controlled, making them susceptible to drug cultivation use. The extensive areas in dispute between the communities are often put to a similar use.

¹⁵ The term “dispersed” population refers to those who live in localities with less than 500 inhabitants.

¹⁶ The term “agrarian” is used in this text (and generally in Mexican social sciences) to talk about distinct aspects related to land-tenure and natural resources; it is not used as a synonym of rural, or to talk about matters related to agricultural production or livestock.

¹⁷ In these documents, the properties and limits of the communities are established and have been sanctioned by the President of the Republic.

In the region of *Filo Mayor* we find an agricultural structure and situation which is very similar to that found in the *Costa Grande*; the majority of the lands are *ejidos*, formed two or three decades ago. However, the populating and exploitation of forests in the region are more recent than in *C.Grande*. Border conflicts between *ejidos* and uncontrolled access to woodlands are also features here. These conflicts lead to the substitution of the forest with the expansion of subsistence crops, drug cultivation and livestock, and generate a climate of tension and violence. There is also a serious problem of absenteeism from the *ejidos* in this region due to the harsh living conditions in the mountain areas.

In the mountainous regions of the *Costa Chica* and of *la Montaña de Guerrero*, the dominant type of land holdings is that of the indigenous communities. The *ejidos* in these regions have many features in common with the indigenous communities¹⁸. In both regions, border disputes are a problem; however, the most frequent and most complex agrarian problems observed are those that exist within the indigenous communities themselves. The majority of these communities, especially in the mixteca and tlapaneca regions, which are extremely long-standing communities, have very high populations. These communities include many small groups of scattered populations¹⁹, spread out over relatively extensive and incommunicable territories, as well as the main villages. These conditions lead to diverse viewpoints, interests and power groups inside these communities, which are often difficult to reconcile. The isolation of the small communities also leads to a very limited participation in collective decision-making and very little access to information on community matters. In this context, the practice of the communal assemblies is precarious and the leadership positions are usually monopolized by power groups within the main villages, where a disproportionate decision-making capacity tends to be concentrated compared to the rest of the population groups, on the basis of *cacique*-type relations²⁰. The power deficit between the power groups within the main villages and the satellite communities has led to the former group having a much greater ability to take advantage of the benefits offered by official programs and of the activities which involve the management of communal resources, as in the case of the forests.

To this picture of unequal and asymmetrical social relations, we can add the condition of *rentismo* within which timber extractions are carried out in the indigenous regions. The timber-merchants tend to negotiate with a clear advantage over the agricultural communities, as in most cases, they, and the *comuneros*, lack basic information on the commercialization of this product. In the majority of these communities, there are also very

¹⁸ Referring to the inclusion of community members in the group with access to agrarian rights and in the forms of organization. The *ejidos* in these indigenous zones have been integrated by groups originally from indigenous communities, looking for new lands.

¹⁹ This pattern of widely dispersed population in small groups is related to the practice of slash and burn agriculture which requires the constant clearing of new lands for crops, which is why many groups are forced to move away from their original villages to clear new lands and found new villages, which in agrarian terms are called “anexos” in Guerrero. (Translator’s note- in the English version, these villages are usually referred to as satellite villages)

²⁰ The relations of *caciquismo* are based on the authoritarian dominion of one character over a community, on the basis of their control of the key means and processes of production, and at the same time, on the presence of loyalties which are developed on the basis of kinship or friendship ties.

few mechanisms of social control²¹ to regulate the behavior of local authorities' in the management of forest resources.

These conditions radically limit the possibility of a system based on self-management practices in which common pool resources (such as the forests) can be used, and, therefore, it should not seem surprising that timber extractions be suspended amongst these fierce community conflicts. For members of many communities, these conflicts based on the exploitation of timber have propagated an idea that activities based on the private appropriation of natural resources, such as agriculture, fruit orchards and stockbreeding, are more attractive options than collective exploitation of the woods. Given the ecological conditions in most regions of Guerrero, however, this type of option leads to low productivity levels and engenders extremely high ecological costs. We can see that as a consequence, many of the mountain areas of the *Costa Chica* and *la Montaña* currently display extremely severe erosion processes.

In 1991 and 1992, article 27 of the Mexican Political Constitution (1917), which regulates conditions of land-tenure, was modified. Before this modification, the *ejidal* lands could not be rented, mortgaged or sold. This made an official recognition of the *ejidatarios'* ownership of urban sites and agricultural plots of land possible. The Agrarian Code, on the other hand, specifies that common areas, such as woods, will become property of the Nation upon an *ejido* becoming privatized²². These modifications also permit the *ejidos* to disintegrate and to form new agrarian groupings. One of the main aims of this reform was to open up the rural land market, assuming that this would facilitate a turn-around in and development of agricultural and livestock production, which had suffered from a draining of resources and increased backwardness for decades. Even though this proposal has not been put into practice albeit for a few isolated cases, critics of this reform have signalled the possibility of a loss of patrimony for peasant families and the disintegration of rural communities.

The indigenous communities were not legally affected by modifications to Article 27, as their lands cannot be touched. These communities cannot break up or form new groups. Subsequently, it is not possible for the satellite communities to separate themselves from the agrarian nucleus to which they belong or to form new communities, although this possibility is open to the *ejidos*. Because of internal limits placed on indigenous lands, the lands that belong to the satellite communities do not enjoy official recognition and their definition is generally uncertain and conflictive. In terms of the exploitation of forests for timber products, the consequences of this situation can be seen in the fact that the satellite communities cannot carry out extractions in their territories without the previous consent of the communal authorities. Nevertheless, it is all too common for these same authorities to authorize extractions in territories which the satellites claim to be theirs, without informing, consulting, or sharing benefits with these communities.

²¹ Regular working of the community assemblies, an authentic subordination of the communal authorities to the assemblies (as happens in many communities in Oaxaca), mechanisms for calling the handling of common resources into account, systems of supervising the fulfillment of the authorities' and *comuneros'* responsibilities.

²² It has been argued that this last provision in the context of the legislation on agrarian reform, encourages deforestation in the *ejidos* interested in separating and selling their land.

Paradoxically, certain legal regulations, which aim to protect these communities and their lands, have, in several cases in Guerrero, led to a worsening in relationships within the community, difficulties in reaching a consensus about the regulation of the use of common pool resources, and a deterioration in the natural resource base. In the context of *caciquismo*, poverty, and the dispersed and isolated nature of the indigenous communities in Guerrero, the absence of autonomy for the satellite communities and the impossibility of dividing common lands, proves to be dysfunctional and conflictive in terms of managing the natural resources, especially the woodlands.

Taking all this into consideration, it is not our aim to propose that private appropriation of resources itself is an option of greater ecological and economical efficiency in managing forest resources. However, we believe it is important to note the need for the agrarian legislation to be sufficiently flexible to be able to adapt the structures of land tenure and collective management to the specific conditions seen today in the exploitation of natural resources in distinct contexts and conditions.

4. USES OF FOREST AREAS: COMPETITION FOR THE USE OF LAND

The most widespread productive practices in the forest regions of Guerrero are timber extraction, subsistence agriculture²³, and commercial crops, principally coffee and seasonal stockbreeding of goats. Over the last three decades, drug cultivation has become established and has acquired a growing importance.

In the nineteen-seventies, the cultivation of drugs²⁴ (marihuana and opium) was introduced into the mountain regions of Guerrero. The isolation of these mountain communities and the worsening conditions of poverty, effects of the long crisis in the peasant economy in Mexico, have created fertile ground for the introduction of these types of crops. Since the seventies, there has been a significant expansion in these crops, which have had a growing economic importance for the families and communities involved. The expansion in production has also been accompanied by a marked increase in violence in these regions. The population carry arms (sometimes of high-caliber) and the presence of the army and the judicial police has become a fixture, in the context of an unstable – and not always honorable – institutional presence.

The changes in land-use associated partly with subsistence agriculture and ranching, and partly with illicit crops, have been the most significant causes of deforestation over the last 30 years in Guerrero²⁵. The importance of these activities and the form in which production is carried out and organized varies throughout the different regions.

²³ In Guerrero, traditional subsistence agriculture is based on corn crops using the system of slash and burn agriculture, on sloping terraces, known locally as *tlacolol*.

²⁴ First marihuana and later opium, which is now considered to be the most widely produced and profitable illegal substance in the entity.

²⁵ The annual loss of forest cover in Guerrero is estimated at 23,000 hectares annually in 1999 (interview with the subdirector for natural resources in Semarnap in this state).

a. AGRICULTURAL AND STOCKBREEDING ACTIVITIES

In the mountain communities of the *Costa Grande* the *milpa* (cornfield) is cultivated for self-consumption, principally owing to the shortage of corn which occurs during the rainy season, when the roads become impassable. However, the areas dedicated to subsistence agriculture are relatively few. For many decades, the areas of medium-altitude in the mountains have been dedicated to cultivating coffee. Over the last few decades, coffee cultivation has been the most important commercial product for the peasant families of the zone close to Atoyac. A notable experience of peasant self-organization exists around the cultivation of coffee, which has made it possible for the producers to control the benefits and commercialization processes (even exportation) and has permitted them to resist to a great extent the fluctuations in the international price of coffee and the disappearance of the Mexican Coffee Institute, the state company that was in charge of financing and selling coffee production.

In the sixties, drug cultivation was introduced to the *Costa Grande*. These crops were established opening up small clearings in the woods, difficult to be detected. Today, this production represents the highest source of income for many families in these mountain communities²⁶. Fire is often used to clear these areas for crops, which not surprisingly is often the cause of forest fires. This activity competes with timber extraction, not only for surface area, but also in terms of labor, and is responsible for a general lack of interest in the latter activity.

The experiences that most communities in *Filo Mayor* have had with the forest operations, have been inter-community conflicts, deterioration of the forests and marginalization of earnings, in favor of *ejidal* authorities and timber-merchants. The setting-up of orchards and drug cultivation are therefore seen as more viable productive options for many of the mountain families, than the preservation and use of the forests. Subsistence agriculture is also practiced, although with lesser impacts than in the region of *la Montaña*, principally owing to the lower population density found here.

Both in the mountain regions of the *Costa Chica*, and in *la Montaña de Guerrero*, the *tlacolol* or subsistence crop agriculture is a widespread practice in the hill-sides, which is continued for both cultural and socio-economic reasons. The land in these regions is generally poor quality, thin and with steep slopes. This activity is carried out where there are agricultural land shortages and therefore great pressure on land; it is estimated that 35% of families have no land and that 60% possess less than one hectare. The yields of these corn-crops are very low (approximately 500g/hectare) and are also subject to frequent disasters. In *la Montaña*, as in many mountainous zones of Mexico, corn-crops prove to be loss-making as they require the use of consumables and labor, whose costs are not recovered. In addition, the costs associated with these practices in terms of deforestation, soil erosion and exhaustion of springs, are enormous.

²⁶ During the fieldwork, we were informed that the economic importance of this production in the region is such that it has the capacity to regulate regional salaries.

The rearing of goats is another subsistence practice which is continued for traditional reasons. This type of stock is based on free-grazing and can be carried out in distinct ecological surrounds (in low forests, temperate forests and eroded areas). The animals move around the hills without restrictions, destroying saplings and adult plants and accelerating soil erosion. In many of these areas, there is a situation of excessive grazing and fire is used as a means to encourage renewed grass growth.

In the zones of medium altitude in the mountains of the *Costa Chica* and *la Montaña*, coffee cultivation is a productive option for many families, although a low degree of organization, appropriation of the productive processes and commercialization by the peasants in these regions makes them vulnerable to the actions of hoarders and the cyclical fluctuations in coffee prices. Incomes generated by these activities are therefore unstable and uncertain, the commercialization of coffee and livestock is subject to relying on intermediaries as part of a chain and prices obtained are low.

In *la Montaña Alta* and in the mountain communities of the *Costa Chica*, drug cultivation is practiced, with the same effects in forest areas as presented in other regions. In these regions, the economic rewards for this type of production are also considerable and on the increase; however, the ability of the indigenous families to retain part of the earnings for these crops is lower than in the *Costa Grande*. This activity is developed within a context of *cacique*-based structures, which are present in many of these communities; the peasants who risk becoming involved in the cultivation of these crops act as *peones*²⁷ of those who control the process. In exchange for their work, they receive wages barely above the minimum salary²⁸. It is these indigenous peasants, their families and their communities who all too often suffer the consequences of the presence and abuses of the army²⁹.

b. TIMBER PRODUCTION

The most important timber product in Guerrero State is wood from conifers, of which various species can be found. Many of these species are still found in mature woods. Diverse species of oak³⁰ also exist, some of which have characteristics that make them suitable for timber use; however, there is a lack of technology and suitable markets for their exploitation.

Timber extraction is practiced in all the regions mentioned. Over the last decade, timber activities in Guerrero State have been increasingly losing importance, despite the

²⁷ This term refers to an unskilled agricultural laborer.

²⁸ About \$3.50 a day in the summer of 1999.

²⁹ The interviewees talked about groups of soldiers who had burned woodland areas, with the apparent objective of looking for EPR members. In these areas, cases of violations of human rights at the hands of the army have been repeatedly reported.

³⁰ Species of conifers include: *Pinus*, *pseudostrobus*, *P.pseudostrobus var.oaxacana*, *P.michoacana*, *P.ayacahuite*, *P.teocote*, *P.montezumae*, *P.oocarpa*, *P.lawasoni*, *P.pringlei* amongst others. Species of oaks in Guerrero include: *Quercus magnoliifolia*, *Q.urbanii*, *Q.rugosa*, *Q.obtusata*, *Q.peduncularis*, *Q.resinosas*, *Q.rubramenta*, *Q.pcytophylla*, *Q.conspersa*, *Q.glaucoides*, *Q.acutifolia*, *Q.candicans*, *Q.castanea*, *Q.crassifolia*, *Q.elliptica*, *Q.laeta*, *Q.laurina* and *Q.martinezii*.

considerable potential of the resources in this state. The quantity exploited, therefore, is considerably less than the quantity authorized³¹.

The mountain area of the *Costa Grande* is the region of the state in which forestry activities (extraction of timber) have the greatest importance³². This region has the greatest surface area currently under programs of forest exploitation. In the *Costa Grande*, communities display a very high level of development in forestry activities due to their greater organizational experience in this area³³. The forests of the *Costa Grande* have been subject to timber extractions for the last few decades. It was also in this region where organized opposition first rose against the concession and a little while later the first experiences of communal forestry production began. The exploitation of forest resources generates substantial benefits for some of the communities in the region, particularly those which control forest production and even more for those who have industries. In the *ejidos* of the UEAFHG, the *ejidatorios* benefit from the access to jobs generated by this activity, and the services set up with the social investment from forestry earnings.

The mountain areas of *Filo Mayor* constitute the second most important region regarding participation in forest production in the state. However, the isolation of the communities, the conditions of *rentismo*³⁴ under which the extractions are carried out, and the lack of information on forest operations, have meant that the communities give this activity an ever decreasing importance.

In the *Costa Chica and in la Montaña* forest exploitations do not represent part of daily life either. In the communities where extractions have been carried out, the forest rents have been used to finance public events, to improve basic infrastructure or provide public services³⁵. Among the forest communities, the forest is not seen as a renewable resource; on the contrary, they speak of “selling the mountain” when they have to cover an urgent need, not of exploiting forest resources as a permanent source of income.

Community Forest Management

Semarnap estimates that in Guerrero State there are some 296,139 hectares of woodlands with commercial potential; in 1999, 139,815 hectares (36% of total woodlands authorized for exploitation) were under some kind of management program. In that same year, 151 communities participated in authorized timber production; of these, 50 sold the wood in its natural state (rentist communities), 87 organized timber extraction and sold cut wood (logs), and the 14 other communities possessed a certain industrial capacity with the majority commercializing their production as planks.

³¹ For the year 1998-1999, 790,000 m³ of logwood was authorized; for August, 1999 only 300,000m³ had been extracted. The communities usually suspend activities during the rainy season from June to October.

³² Both in terms of areas being exploited and volume of production.

³³ As in the case of *el Balcón ejido* and the other *ejidos* of the UEAFHG

³⁴ This term refers to operations in which the community authorizes an external buyer to perform extractions, and the buyer assumes the different tasks that this involves. In exchange, the community receives a rent.

³⁵ For example, roadbuilding, construction of sports grounds and the repairing of temples.

Forest cover and “exploitable” areas by type of community

<i>Type of producer</i>	<i>Number of Communities</i>	<i>Forest-covered surface area</i>	<i>Forest-covered surface exploited</i>
Communities with no management program ³⁶		823,793	189,951
Communities that sell wood as standing trees (<i>rentistas</i>)	50	196,557	25,309.75
Communities that sell wood as logwood	126	467,042	
Communities with forest industries	23	279,537	29,626.75
The whole state	278	1,766,929	296,139.62

Source: Subdelegation of Natural Resources of Semarnap, 1999.

Forest operations exist in the different regions although the region with the greatest percentage of its surface area under forest management and where the largest number of communities organize timber extractions is the *Costa Grande*, whereas most communities who sell wood as standing trees live in *Costa Chica* and *la Montaña de Guerrero*. On the other hand, from the information obtained in the fieldwork, we consider that appropriation levels of forestry production in the majority of the communities studied is much less than that reported in the table presented above, as many communities who supposedly carry out extractions and sell logwood, do not have a substantial control over these activities in practice and are limited to being employed by the buyers when these activities are carried out. Misinformation, secrecy and internal conflicts mean that many communities opt for not carrying out authorized forest operations. Also, the internal disorganization of the communities, the lack of funds and the opposition of the timber-merchants, ensure that a high percentage of the communities that realize extractions do so under conditions of forest *rentismo*.

Most of the logs produced in Guerrero are processed in the state itself. 80% of the state forestry industry produces planks, which are mostly destined for markets in the metropolitan area of Mexico City. A smaller proportion of this production is used for local carpentry workshops, whose production is sold in the state’s tourist resorts.

The practice of forest operations

The majority of forest extractions (92%) are carried out under the Mexican Method of Forest Ordering (MMOM), which is based on selective extraction. In 1999, 5% of the surface area being used for these operations was subject to contingency exploitation.

³⁶ The exact number of forest communities carrying out authorized timber extractions is unknown.

The MMOM proposes a reduced level of intervention in the woods, despite which extractions are much more intensive in many places. It is not uncommon for the total amount considered for the whole cutting cycle, to be extracted in one or two years. In this way, rather than permanent operations being carried out in the woods, “the wood is sold once and for all” as the *comuneros*, who are opposed to this sacking process, say. The isolation of these lands, the lack of control the communities exercise over the extractions and technical forestry services, and the low quality of these services are all factors which influence these practices. Another important deficiency in the forest management of this state is the obsolescence of information used to authorize the vast quantities of operations based on the information obtained from the aerial photographs taken in 1986. This, in spite of the fact that in the last 14 years, forest cover in the state has decreased considerably.

Very few technicians are available to provide technical forestry services in the state³⁷. In the vast majority of cases, these technicians have no presence in the communities and their activities are reduced to the elaboration of management plans (often far removed from the real conditions of the woods and the communities) and the marking of trees already felled. These management programs are insufficient³⁸ in the opinion of the environmental authorities and of the technicians themselves. In this way, we can clearly see that what could be practices of exploitation and preservation of the forest, generating benefits and interest in the long term for the communities, become instead practices of “forest mining”, which favor short-term prospects in the use of ecosystems, and resistance to forest management amongst different sectors of the communities.

The communities suffer from a considerable amount of misinformation about the most basic elements of forest operations, which is related to both deficiencies in the technical services and the almost non-existent presence of the forest institutions; to this we can also add the conditions of *rentismo* to complete the picture of low participation in timber extractions in the woods by the owners themselves.

5. ORGANIZATION OF FOREST PRODUCTION IN THE *EJIDOS* AND INDIGENOUS COMMUNITIES³⁹.

Organization of forest operations

The level and complexity of organizing forest production, like the problems and necessities which these imply, depend mainly on the degree to which each *ejido* or indigenous community appropriates forest production. In every case, the woodlands are taken over collectively by the whole group of *ejidatarios* or *comuneros*, so that decisions over the use

³⁷ Two technicians cover 135 communal lands, with a total surface area of 47,042 hectares, 44.30% of the forest area under management in the state.

³⁸ Aspects of regeneration, protection and mitigation of environmental effects are not considered.

³⁹ Given the regional character of this research and the level of generalization which this implies, the scope of the analysis of community organization is reduced to organization around timber production, even though this has obvious ties to other forms of community organization.

of the forest are, at least in principle, matters for the assembly of members of the *ejidos* and/or community⁴⁰.

When the *ejidos* or indigenous communities are “rentist”, the level of participation in and organization of forestry activities is reduced to the agreements the *ejidal*/communal authorities make with buyers and the handling of the permits needed to exploit the forest. Most *ejidatarios/comuneros* remain removed from these extractions, are poorly informed or completely lack information on them. As long as the communities remain removed from the forest operations being carried out in their woods, it is difficult to prove that the wood being taken out of their lands corresponds, in effect, to the amount they originally agreed to sell to the buyers. Under these conditions, it is not surprising that these forest operations give rise to inter-community conflicts or worsen already existing conflicts. In the words of an *ejidatario* from the *Filo de Caballos* region “ a pine is only used to fight amongst ourselves. Only the *comisariado*⁴¹ has gained anything from the forest; it’s no use to us. An avocado orchard would be more use to us, but the government does not want us to burn the hillsides”.

In most of the forest communities of Guerrero, technical services are employed by the timber merchants, which means that these services have to answer more to the interests of this group than to those of forest preservation. The conditions of *rentismo* and the low fees of the technical services mean that those who provide these services do not carry out the tasks of training and support to the organization of forest production, which the forest regulations stipulate.

When the *ejidos* are log producers, and control the extraction, they may take greater care regarding the environmental effects of their operations, and may have a greater degree of autonomy in their relations with the providers of technical services, and in the commercialization of their production⁴². However, the handling of these operations presents new challenges: community forest operations call for the agrarian structure of the *ejidos* and communities –which are structures of peasant representation – to also fulfil the functions of an administrative structure, capable of taking on management tasks. In numerous experiences of *ejidal*/community operations, the problems of representation related to the difficulties of exercising democracy, are permanently mixed up with business matters; for example, the search for efficiency, profitability and innovation, which results in a poor development of commercially viable operations⁴³.

⁴⁰ The assemblies of the indigenous communities are much more numerous than those of the *ejidos*. In the *ejidos*, a high percentage of the population is marginalized from the decision-making sphere whereas in the indigenous communities, the assemblies have greater attendance levels which makes the decision-making process more complex.

⁴¹ Authority of the *ejido*.

⁴² Although it is common that these types of *ejidos* and /or communities depend on the timber-merchants for the annual funding of their production.

⁴³ In addition to these, the social forestry companies face many other internal and external problems, including the degradation of forest resources, lack of credit and funding, adverse market conditions etc. (Pasos Program, 1991; Merino et.al, 1997; Alatorre, 1998).

Given the dual character (business and social initiatives) of these companies, the existence of democracy and of an efficient organization of production are conditions which are not always present, but in every case, necessary, if these community forest operations with commercial ends wish to function successfully. However, identifying the interests of the social companies with those of the communities is not something which can be easily or immediately achieved. The needs of the community companies – or of any type – are related to the capitalization and the productive reinvestment of utilities; for the communities, on the other hand, family and community reproduction needs are more of a priority, and these are expressed through demands for the handing out of benefits, social investment and the creation of jobs. In most experiences with social forestry companies in Guerrero State, and in the rest of the forest areas in the country, the development interests of these companies have been subordinated to community interests and are subject to their agrarian structures.

As the communities become more advanced in terms of appropriating the forest productive process, needs become more complex. The handling of machinery, sawmills and other types of industry, gives rise to challenges in terms of funding, training, and commercialization, which would be extremely difficult for the agrarian authorities and assemblies to take on without creating new organizational structures and depending on professional and/or semi-professional teams.

Among the communal companies that produce logwood, and those that have industries, it is common for the agrarian authorities to also become agents and administrators of forest operations, and that the positions of responsibility in these operations (e.g. chief of operations, the person responsible for the sawmill, chief of machinery, administrator etc.) are occupied without taking into account the individual capacities and professional profiles of the personnel. Successful community forest operations have divided and professionalized the management functions of the operations, separating them from the positions in the agrarian structure of the *ejido*. These companies, although subject to mechanisms of social control⁴⁴ and to the community assemblies, have a certain degree of autonomy, which allows them to function and develop considering criteria of efficiency.

In Guerrero State, only 14 communities have forest industries and only the *ejido* of *Balcón*, situated in the *Costa Grande* has managed to develop this type of organizational set-up (Wexler, 1999).

Regional Forestry organizations

A very different type of organization from the communities and *ejidos* can be seen in the regional organizations. In Mexico, the origins of this type of organization date from the fight against the renewal of the concessions, which in most Mexican forest areas came to an end at the beginning of the eighties⁴⁵. In Guerrero, the Coalition of *Ejidors* of the *Costa Grande* represented the only experience of organized opposition to the forest concessionaries' policies. When the communities regained control of the resources, the

⁴⁴ Periodical reports, audits etc

⁴⁵ See Bray, 1992; Alatorre, 1998.

regional organizations adopted two main types of functions; on the one hand, to support the communities as they appropriated forest production, and on the other, to serve as agents of representation and political intermediation.

In supporting forestry production, an integral part of the regional forest organizations' work has been the provision of technical forestry services. These services are a crucial part of forestry production as they are responsible for the planning and handling of the exploitation of resources, which the forest law demands in order to authorize extractions. The control of the technical forestry services by the owners of the forests should make it possible to direct forest management towards long-term interests, and although initially these long-term benefits are not generally seen to be priorities in the communities involved, this situation changes as they acquire experience in forest operations and perceive how important it is to maintain the benefits the forest resources generate.

The costs of appropriate technical services have proved to be far too high for most of these communities⁴⁶ and the association to reduce costs, maintaining quality services, has been one of the strongest agglutinating elements in the constitution of the regional forest organizations.

Currently in Guerrero there are two regional forest organizations that have had an impact on wood production: the *Unión de Ejidos Hermenegildo Galeana* and the *Consejo de Pueblos del Filo Mayor*. The provision of technical forestry services to the member communities has only been partially taken over by the regional organizations. When the communities of the *Costa Grande* recovered the control of their woods, the UEFHG took charge of the provision of these services for a time; however, it did not succeed in persuading the Department of Agriculture and Hydraulic Resources (SARH), at that time in charge of the forestry sector, to concede the ownership of these services⁴⁷. The forest law of 1992 opened up the provision of the technical forestry services to the free market, after which the different *ejidos* of the *Unión* began to contract these services, which offered differing arrays of forestry techniques. The Supreme Council of *Filo Mayor*, established years after the *Unión*, has its own technical forestry department which lends its services to member communities who carry out forest operations.

Despite the disintegration of the UEFHG's technical authorities, this organization still fulfills important functions, which have ensured the continued interest of the member communities to maintain it. These functions include giving advice on matters of commercialization, industrialization and community management of resources. On the other hand, the Supreme Council and the UEFHG assume general functions of promoting regional development; for example, the promotion of alternative productive projects, supplies, funding of production and the search for a better quality of life, which all have a bearing on the management of educational and health services. These diverse effects of the

⁴⁶ The high production costs and low prices of wood do not provide the means to cover these services.

⁴⁷ Under the Forestry Law of 1986 which was then still in force, the provision of technical services to the forest regions was the exclusive responsibility of special teams employed for this purpose. Although within the framework of this same law the social forest organizations could be title-holders of these concessions, the control of these technical services was an area of intense dispute, in which the UEFHG was not able to impose its authority.

forest organizations are due to conditions of poverty and marginalization, the absence of equipment and basic infrastructure, and the almost non-existent presence and actions of government institutions in the forest regions.

The legitimacy and capacity for management activities and assessment, which these two organizations enjoy, represent a kind of social capital for the construction of options for a successful handling of natural resources in the communities. For example, the Council of *Filo Mayor*, in its attempts to improve nutritional standards in this region of the *Sierra*, has managed to incorporate 700 hectares of land for basic grain crops, which were previously dedicated to drug cultivation. The UEFHG has developed programs to control the effects of agricultural burnings and the change in land use, in a region where drug cultivation is big business.

On the other hand, the regional organizations constitute bodies of representation which confer a certain capacity of political interlocution to these of the state.

6. ACTIONS OF GOVERNMENT INSTITUTIONS

As we mentioned previously, the regulation of the forestry sector is in the hands of the federal government and is the responsibility of the Department of the Environment, Natural Resources and Fisheries. This government department was founded in 1994 within the context of structural adjustment policies and the growing abandonment of state action in the countryside. For most communities in Guerrero, SEMARNAP has never seemed more than a vague idea, or an occasional restrictive presence, in the context of environmental deterioration and poverty which prevail in these forest regions of Guerrero State.

The Subdelegation of Natural Resources in charge of the regulation of forest operations, lacks the necessary personnel to effectively carry out its functions. In each of the four forest regions studied, there is only one employee, who has no office or vehicle of his own. In the delegation of the Federal Attorney General's Office for Environmental Protection, seven inspectors, who have only one vehicle at their disposition, must patrol the forests in the whole state.

For more than 10 years, the state government's interests in the forestry sector have been non-existent; in the words of one of the UEFHG assessors, " There has been an appalling level of abandonment of this sector by the state government. We lack a state forestry development program, because of which we also lack regional forestry programs. We do not have either quantitative or qualitative information on forest resources in the state, which is why we are unable to program the exploitation of these resources".

Among the producers and some of those who provide the technical forest services, there are many complaints about the existing corruption amongst municipal, federal and state authorities, especially those who carry out forest patrols⁴⁸.

⁴⁸ According to the forestry law in force, guarding the forests is the responsibility of the Attorney General's Office for Environmental Protection, which has the power to establish agreements with other groups (state,

There is no governmental investment in either the provision of services or the basic infrastructure in the state's forest regions, where there is a serious lack of roads and where access to electrical energy, clean drinking water, working schools and health services are more the exception than the rule.

DISCUSSION AND CONCLUSIONS

Guerrero is the third poorest state in the country. A high degree of degradation of the forests as well as highly dispersed population patterns, extreme poverty conditions and a climate of constant violence are the reality we are faced with in this state. In recent history, exploitation of the forest has largely been in the hands of outsiders. The loss of forestland to subsistence agriculture and drug cultivation has been the main cause of the intense deforestation processes witnessed over the last 30 years. In addition, land tenure is uncertain and boundaries are poorly defined in all the temperate forest regions; however, these problems assume different characteristics in *mestizo ejidos* and Indian communities.

A fact with a strong significance in forest use patterns has been the communal loss of control of forest resources in favor of different outside groups, supported by official forest policies. Under the concessions system, forest property rights meant an ambiguous situation where communities owned the land but others had the rights of use. The forest was even perceived as an obstacle for the real appropriation of the land. In the *sierra* of the *Costa Grande*, *ejidos* lived alongside the forest concession, closely associated with a wave of generalized repression. In the rest of the forest regions of Guerrero, where forest extractions have taken place they have been performed in conditions of *rentismo*⁴⁹ with low levels of social participation.

The lack of mechanisms of social control over extractions has led to the forest becoming an "open access" space for appropriation by those who have most power. The inability to regulate access to common pool resources results in their devaluation and favors their substitution by other systems, which permit private appropriation, often at the expense of forest areas.

In spite of the perspectives for sustainability that community forestry has shown in some communities (Merino, 1997, Alatorre, 1998, Chapela, 1999) they are still a minority in the country and in Guerrero they really are exceptions. This is not surprising if one considers that forest production presents important "barriers" for the communities. It demands access to specialized knowledge (technical, silvicultural, administrative) and also requires funding for forest operations. In social and organizational terms, it requires strong local institutions⁵⁰ that encourage consensual and sustainable forest management, and enough

municipal or community-level) to participate in this activity. Nevertheless, even without these agreements, it is not unusual to see police forces observing the transport of wood, coercing those who are legally or illegally transporting these products.

⁴⁹ Recognized as such, or hidden as mentioned in the section 4-b of this work, referring to the different types of producer communities.

social capital to design and maintain such institutions. These conditions have mostly been absent in the communities of Guerrero.

Far from contributing to the creation of local institutions for the conservation and the successful management of the forests, the way in which the timber extractions have been developed in Guerrero, has led to a greater division between communities and a rejection of these extractions as a way of defending common pool resources and the community itself. This has been a defensive struggle, however, lacking in any kind of proposal for the appropriation of the forests. The attitude described here differs greatly from the type of attitude common in the *Costa Grande* and other entities of the country, where the defense of resources was linked to the appropriation of production. In Guerrero itself, demands of this kind have been made around other lines of agricultural and livestock production⁵¹.

Deforestation processes in favor of the *tlacolol* and extensive cattle ranching are part of the daily reality in this state; in the indigenous communities these processes are seen to have a particularly pernicious character due to higher poverty levels and population density. In these areas, insufficient natural productive resources are closely linked to the dying out of traditional practices in land management, which today do not allow the population's needs to be satisfied nor the environment to be protected. What is urgently needed therefore is to "compliment these practices with innovations which allow the development of new systems of multiple handling of natural resources, which allow silvipastoral, agroforestry and multiple forestry systems to be included. (Sansekan-Tinemi and GEA, 1997).

The competition between the forest and drug cultivation is even more complex. Even though it presents new and serious risks, not only for the conservation of the forests, but also for the possibility of communities living in peaceful coexistence and the governability of the regions, the introduction of these crops has found a favorable climate in Guerrero. The easy, quick, money earned in this way has been particularly attractive in a region where authoritarian social relations and a "mining" style exploitation of resources has been the order of the day. The opportunity costs of these crops has turned out to be much higher than the handling and cultivation of the forest which requires long-term investment. In the *mestiza* regions, the introduction of drug cultivation and trafficking has not met with the resistance of solid community structures trying to stand in its way. In the indigenous regions, the *cacique*-type and authoritarian structures have encouraged the implantation of this type of crops, even where there has been resistance. Drug cultivation has led to the creation of a vicious circle, as the climate of violence associated with drug trafficking favors at the same time authoritarian relationships and interferes with community organization and management, as well as a more long-term vision regarding exploitation of resources.

⁵⁰ On the character of local institutions suitable for the management of natural resources, E. Ostrom proposes 8 design principles, which refer to: the delimitation of the users' universe and the spatial limits of the resources; the legitimacy and justness of the regulations governing use from the communities' point of view, added to their coherence with the ecological conditions; the monitoring of these regulations being put into practice and the application of sanctions to offending parties; the autonomy and joining together of different decision-making bodies at differing levels and government recognition of the rights of user groups to design their own institutions to manage resources.

⁵¹ For example coffee or cocunut

Border conflicts between *ejidos* in the *mestiza* regions and the undefined nature of the satellite communities' lands in the indigenous communities, add new elements of ambiguity to forest management and favor conditions of violence. "The uncertainty surrounding rights of land-tenure and use mean that no clear property rights exist, only a relative possession and appropriation. This favors sacking...deforestation is a sign that "this is mine". These attitudes, which are in turn generated by institutional gaps, systematically destroy natural resources..." (Patiño S. 1999).

In two of the forest regions studied, there is a strong indigenous presence. Conditions of poverty, marginality, environmental degradation and violence become exacerbated in the Amuzgo, Tlapanecas, Mixtecas and Nahua communities of the *Costa Chica* and *la Montaña*. Many of the forest regions located in mountain areas in Guerrero and Mexico have traditionally been refuges, where different ethnic groups settled fleeing from the Spanish dominion (and in some cases from the Aztecs). Nonetheless, we found many differences regarding levels of organization and conditions of deforestation between these regions and indigenous regions in other entities; for example, Oaxaca. We think that, to a certain extent, these differences are related to the fact that the Oaxacan government has conceded these indigenous communities a greater degree of autonomy to organize, including the management of resources⁵², in contrast to the centralized and authoritarian nature of state-community relations in Guerrero.

The satellite communities of the agricultural indigenous regions lack even basic levels of autonomy. Their relationship with the central communities is contradictory and marked by a deficit in decision-making abilities and appropriation of forest resources. In many of the ethnic communities of Guerrero, the agrarian figure of the "indigenous community" has been converted into a coercive structure, preventing these communities from developing the flexibility needed to be able to adapt to new situations⁵³.

It is important to understand ethnic and community identities not as fixed entities, but rather as a historical product of the way in which these groups have built relationships with the outside society, conceding an important role to the national state⁵⁴. This is Luis Vázquez León's (1992) proposal, who criticizes the idea that these identities are abstract entities, arguing instead that we must see them as the result of dynamic relationships which are continuously being reconstructed and reworked, permanently giving new meaning to what we understand by the term "ethnic". Looking back at Erick Wolf and Max Weber, Vázquez León talks about two ideal types of community social relationships: those of

⁵² In Oaxaca, most of the communities are capable of self-government in the civil sphere as in many cases, the communities coincide with the municipalities; the municipal authorities are elected in community assemblies by the system of "uses and customs".

⁵³ Such as those created by population growth, the increase in the number of localities and the incorporation of the ethnic regions into the national markets.

⁵⁴ In determining what is currently understood by the term "indigenous community" (in an agrarian sense) the following have been taken into account: the definitions and recognition given by the Spanish Crown during the colonial period; the history of governmental aggression and community resistance during the 19th century and the redefinition and recognition of the Agrarian Reform in the first half of the 20th Century, after the Mexican Revolution.

communalization and of aggregation. The communal relationships are those that refer to reciprocal behavior and a sense of solidarity, and which could possibly give rise to a “sense of community”. These types of relationships are at the heart of family relations and religious offices. The relations of aggregation, on the other hand, recognize different interests among group members and are based on conciliation. Shared interests are transformed, in turn, into behavioral and social organizational forms, predisposed to make ideal values a reality. These are the conditions which allow the construction of local institutions to regulate natural resources. Vázquez León argues that this is the most determining factor in the continuity of these communities.

When the historical climate is ripe, therefore, obsolete community relations give way to new ones and to new communal structures, maintaining a sense of belonging to a certain community. Although forest management has been a space for the redefinition and reconstruction of community bases in some Mexican communities, this has not been the case of Guerrero, where communities have not been autonomous or able to develop the necessary flexibility to build suitable institutions for forest management which could benefit these communities. On the contrary, the handling of common pool resources within a context of little information and communication, *caciquismo*, violence and scattered populations has led to a “tragedy of the commons” (Hardin, 1968) in the use of forests, together with a deterioration in community relations within the ethnic communities.

The joining of the indigenous communities and *ejidos* with other groups related to forest management (such as timber-merchants, technical forestry services and government institutions) has proved to be nearly always contradictory, and tainted with abuses, corruption and inefficiency.

The forest regions in Guerrero have traditionally been border zones, where an institutional presence has been principally associated with a military presence, repression and violence. The previous situation of militarism, accompanied by the corporate intervention of the State in the countryside, experienced a turnaround in the nineties, when although the military presence remained alongside structures of *caciquismo*, the State displayed a complete lack of interest in the rural sector, especially forestry activities as productive spaces. It was thus that the end of the concessions in Guerrero coincided with the withdrawal of the economic presence of the State from the countryside, which for the forestry activities has meant deficiencies and corrosion in road infrastructures, alongside a shortage of basic information on forest management (e.g. photogrammetric flights) which the profits made from forest operations cannot cover.

The lack of interest in, and abandonment of, rural areas and forest regions in Guerrero by the State has been evident for decades and can be seen in various problems related to agriculture, production, human rights and environmental degradation suffered by these regions. It seems ironic that in the nineties, these marginal zones should be rediscovered as home to resources of patrimonial, national and even international interest; the woods are now valued as providers of key environmental services and as homes to biodiversity. The conservation of the forest ecosystems which have been preserved, and the restoration of those which have depreciated, requires a regeneration of natural and social capital, which for decades the State and other regional power groups did not hesitate to squander.

For the successful development of community forestry in Guerrero, continual training and assesment are required. In the majority of the communities performing timber extractions, basic information regarding these extractions is desperately needed to be able to slowly train peasant groups. Regional forest organizations who have their own technical bodies possess important advantages. While the successful management of forest areas embraces many different elements (such as the regeneration of ecosystems, the diversification of the exploitaion of resources, community planning of communal land use, community organization, internal regulation of resource use, the administration of social companies and commercialization), it also creates the need for new groups who can offer technical assistance and training and whose abilities surpass by a long way the sphere of traditional technical forestry services.

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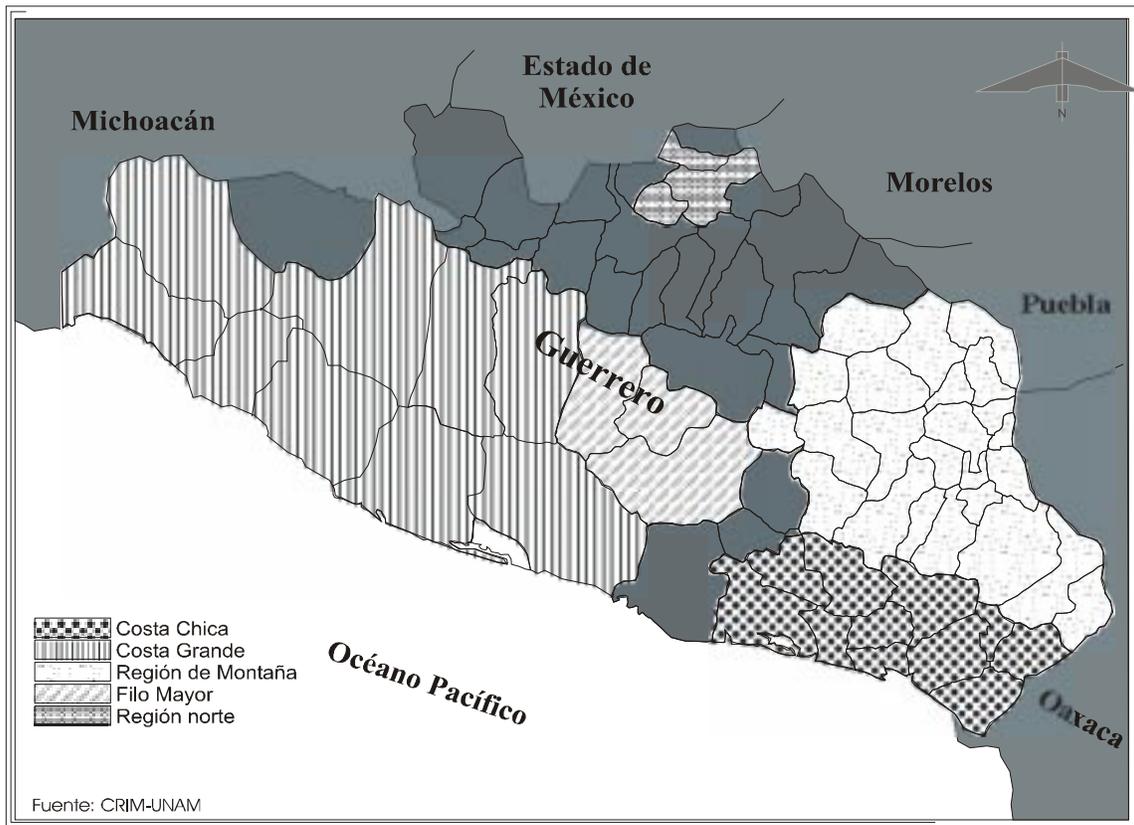
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del Estado de Guerrero



Mapa 1. Ubicación del Estado de Guerrero

