

Resistance to Conservation in the Land of Zapata

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Abstract

As a response to global environmental concerns, a widely adopted strategy has been nature protection through the creation of natural protected areas. While there has been increasing awareness of the importance of local participation in both the design and management of protected areas, changes on the ground have been slow to materialize and little is known about the impact of conservation strategies on communal land holding and resource management. This paper provides findings from academic-community collaborative research with Mexican *comuneros* from the *comunidad* of Huitzilac, in the *Corredor Biológico Chichinautzin* (CBCH), Mexico. The establishment of the CBCH, within the context of conservation and local participation in Mexico, is analyzed. The paper provides insights on local perceptions and responses to conservation efforts and the impact of conservation on communal resource management. This case illustrates how conservation without meaningful local participation can lead to the emergence of local resistance, the establishment of a climate of violence, the degradation of local forest management practices, the emergence of an underground economy, the reduction of the sphere of communal decision-making, the replacement of local knowledge by technical knowledge in forest management and the weakening of the local social fabric, all contributing to deteriorating conditions for communal resource management.

Introduction

Citizens, politicians and academics throughout the world have recognized the fragility of ecosystems, the impact that human activity is having on the environment and the need to develop means to address wide spreading environmental problems. As a response to environmental concerns, a widely adopted strategy has been nature conservation through the creation of protected areas which, expanded as a network, have been utilized as a central instrument for the protection of ecosystems (McNeely and Pitt 1985; Gómez-Pompa and Kaus 1992; Pimbert and Pretty 1995). The underlying philosophy behind the creation of protected areas emphasizes that ecosystems must be protected from local communities (McCracken 1987; Pimbert and Pretty 1995). However, recognition of the limitations and growing dissatisfaction with the results of this approach (West and Brechin 1992; Peluso 1992; Pimbert and Pretty 1995) have opened the way for new participatory approaches to resource management that seek to link nature conservation and the livelihoods needs of communities (McNeely and Pitt 1985; Chambers and McBeth 1992; Vivian 1992; Wells and Brandon 1992; Alcorn 1995). Nevertheless, in spite of widespread acceptance of participatory principles in ecosystem protection strategies and recognition of the importance of communities and institutions for collective resource management, reality on the ground continues to illustrate the application of exclusionary approaches to nature protection (Young 1999; Diegues 2000).

Mexico's experience with conservation is representative of the wide and deeply accepted notion of establishing protected areas as a method of nature protection. The official legislation of natural protected areas in Mexico dates back to 1926 (IUCN 1992; Simonian 1995) and today, Mexico has a total of 114 natural protected areas, covering a total of 12,375,851 hectares (CONABIO 1999). It is important to point out that these protected areas extend throughout "the land of Zapata", land that as a direct result of the Mexican Revolution of 1810, led by famous leaders such as Emiliano Zapata and Pancho Villa, is now in the collective hands of Mexican *ejidatarios* and *comuneros*¹. This situation makes conservation in Mexico deeply intertwined with issues of communal land and resource management.

¹ *Ejidatarios* and *comuneros* are members of Mexico's two types of social land ownership, ejidos and comunidades respectively. *Ejididos* were created after the Mexican Revolution as a measure to provide landless peasants with individual parcels of agricultural land and pasture land as well as woodlands for collective use (Nuijten 1997: 74). *Ejididos* were established on land for which no proof of previous communal ownership was available. *Comunidades* on the other hand were introduced as a measure of providing indigenous peoples the opportunity to reclaim their land and to re-establish their traditional communal landholding schemes. The status of *comunidad* was given only to communities that held proof of their pre-colonial communal condition (Rueda 1998: 83)

Mexico's conceptualization of protected areas has been reflective of the increasingly accepted move away from understanding protected areas as fortresses to keep communities out and towards integrating the protection of ecosystems with the livelihood needs of communities (SEMARNAP 1996). However, while reflected in environmental policy, this redirection in understanding and approach to ecological management has yet to be realized on the ground. This paper explores the consequences of failing to put the policy into practice. It uses the case study of the *Corredor Biológico Chichinautzin* (CBCH) to explore how an exclusionary and centralized approach to nature conservation has created difficulties for achieving nature protection. In light of the recognition of the important role collective institutions for environmental decision-making play, both in promoting community well-being and directly enhancing sustainable environmental decision-making (Fortmann and Bruce 1988; Ostrom 1990; Peluso 1992), this paper also explores the impact of the CBCH on *comunidades* as institution for communal landholding and natural resource management.

Nature Conservation

The literature concurs that conventional approaches to conservation have as their main objective the prevention or mitigation of resource depletion, species extirpation, or habitat degradation. They are designed to do so and are characterized by an emphasis on the preservation of the natural environment through an exclusionary, “fences and fines”, method (Alvard 1998; Gbadegesin and Ayileka 2000; Pyhala 2002). Proponents of this approach may view local communities' welfare and development as directly conflicting with the objectives and practice of conservation and seek to implement strong mechanisms to safeguard protected areas through enforcing boundaries within which no consumptive use of forest resources is permitted (Salafsky and Wollenberg, 2000). The approach responds to a reductionist scientific understanding of environmental problems that focuses on ecological processes but fails to recognize the existing interconnection between humans and the natural environment and the complex social dimensions of resource management (Zimmerer and Young 1998; Klooster 2000).

This conventional approach to conservation has been widely challenged, leading to broader acceptance of the notion that protected areas should be managed in ways that sustain both local livelihoods and conservation of nature (Pimbert and Pretty 1995). In the literature, environmental decision-making processes dominated by the decisions of elite groups of policy

makers and informed and shaped mainly by scientific information have been criticized as ineffective or insufficient in achieving the goal of protecting the natural environment (Banuri and Apffel 1993; Zazueta 1995). The criticisms of the conventional approach to conservation however also extend to the social impacts this resource management approach has on communities and their institutions (Chambers and McBeth 1992; Etzioni 1996).

A conservation approach that lacks local participation has been criticised for threatening food security and the livelihoods of people living in and around protected areas (Kothari *et al.* 1989; Wells and Brandon 1992; West and Brechin 1992). The establishment of protected areas has sometimes meant the expulsion of local communities from their settlements and in other cases regulation has clashed with local subsistence activities (West and Brechin 1992; Pimbert and Pretty 1995). Conservation has often meant restrictions on communities' use of natural resources for food gathering, harvesting of medicinal plants, grazing, fishing, hunting and the collection of forest products (Pimbert and Pretty 1995). Ecologically, the lack of livelihood security has been found to undermine conservation as rates of environmental degradation intensify in areas surrounding parks and natural reserves or as communities become immersed in clandestine natural resource use (Peluso 1992; Pimbert and Pretty 1995). Socially, it is now considered unacceptable to deny people the right to earn a livelihood and as well as socially risky as such policies can ignite rural conflict and civil disobedience (Pimbert and Pretty 1995).

The absence of local knowledge informing conservation has been recognized as one of the main factors behind the failure of approaches that exclude local participation in environmental decision-making (Redclift 1992; Vivian 1992; Pimbert and Pretty 1995). Pimbert and Pretty (1995) argue that professionals involved in the management of protected areas often fail to build on indigenous knowledge and techniques that historically have been used to modify the environment and that have been identified as an important factor influencing the level of biological biodiversity.

In addition to ignoring local knowledge and techniques a conventional conservation approach has been criticised for the impact it has on formal and informal local institutions (Pimbert and Pretty 1995). The implementation of government led initiatives for conservation has been seen to erode and replace local systems of environmental decision-making and resource management considered crucial for the conservation and sustainable use of biodiversity (Gadgil 1992; Cernea 1993; Pimbert and Pretty 1995).

Peluso (1992) has argued that the protection of the natural environment through an exclusionary conservation approach, limiting peasants' access to natural resources, marginalizes them and limits their capacity to meet their basic subsistence. This marginalization, which threatens peasants' survival, is said to be responsible for generating open protest and a cycle of peasant resistance through non-compliance to the regulations set out by the establishment of protected areas (Peluso 1992; Peluso 1995; Pimbert and Pretty 1995; Klooster 2000). In India, resentment by local people to national park regulation and enforcement measures has led to acts of protest. Villagers have set fire to large areas of national parks (Gadgil and Guha 1992; Roy and Jackson 1993). Little (1995) contends that non-compliance with conservation is the most common form of local protest in the presence of conflict. Wells and Brandon (1992) also maintain that the exclusion of local residents from vital resources leads to local resistance and to the illegal use of natural resources, resulting in a more destructive use of the natural resources which is both environmentally threatening and extremely hard to remedy (Peluso 1992; Western and Wright 1994).

The Case Study, Huitzilac in the CBCH

Huitzilac is one of seven communities located within the CBCH in the State of Morelos, Mexico. Located between and in proximity to Mexico City and the City of Cuernavaca, Huitzilac, which in Nahuatl means the "place of water and hummingbirds", has historically been known for its natural beauty and the majestic forest that surrounds it. Today, facing significant loss of its forest cover, Huitzilac is still the most forested community within the CBCH and considered Mexico City's green lung.

Following the Mexican Revolution, the Mexican government recognized indigenous peoples' right to reclaim their land and to re-establish their traditional communal landholding schemes by establishing *comunidades* as communal land holding institutions. Huitzilac is one of 2,572 *comunidades* that exist all throughout Mexico (INEGI 1991). Organized through *Bienes Comunales*, the local mechanism for collective decision-making, 920 *comuneros* collectively hold and manage Huitzilac's land and natural resources.

Agriculture and forest use have historically played an important role in the economy of Huitzilac. Today, oats for animal feed, potatoes and *nopal* are the main products cultivated for commercial purposes while *milpas*, traditional cultivation of corn and beans, are cultivated for

household consumption. Traditional forms of forest appropriation include the collection of wild mushrooms, firewood and the production of charcoal. However, today forest appropriation and commercialisation also include the extraction of wood for the elaboration of wood products for sale such as wooden beams, wooden planks and wooden furniture; the extraction of topsoil for gardens in Cuernavaca and the extraction of volcanic rocks for construction materials (Monroy *et al.* 1992; Velásquez and Romero 1999; SEMARNAP 2000; Frias 2004).

Various studies have indicated that the forests of Huitzilac and those within the CBCH are under enormous pressures (Chavez *et al.* 1995; CIB-UAEM 1995). These have identified the loss of forest cover as the principal environmental problem which in turn has promoted the loss of both flora and fauna, decreased the capacity for water-captivity of aquifers and exposed soils to erosion (Chavez *et al.* 1995; CIB-UAEM 1995; SEMARNAP 2000). Between 1980 and 1988, the total forested area within the CBCH diminished from 25,597 hectares to 19,000 hectares, averaging an annual loss of 825 hectares (Chavez *et al.* 1995). The loss of forest cover has been mainly attributed to three observable processes: an accelerated urbanization process, the extension of the agricultural frontier, especially for the production of commercial crops and the overexploitation of natural resources, mainly wood and topsoil (Monroy and Colin 1995; Frias 2004).

The community of Huitzilac is facing difficult environmental and social challenges. This forest community that has traditionally inhabited the Chichinautzin Sierra and has collectively managed its natural resources is experiencing the degradation of its natural resource base. A growing population, increased access to new technology, the integration of the local economy to a regional market for forest resources, declining conditions for agriculture and increasing living standards expectations have changed the local conditions for communal resource management. The local institution for communal resource management has failed to adjust to these changing conditions and as a result a group *comuneros* have become loggers, locally known as *madereros*², who some allege are overexploiting and commercializing forest resources (Frias 2004). The establishment of the region as a conservation reserve has not been a remedy for this situation and thus has failed to guarantee nature preservation. For a community dependent on its local natural resources the future looks bleak. Pressure has mounted on the diminishing resources

² Reportedly there are close to 60 *comuneros* who have become loggers. A logger is a *comunero* whose main economic activity is that of exploiting and commercializing wood.

in the region and environmental and social degradation is reaching critical levels. This paper describes facets of these transitions and points to lessons that can be drawn from Huitzilac's experience.

Research Methods

Data and results presented in this paper are part of a larger research project on community based environmental decision-making and the role of academic-community partnerships. They are derived from research carried out between 1997 and 2000 through a pilot initiative, ACCES Academic and Community Cooperation for Environmental Sustainability, that established a partnership between northern academic researchers in the field of environment from McGill University, including the authors, the Grupo de Educación para el Medio Ambiente, a Mexican popular environmental education organization, and residents from the community of Huitzilac. The initiative had as an objective to strengthen the capacity of community members in Huitzilac to analyse and address their environment problems.

The methodology used for data collection for this paper included participatory and conventional methods. A participatory diagnosis, a popular education practice designed to initiate a process of community awareness and action on issues of interest to a community, was carried out. The activities that were part of the participatory diagnosis included the following: two random surveys designed and carried out by local residents to determine how environmental issues are locally perceived, creativity workshops to explore local environmental perspectives through the use of art, a chronology workshop which engaged community members in elaborating a historical account of local environmental issues and the implementation of two schools of environmental promotion designed to provide local participants with methodological, organizational and technical skills for collective action around environmental issues. These methods were complemented with twenty two semi-structured interviews with *comuneros*, thirteen semi-structured interviews with local women of Huitzilac and two interviews with regional government officials.

Results and discussion: A chronosequence of linked consequences in a process of environmental and social transformation

In Mexico the internationally driven re-conceptualization of the role of local decision-makers in conservation during the 1970s initiated a process for the reformulation of environmental policy

and of natural protected areas. Today Mexican policy and programs recognize that one of the fundamental dimensions of achieving nature conservation relies in local participation. The new approach conceptualizes natural protected areas as fundamental instruments not only for the conservation of biodiversity and ecological preservation, but also to promote regional development, taking in consideration the needs of the local population. The importance placed in promoting social participation in environmental decision-making is reflected in Mexico's Natural Protected Areas Program 1995-2000 which highlights the need for the promotion of social participation not only as a component but as a strategic principle in conservation (SEMARNAP 1996). In Mexico today, social participation is a citizen's right and the State's obligation (DOF 1996).

The CBCH was established in 1988 and its management plan was presented eight years later in 1996. Findings suggest that regardless of the changes around the conceptualization of conservation, the conception and early management strategies of the CBCH responded to a conventional, exclusionary understanding of conservation. The laws and mechanisms established for the protection of the CBCH envisioned local people as a threat or at least as an obstacle to conservation and are the root of the establishment of an antagonistic relationship between local people and conservation. There are indications that conservation has not achieved its goals and what's more it has had serious consequences for communal resource management in Huitzilac.

An exclusionary Decree

Taking the Decree that created the CBCH as a starting point of analysis provides evidence that the conception of the CBCH was based on an exclusionary understanding of the human-nature relationship. The document reveals that the CBCH responds to a scientific and reductionist view of conservation which understands ecosystems through the eyes of conservation scientists and thus sees people only as a threat to conservation. In an effort to outline the need to preserve the Chichinautzin region, the document provides a thorough description of the physical geographic area, including specific information on the area's flora and fauna, and geological properties. It is remarkable however, how the document fails to acknowledge the complex social dimensions of conservation, as it fails to raise the social, economic and demographic context under which the CBCH was to be established. It does not provide the most basic demographic information such as how many people live within the area or what their main economic activities are (DOF 1988).

The Decree is also very clear on establishing nature conservation through exclusionary methods as its principal goal. It asserts that the principal purpose of the establishment of the CBCH is to preserve the biodiversity of the flora and fauna of the region and that all human activities must be subjugated to this goal (DOF 1988). It states that “*it is necessary to prohibit any activity that interferes with the preservation of the species of flora and fauna or with the natural products in the area*” and that “*the use of water, wood, forage and foods as well as recreation activities must be regulated by means of procedures founded on ecological conservation criteria*”(DOF 1988).

The need for local participation in achieving nature conservation is acknowledged. Local participation, however, is understood as the involvement of local residents in the implementation of predefined governmental conservation goals. Paragraph five of the Decree addresses the role in conservation intended for residents of the area. It reads that “*ejidatarios ... who are within the surface of the natural protected area ... will be forced to take care of the conservation of the area, according to the dispositions emitted by the Secretaries of Urban Development, Ecology and Agriculture and Hydraulic Resources...*”(DOF 1988).

It is worth noting that the Decree came into effect without a process of local consultation and that there was no process to inform local residents of its establishment. This demonstrates an initial institutional failure to aspire to the integration of social, cultural and economic considerations within a process of nature conservation. From the moment that the Decree was issued all activities that were considered to interfere with the preservation of the region were deemed illegal and thus penalized by law. A system of vigilance was immediately adopted and in 1996 a management plan including the allotment of permits for resource use, a reforestation program and a program to prevent and fight forest fires was put in place.

Conservation through vigilance

A system of vigilance, run by the *Procuraduría Federal de Protección al Ambiente* (PROFEPA), Mexico’s Environmental Agency was set up. The PROFEPA, through a system of inspectors, works to verify compliance with the environmental regulations governing the area. *Comuneros* found making use of the natural resources are subjected to an administrative fine which may include the confiscation of their tools, vehicles and wood, charcoal, topsoil or any resource they are found exploiting. Offenders can also be charged before the *Procuraduría General de la*

República, the institution belonging to the Mexican Federal Executive branch responsible for federal crimes investigation and prosecution, as they are defying federal law. Depending on the seriousness of the environmental damage, bail may be denied.

Conservation through regulation of resource use

In 1996, eight years after of the creation of the CBCH, a system was established by the *Secretaria del Medio Ambiente, Recursos Naturales y Pesca* (SEMARNAP)³, the Environment, Natural Resources and Fishing Secretary, to allow for the regulated use of wood and non-wood forest resources. The process established for acquiring permits for the use of wood and non-wood products includes several steps. First, the community must come to an agreement, through a General Assembly of *comuneros* that they want to request the permits. Secondly, they must hire a forest professional registered with the National Forest Registry to elaborate a management plan. This is done at the cost of the community. This management plan must include a quantification of forest resources; the management plan itself and an environmental impact assessment. After filling out all the necessary paper work, the community can present the proposal to SEMARNAP. The SEMARNAP will then evaluate the proposal and a technical council within the SEMARNAP makes a decision. If the proposal is approved then the community must organize itself to carry out the resource use. The forest professional is responsible for marking the areas to be harvested and marking the trees to be felled (in the case of wood), supervise the operation and make sure that proper conditions to allow forest regeneration are maintained. SEMARNAP is in charge of overseeing, evaluating and doing follow up of the resource use.

Conservation through reforestation and forest fire prevention

SEMARNAP also established a reforestation program as part of its management plan for the CBCH. The objective of the reforestation program was the reforestation of areas that have been impacted by different agents such as forest fires, change of land use and clandestine felling. The reforestation program is managed by SEMARNAP and accordingly SEMARNAP is in charge of the decisions concerning when, where, and how reforestation takes place. *Comuneros* are

³ SEMARNAP is now known as SEMARNAT, the *Secretaria del Medio Ambiente y Recursos Naturales*, the Environment and Natural Resources Secretary.

involved in reforestation at the tree planting stage. SEMARNAP provides wages, minimum wage, to *comuneros* and local residents, mainly women, who become involved in tree planting.

The SEMARNAP, in coordination with other federal and state institutions, has also established a program for the prevention and fighting of forest fires. However, until recently it has acted mainly as a forest fire fighting force, through the organization of brigades to fight forest fires as they occur. Again, this program is fully managed by the governmental agencies in charge and the participation of *comuneros* is limited to the provision of labour at the time of fighting forest fires.

Lack of local awareness of the CBCH

The official legal establishment of the CBCH took place without the awareness of local residents. In 1995, seven years after its legal establishment, a socio-economic study of seven communities within the CBCH, presented the following findings: 73.8% of those interviewed had never heard of the CBCH. A total of 26.2% indicated that they knew that the CBCH had something to do with a protected area however they appeared not to know its implications for the area or for themselves (Chavez *et al.* 1995). Three years later, in 1998, the study done by Lebner (1998) in the *comunidad* of Huitzilac showed that 80% of her sample had not heard of the CBCH. The interviews that inform this study reveal complementary results. Between 1998 and 1999, a total of 32 residents of Huitzilac were interviewed, including 22 *comuneros*, of whom 5 had in the last few years held the office of president of *Bienes Comunales*, and ten native women. Only one interview respondent affirmed to have been aware of the establishment of the CBCH back at the time of its legislation, the then president of *Bienes Comunales*. Forty-five percent of the respondents had, by the time of the interview, heard of the CBCH.

For local residents who know that their community is located within a natural protected area, many questions about what this means still remain. Residents are unaware of the legalities behind the establishment of the CBCH. They do not know who was involved in the drafting of the legislation, when this legislation took place, what it details, what its objectives are and what role residents are allocated within the CBCH. Research results also indicate that local residents have become aware of the existence of the CBCH through direct confrontation with the government's system of vigilance, the PROFEPA and the Mexican Army. *Comuneros* have learned about the CBCH through violent confrontations with PROFEPA inspectors. It is worth

noting that the PROFEPA has not only detained and incarcerated *comuneros* found with commercial quantities of wood or topsoil but there are also reported cases of *comuneros* being arrested for collecting firewood and making charcoal for household consumption.

Today while residents of Huitzilac are not fully aware of the government's plans for the region, all residents interviewed know that wood exploitation, the extraction of topsoil without a permit, making charcoal and collecting firewood are illegal.

Resistance as a local response

From the first steps taken to establish the CBCH, the lack of consultation and the enforcement of conservation through a system of vigilance set the stage for the future challenges governmental agencies would face in trying to implement conservation. The residents of Huitzilac responded to the CBCH with non-compliance. Interviews with *comuneros* and residents of Huitzilac, participant observation, the results of the participatory diagnosis, all suggest that *comuneros* continue to use forest resources for household consumption and loggers continue to exploit and commercialize wood in spite of the illegal nature of these activities. Research findings suggest that *comuneros* defy these restrictions because they see them as unfair and illegitimate, they infringe on their rights to earn a livelihood and they violate their rights as communal land holders.

Comuneros interviewed justify their defiance of the law by arguing that conservation regulation ignores local livelihood needs. They argue that they have not been given an alternative means to sustain themselves since the introduction of conservation regulation, thus they are justified in breaking the law and continuing to log. This sentiment is eloquently expressed in the words of a *comunero*:

The right to work is universal, and when one is not allowed to work, one must become clandestine. Between choosing to have the government kill me and my children of hunger I would rather have them shoot me and kill me for extracting wood illegally

In addition to perceiving conservation measures as unjust, *comuneros* deny legitimacy to the CBCH as they see it as infringing on the rights they earned through the Mexican Revolution. In addition to having rights of access to parceled land for agricultural purposes and to water,

comuneros are entitled, under the Agrarian Law, to use communal land that has not been parceled out and benefit from it, as stipulated by the *comunidad's* customs and traditions. In Huitzilac, the land which has not been parceled out for agricultural purposes is forested land. These lands have traditionally been managed by *Bienes Comunales* and customs and traditions dictate that each *comunero* has the right to benefit from them through the extraction of forest resources.

Establishing a climate of violence

As local residents defy the government's attempt at conservation and their resistance meets the government's system of vigilance, overt confrontation has taken place creating a climate of violence in the community. Interviewees report that on several occasions when the government has taken measures to enforce the restriction on forest use, the community has confronted the system of vigilance resulting in open confrontation and violence. In 1997 the PROFEPA arrested a handful of loggers as they were found felling trees within the CBCH. One logger was shot and injured by a federal agent. Instantly, the entire community gathered by the town's church, took federal agents hostage and bargained to have the loggers released. In August of 1999 a similar event took place as the Federal Police came into Huitzilac to enforce conservation regulations and arrested a number of loggers. The church's bells were rung and people gathered in the town's square. As the police were driving through Huitzilac local residents, *comuneros* and women alike made a human chain and did not let the armed police get through until they released the men.

Local residents' support for the loggers is based on their perception of the enforcement of conservation as morally unjust. This support is not a reflection of a lack of local awareness of the impacts of deforestation or a lack of concern over the increased loss of forest cover. It is as Peluso (1992) explains part of the local politics of resistance as peasants hold their own notions of morality, rights, criminality and subversion. Interviews also indicate that techniques to adjust to new clandestine conditions for resource extraction and commercialization are perpetuating a climate of violence. Loggers have organized their own armed vigilance. It is reported that forest guards have been threatened yet no direct armed confrontation has taken place. Huitzilac has made the top ten list of ungovernable communities in Mexico.

Deteriorating forest management practices

Local residents report that since logging has become illegal, logging practices have become more environmentally destructive and wasteful. Loggers are reported to go into the forest at night, to avoid being seen by the authorities, and to cut trees as quickly as it can possibly be done. As a result of working under clandestine conditions they are not selective of the trees they cut causing much damage in the area where they work. The hastiness with which tree felling is carried out is also responsible for wasteful practices. Loggers are also reported to leave much of the trees they fell unused. The deteriorating felling practices of the loggers are also causing internal problems, as *comuneros* and local residents see the destructive nature of their activities. In the words of a *comunero*:

If they use a tree they only use five meters and the rest they leave it, they waste it. If someone requests wood from them without knots, then they leave the rest. Those pieces of wood are left to rot in the forest eventhough they can be used for many things. If you go into the forest you would feel pity to see how the wood is rotting away. They leave hectares of land like that.

The emergence of an underground economy

Rather than bringing an end to the exploitation and commercialization of forest products, the establishment of the CBCH has resulted in the emergence of an underground economy, a black market for forest resources. Loggers commercialize their products illegally and are in a vulnerable position when it comes to establishing product prices. Patrons, aware of the illegal nature of the products they are purchasing, bargain to lower the price of wood and topsoil. Pressured to dispose of the illegally acquired products the loggers are compelled to sell their forest products below market value.

All *comuneros*, even those who do not exploit and commercialize forest resources as their main economic activity are affected by the illegal nature of resource use. Working in the forest has become a demeaning activity. Clandestine forest activities have placed *comuneros* in a vulnerable position not only in the markets but also in their relationship with governmental authorities. Corruption associated with clandestine forest use has become a common factor in the relationship between the *comuneros* and the authorities in charge of vigilance. Characterized by sporadic incursions into the forests and a rather constant state of corruption, vigilance regularly involves bribes. While authorities do prosecute illegal logging and soil extraction, many

transactions are allowed to take place by means of bribes. Many *comuneros* give accounts of how bribes are a regular part of the commercialization of illegal resources and of how they have become prey not only to forest vigilantes but also to an array of governmental authorities.

Reduction of the sphere of communal decision-making

The administrative responsibility for the management of the CBCH was assigned to several national and regional government agencies including the SEMARNAP and the PROFEPA bringing about the centralization of decision-making. This institutional option chosen for the management of the CBCH has excluded the participation of *Bienes Comunales* limiting the role of *comuneros* in the management of their collectively held resources.

Interviews suggest that *comuneros* see the SEMARNAP's reforestation and forest management program as an intrusion into their sphere of decision-making. Traditionally *Bienes Comunales* has been responsible for organizing *comuneros* to carry out *faenas*, tasks carried out collectively. These *faenas* have traditionally included reforestation as well as fire prevention measures. The government led programs have now limited the role of *comuneros* to the provision of labour and excluded them from decisions about the choice of trees to be planted, the method to be used for tree planting, the time of the year when reforestation will take place and how forest fires will be prevented and fought. Furthermore, the process established by the SEMARNAP to provide permits for resource use is seen by the *comuneros* as a form of intrusion into communal affairs and as a means of transferring both economic resources and power from the community to federal government institutions.

Replacing local knowledge with technical knowledge

SEMARNAP's reforestation program has come under extensive criticism by *comuneros* as it does not reflect their knowledge of reforestation practices. The most common local criticism of the reforestation program is that it does not use native trees that are appropriate for the area. The *comuneros* also claim that reforestation is not done at the appropriate time of the year, often being done too late in the rainy season thus lowering chances of growth and survival. According to the *comuneros* reforestation, as it is presently being done, is a waste of time and money. Throughout several interviews *comuneros* expressed their disapproval of present reforestation practices, which they see as responding to bureaucratic processes rather than to local knowledge

of reforestation practices. *Comuneros* have expressed their concerns over reforestation practices and their marginalization from resource management decisions as emphasized by the president of *Bienes Comunales*:

We have commented to SEMARNAP what the problems with reforestation are and we have proposed changes but nothing changes. If we had the resources they have we would build a greenhouse and plant native seeds. But the government says that they have technicians and biologists who know what they are doing. For that reason people are discouraged and now see reforestation as a job and not as something that is good for the forest. For as long as our opinions are not heard and we do not participate in the decisions, as the owners and holders of the resources, the problems will never be resolved.

The governmental management strategies have changed the way knowledge is used for resource management. Research findings support Berkes' (2002) assertion that centralized agencies tend to use internationally accepted scientific practices and often assume away local knowledge and practices. Governmental reforestation practices designed and carried out without the meaningful participation of *comuneros* have resulted in new management practices that do not incorporate local knowledge, customs and traditions.

Weakening of community's social fabric

Local conflicts over communal resources did not arise exclusively as a result of conservation efforts and the establishment of the CBCH. The community of Huitzilac has struggled with internal divisions over the management of the collectively held forest since changing conditions for resource exploitation and commercialization led some *comuneros* to become loggers. Loggers have upset the balance of power in the community by making use of the collective resources for their personal benefit and leaving the community to pay the environmental and social costs. The establishment of the CBCH however, and with it the criminalization of all forest related activities has acerbated local divisions. Loggers have become increasingly violent not only against the government agencies responsible for ensuring the conservation but also against any *comunero* or local resident who opposes their practices. It is reported that the General Assemblies are controlled by these loggers who use intimidation to obstruct any local attempts at controlling forest resource use. Any *comunero* or local resident who expresses disagreement with the activities of the loggers is seen to be allied with the government.

Conclusion

The establishment of the CBCH in 1988 and its management plan in 1996 came at a time when the concept of local participation in conservation and an integrated view of conservation were being advocated internationally and by Mexican federal policies. Conservation was no longer seen under a solely biological protection perspective, but as an instrument for regional development where the local population was no longer considered as an obstacle to conservation but as a fundamental partner. In spite of the evolving perspectives on conservation however, the legal and management instruments used for the establishment of the CBCH corresponded to an old school conservation approach. An analysis of the original Decree and the management plan that followed the creation of the CBCH illustrate this point. Regardless of the new understanding that local participation in the early starts of conservation initiatives, at the time of problem definition and appraisal, is a prime factor affecting program success (Little 1994; Hall 1997), the creation and management of the CBCH reflected a conventional approach to conservation where decisions on what, where and how to conserve were made by scientists focused on nature conservation through restrictive measures on human activity. The lack of integration of ecological, social and economic considerations has resulted in failure to guarantee nature protection and it has also had serious consequences for communal resource management. This is particularly important as there is increasing recognition that the potential for local participation in protected area management is contingent on the existence of strong communal resource management institutions alleged to hold attributes contributing to the promotion of the sustained use and conservation of natural resources (Berkes 1987; Blaikie *et al.* 1992; Wade 1992).

Conservation conceived without the participation of local residents can lead to the establishment of measures that are unacceptable to the local population generating a cycle of resistance, clandestine resource use and violence with serious environmental costs and consequences for communal resource management. Through the eyes of *comuneros* in Huitzilac, the main problem with conservation is that it clashes with their livelihood needs and disregards their communal land holding rights. *Comuneros*, peasants that either lived the Mexican Revolution or grew up with the ideology of “land and freedom” are highly aware of the struggles which earned them their landholding rights and thus are prepared to fight to protect those rights against conservation measures which are perceived to threaten them. Under these circumstances restrictive conservation measures are met with a local morally justified resistance rather than

compliance, involving communal resource users in clandestine forest exploitation and commercialization practices, criminalizing the local process of resource appropriation. Rather than act as a measure of nature protection conservation can act as a method that pushes communal resource user into overt violent conflict with the state damaging the possibilities of establishing relations between communal resource users and other levels of environmental decision-making, such as government agencies. Conservation without meaningful participation is counterproductive and compromises future possibilities for the establishment of a collaborative management plan, one that includes rather than marginalizes communal resource users. The failure to establish a participatory process for nature protection may result in local perceptions of conservation as a means to restrict human activity in the interests of nature conservation and perpetuate an attitude of resistance. Resistance in turn brings about violence further hindering the possibility of dialogue between communal resource users and governmental institutions in charge of conservation. In the case of Mexico where historically peasants have not trusted government authority given various problems, including corruption (Karst and Clement 1969), exclusionary conservation measures can lead to confrontations between local residents and the government straining an already fragile relationship.

Wells and Brandon (1992) maintain that once a cycle of resistance is set in motion, resentment towards the police and the officials who enforce regulations are fostered, which further incite local population to violate laws. Illegal activities gain legitimacy in the eyes of peasants and ultimately become an acceptable way of life for local communities which in turn breed a profound mistrust of the state (Uttig 1993). These circumstances can contribute to perpetuate an understanding of peasants as obstacles to conservation and of governments as corrupted that can act as an obstacle for the much-needed cooperation between these two actors in conservation. Furthermore, the establishment of a climate of illegality and corruption around resource use, a climate inimical to dialogue among resource users, can amplify internal community conflicts weakening the possibilities for cooperation among its members, cooperation that is crucial for making collective decisions and carrying out collective action. Social capital researchers have argued that these features, embedded in communal resource management institutions, have been central to equitable and sustainable solutions to local development problems, suggesting that social bonds are an important part of the basis for sustainable livelihoods (Pretty and Ward 2001). In the case of Huitzilac it is the presence of a

strong social network that has historically motivated *comuneros* to cooperate with each other to carry out reforestation and to fight forest fires among many other activities to upkeep the management of the collectively held forest.

Conservation can also directly contribute to the disempowerment of traditional institutions for communal resource management. Just as local participation in policy decisions and management is accompanied by a process of decentralization, which can result in real delegation of authority and empowerment of local communities, the centralization of this process can have the contrary consequences. Conservation regulation can centralize authority in the hands of government agencies while restricting the authority and minimizing the role played by communal resource management institutions. This study illustrates this. The establishment of the CBCH has marginalized the local institution for communal resource management. *Bienes Comunales*, the traditional body that represents communal landholders and a locally recognized means of governing the commons has been left out of the decision making process concerning the CBCH. This institution, while presently facing challenges in establishing rules for the sustainable and communal management of the local resources has also demonstrated to have the capacity of eliciting collective action from its members and to be a mechanism for encouraging local discourse. Assemblies today are a forum for the expression of dissent in the community, evidence that its members are themselves struggling to find ways of internally regulating the collectively held resources.

Conservation of the Chichinautzin Sierra requires both *Bienes Comunales* and government agencies to look for true collaboration. *Comuneros* need to be involved in the decision-making process concerning conservation measures that affect their lives and the functioning of *Bienes Comunales* is essential to articulate the participation of *comuneros* in conservation. As long as the participation of *Bienes Comunales* is limited to the provision of labour in pre-designed forest management programs the *comuneros*' knowledge of the natural resources will continue to be ignored and their communal institution for decision-making on communally held natural resources marginalized. These findings suggest that efforts should be directed towards building the capacity of local decision-makers to enhance and utilize their skills and capabilities for environmental decision-making, the drafting of policies and programs that will support the effective functioning of local level institutions and arrangements that will integrate local decision-making and governmental policy and programs. If measures for

collaboration in the development of a management plan for the area are not taken then unworkable solutions will continue to be the norm, not only having negative environmental effects but also contributing to the marginalization of the *comuneros*.

The CBCH is a vital ecological resource whose value extends far beyond its spatial boundaries. But those who live within its boundaries cannot be ignored or the legitimacy of their ancestral rights and social aspirations diminished. The citizens of CBCH are in the best position to assert their rights and aspirations. They must play a role in any conservation initiative.

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