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# Contemporary Colonization and Deforestation in the Mexican Tropics. The Case of Sierra Santa Marta

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**ABSTRACT** The present paper describe the recent colonization of Sierra Santa Marta, Mexico, and evaluate the relationship between colonization and deforestation. Ten communities in the area were visited for this purpose. It was found out that colonization, the evolution of productive systems and the use of biological resources in the new settlements, were related to national social and economical policies which did not consider environmental factors. Tropical colonization and its ecological consequences can not be properly understood without taking into account the regional and national influences.

Colonization is a prior condition for the extraction and use of tropical forest resources. After the colonial period, tropical colonization has been one of the major instruments for economic development in Latin America, and yet now is responsible for the deepest transformations in the cultural and ecological spheres (Jones, 1989; Partridge, 1989).

Tropical colonization is closely related to deforestation, biodiversity loss, and with other environmental degradation processes. Although it is commonly assume that colonization leads directly to ecological destruction, this is not necessarily true. We need to explore the reasons why colonization and degradation are often considered as the same phenomenon.

In this paper I will describe the early colonization of Sierra Santa Marta, a tropical rain forest area located in the South of Veracruz state, in the coast of the Gulf of Mexico. This settlement began in the sixties and has produced strong ecological consequences: between 1967 and 1990 almost 6,310 km$^2$ or 77 per cent of the tropical forest were removed (CRUO-UAHC et al., 1997). The economical, political and cultural factors that influenced the colonization will be discussed as a way to understand the relationship between colonization and deforestation in this particular case. The data come from interviews and field observations collected in ten communities of Sierra Santa Marta in March 1997.

## *The Settlement History*

Nahuas and zoque-popolucas indigenous communities have occupied the Sierra Santa Marta region since prehispanic period. In 1519 the indigenous population was about 50,000 inhabitants. After the Spanish conquest, population decreased drastically due to illness and hard work conditions, so that in the last decades of the sixteenth century no more than 3,000 indians remained in the area (Garcia de Leon, 1976). Nowadays, however, indigenous people exceed 50 per cent of the whole area population estimated around 110,000 inhabitants in 1995 (INEGI, 1995).

Between the seventeenth and eighteenth centuries land tenure conflicts among indigenous communities, farmers and government institutions increased substantially. Only after the revolution period, during the agrarian reform started in 1915, the indigenous communities became legally land owners, with the establishment of the ejido (1928), a mexican character of collective property (Felix Baez, 1990; Velazquez, 1994).

In the first years of the 60's land distribution finished in the Sierra Santa Marta and the limit of ejidos was established. Ejidos' extension, however, were insufficient and many people did not get land of their own, thus, they decided to occupied the upper parts of the forest, which at that time were National Lands. There, they established new communities that became

ejidos after a some years. With this process, the contemporary colonization of Sierra Santa Marta by local indigenous as well as by mestizos arriving from other places began (Velazquez, 1994).

The oldest of the ten communities I visited was created in 1959 and the newest in 1967. With no exception, these communities were founded by inhabitants of Veracruz state, most of them coming from nearby old towns like Santiago Tuxtla, San Andres Tuxtla and Soteapan. At that time, these towns already showed a disproportional relationship between population and disposable land as well as a transformed landscape dominated by sugarcane, tobacco, coffee and cotton plantations (Guevara et al.,1996). Land scarcity seemed to be the main motive for emigration.

Almost all new communities were formed by people who arrived from the same original community, in some cases only by two or three families with the same cultural tradition so that ethnic interaction during settlement was very low. Because of this, new settlements are culturally very similar to the original ones. Today in these communities most of people share some kinship degree. In fact, a very important factor that encouraged colonization was the presence in the destiny area of people with the same cultural features and interaction between indigenous and mestizo next communities was difficult. Mestizos, in a deprecatory way, call the zoque-popoluca "serranos" (sierra people) or "nativos de la sierra" (sierra natives). Mestizos hold that at their arrival, the zoque-popoluca were people who caused problems and none of them would help or accept the new settlers. As time went by, the need impose interaction, and as one man told me, today they are all full brothers.

The formation of new communities begun with the official land request to the state government by a peasant group, occasionally directed by a leader. In some cases government institutions offered different land options in the surroundings of Sierra Santa Marta, or in very distant places outside of Veracruz state. Although, the assignation of a particular place with no other choices was more frequent.

Before the definitive settlement, colonists performed many visits to know the place and to install the minimal life conditions to bring their families. These firsts' years of the colonization process are remembered by all respondents as a very hard time. The area was covered by a dense tropical rain forest with no road access. Before starting cultivation, the nearest town where colonists could obtain food and other needs was at least three hours walking. According to Moran (1989), this colonization can be defined as a spontaneous one. Migration initiatives came from peasants, who did not receive government assistance for the site occupation, conditioning and the implementation of productive activities. The poor economic situation in which colonists arrived, combined with the isolation of the place, made their lives as well as the possibility to engage profit productive activities very difficult.

***Productive Systems Development***

Household subsistence was based on corn production and small forest areas were cut down for this purpose. In the early stage of colonization crop from slash and burn cultivation provided corn and other products like beans, rice, pumpkins, manioc, bananas and pineapples. Hunt and recollection in the forest increased food diversity. Some respondents said that after initiating cultivation, food was not a problem, but for others, harvest was insufficient. Nevertheless everybody said that a few years later a large number of pests appeared and crop became more difficult and less productive.

When the road was constructed around 1980, facilitating communication with surrounding towns and cities, agriculture in the communities was in a very bad situation. Soil infertility and pests presence made necessary the use of chemical fertilizers, increasing production costs. In this situation peasants were unable to produce a surplus for sale in the now accessible markets, and even to achieve their own needs. Low agricultural production compelled colonists to open new forest areas to agriculture and to work outside their communities for a salary.

Since 1940 the Mexican government encouraged cattle raising offering economical and legal facilities for its development. In the next three decades extensive cattle raising in the tropical portion of the country increased rapidly. Veracruz became in the 60's the state with the greatest cattle production, loosing 75% of the original

vegetation by its conversion to grasslands (Lazos, 1996a). This national policy was outlined on behalf of the big cattle ranchers who were closely related to the political powerful groups in the country but, at the same time, having a big impact in the small communities of the Sierra Santa Marta. The failure of the agricultural enterprises made colonists to look for more profitable activities, finding in cattle raising the hope and government support they were looking for.

Some colonists initiated themselves into cattle raising by the acquisition of financial credits, some others by their own savings or by working with cattle ranchers who paid them with animals. The fact is that most of the forest extension of the visited communities was cleared with the introduction of pasture grasses. In 1967 the tropical rain forest extension in the Sierra Santa Marta was almost unaltered with 53,712 Ha, by 1976 after the cattle raising fever, only 28,720 Ha remained (CRUO-UAHC et al., 1997). Timber was wasted due to road absence. Trees and shrubs were cut down by hand and burned, and only a little part of the wood could be used for house construction and fuel.

The same problems that affected agriculture were repeated in the cattle raising. After a few years the low soil fertility and pests affected the pasture growth and the poor economic conditions of colonists impelled an adequate cattle management.

The introduction of cattle raising into the communities and it's transformation in the principal activity did not bring radical changes in colonists' life quality, but they found in this activity two advantages: cattle raising allowed them to obtain money easier than cropping, and was a much less exhausting activity in terms of labor inputs. In other words, cattle raising provided small profits with less effort, and cropping seemed not to yield much more.

### *Colonization and Deforestation*

It is important to note that the general trend of colonization described above is valid for mestizo communities as well as for the indigenous ones. Both ethnic community types have had the same productive system development and the same problems, with little variations in crop types and in the cattle raising starting mode. In consequence environmental colonization results are almost the same.

In Venustiano Carranza, a mestizo community founded in 1967, after 31 years of occupation about 177.5 hectares of tropical rain forest have been cleared, with an annual deforestation rate of 4.9 hectares. In this community only 17.5 per cent of the original forest remains. In the same way, the zoque-popoluca indigenous community of Magallanes, founded in 1960, shows an annual deforestation rate of 4.8 hectares. More than 540 hectares of its original forest are lost prevailing only 14.5 per cent.

At present, most families in the ten communities visited combine agriculture with cattle raising, but with few exceptions households are unable to go beyond the subsistence level. Deforestation in this area has increased soil erosion and has lead to the disappearance of wild animals and plants that were in the past an important food resource. Climatic conditions have changed and colonists perceive alterations like hotter summers, insufficient rainfall during the wet season, and stronger winds.

Along the thirty years of occupation, life conditions of communities are getting better. Now most communities have road access, electric power, water supply, schools, and medical care centers nearby. Despite these facilities, Sierra Santa Marta is still being a marginal region with its vast population living in poverty. In a social, economical and ecological sense, the contemporary colonization of Sierra Santa Marta can be seen as a failure, however, from the colonists point of view at least now they have their own land.

## CONCLUSION

In Mexico, in the early sixties, when Adolfo Lopez Mateos became president, the discontent of more than three million peasants with no land threatened the political stability of the country. This situation was the result of two decades of an agrarian policy which favored private property as well as the consolidation of vast large entailed states. For the new government the solution was to intensify the agrarian reform to accelerate land distribution. By that time, the southwest portion of Mexico was a big tropical and subtropical forest extension which became the

way out for social problems. It can be said that the agrarian reform was transformed into tropical colonization programs: between 1940 and 1960, 47.9 per cent of the tropical lands were dealt. The humid tropic of the country received 36.2 per cent of the agrarian reform beneficiaries from 1946 to 1966, representing 16.6 per cent of the total land distributed. In this sense the contemporary colonization of Sierra Santa Marta can only be considered as spontaneous in the meaning of Partridge (1989) definition. It was spontaneous in the sense of being unplanned and unassisted, as Moran (1989) pointed out, but it was not unpredictable because was directly induced by national development policies.

Failure of colonists agricultural experiences can be explained as a combined result of different factors. Tropical soils are low in fertility and other tropical climatic features such as low light and elevated temperatures, contribute to low productivity (Huston, 1993). These physical site conditions, together with the unknowingness of some colonists about the tropical rain forest ecosystem (specially mestizos), the reduction of disposable land, the isolation, the absence of a regional market, the scarcity of economic resources to initiate productive projects and the constant need of cash, are part of the explanation to cropping abandon and transformation of agricultural lands into low productive pasture grounds (Lazos, 1996b). This change in the principal productive activity of communities was, once again, deep linked with the national policies that encouraged cattle raising even in the most inadequate lands.

In this study is prominent the fact that indigenous and mestizo communities have had the same development in terms of their colonization patterns, the evolution of production systems and the use of the biological resources. In contrast, other studies have asserted small rates of deforestation for indigenous colonist populations compared to mestizo colonist populations (Bedoya, 1995). In this particular case, cultural tradition and its derivative perceptions, interpretations and actions seem to be overpasses by processes occurred in higher levels, specifically the economical and political regional and national spheres.

Like in other places of Latin America, the ecological destruction of Sierra Santa Marta can not be understood by accounting only the local aspects of colonization and small communities formation in frontier tropical areas. Without linking the local conditions with the regional, national and even international influences, colonization will be continuously considered as an ecological destructive process performed by peasants and small farmers, while in reality it is a process that reflects the ecological and development perspectives of a country as a whole.

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