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CAN EJIDOS WORK?

FOREST MANAGEMENT IN A MAYA COMMUNITY

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Chunhuhub, a Maya ejido in the forests of Quintana Roo, Mexico, is one of several ejidos in the area that are attempting to manage their forest cover according to ejido rules, that is, collectively. The Mexican government currently views the ejido system as less than ideal. It is considering the abolition of the ejido system and privatization of the land. Yet these ejidos of Quintana Roo are currently managing the forest resource rather well, in spite of extreme pressure from "demographics" and developers. Current and future research will reveal what factors affect management planning and outcomes. Strong local leadership and sympathetic government agents have already emerged as obvious factors in success.

Introductory

In late 1991, Article 27 of the Mexican constitution was amended to allow privatization and sale of ejido lands. This was the first step in a campaign to change or abolish Mexico's famous common-property village landholding system.

Some form of common property has always characterized at least some Mexican indigenous communities. The Spanish colonial government recognized many communities as communal corporate entities, thus giving a European legal existence to common property land tenure. In the 1930s, President Lazaro Cardenas created the modern ejido by vastly expanding the extent of common-property landholding--both in area and in legal scope.

Thus, for almost 60 years, ejidos have been a major feature of the Mexican scene. The typical ejido is small, poor, and crowded, though there are exceptions. Agricultural technology ranges from primitive to sophisticated. Production ranges from monocrop market-oriented to multicrop subsistence, but is typically a mixture of many crops, some marketed, some occasionally marketed, and many subsistence-oriented. Many particularly poor ejidos have become little more than reservoirs of labor. Such agriculture as exists is mainly a supplement to wage income. This permits wages to fall to sub-subsistence levels. Old-fashioned Marxists would say that it also precludes the formation of a true proletariat and thus discourages unionization and labor militancy.

Ejidos have received a great deal of attention from the government: cheap credit through Banrural, development programs of every sort, health care, assistance with government and management, free land, and more. Currently, the conventional wisdom in Mexico is that government enterprise is a dismal failure. Everything tarred with that brush has been criticized, including the ejido system (Downing 1992). The disillusion with big government extends to the ejidatarios themselves, but they do not necessarily approve of ending the ejido system.

The literature on the ejido and its recent vicissitudes is so enormous that not even a summary is attempted here. My purpose is not to add to the general literature, but to describe an area in which ejidos are successful and

suggest some management implications. These ejidos show that it is quite possible for ejidos to succeed, given proper management. The problems with ejidos elsewhere in Mexico are thus not endemic to the system.

Chunhuhub and Its Area

In early 1991, I resided for some five months in Chunhuhub, an ejido in the Zona Maya of central Quintana Roo. Chunhuhub is a very large ejido: approximately 8000 people on 14,330 hectares of forest land. Most of the people are not ejidatarios of Chunhuhub. Immigration has been tolerated. Not only are there many people in Chunhuhub with no ejido rights, but also there are several small neighboring ejidos with good farmland but virtually no permanent water. The ejidatarios of these ejidos live in Chunhuhub and commute by truck or bicycle to their fields. This category includes about a hundred families, as opposed to Chunhuhub's own 400 ejido families (i.e. perhaps 3000 people).

Chunhuhub is an ancient town, going back to Classic Maya times. It was important in the colonial period. Destroyed in the War of the Castes in 1847, it was abandoned for almost a century. In the 1940s, people began filtering back. Most of them were Cruzob Maya--i.e., the Maya who achieved independence in the war, and kept it into the 20th century. The Xool family was the principal founding family. Several other families moved in with them. At that time, the center of the town was overgrown with large trees; jaguars and ocelolated turkeys could be seen. Many other nearby towns were resettled at the time. They were granted ejido status in the 1950s, and have received various additional lands from time to time since. Today, they range greatly in population. Many have only four or five families (and these live in Chunhuhub). Others, such as Polyuc and Dzula, are villages. Chunhuhub is the only large town. A large number of immigrants have come in, mostly from eastern Yucatan

state, but also from northern Quintana Roo and even from as far as Puebla and Michoacan. They are not ejido members.

Today, the town is a large, well-to-do, progressive town with a sawmill, several satellite dishes, good schools and an excellent technical school (equivalent to a junior college in the US) that specializes in agriculture and computer training. There is something thought-provoking about seeing Maya attend an essentially pre-Columbian rain or harvest festival one day and a class in modern computer programming the next.

Computers aside, maize agriculture, orchards, and forestry are the real income sources of the entire area. Accurate statistics on Chunhuhub are unavailable, since published statistics are aggregated by municipio, and Chunhuhub is part of the huge and diverse municipio of Felipe Carrillo Puerto. As of 1985, 1/3 of the people in neighboring Jose Maria Morelos municipio reported "no income," i.e. were subsistence farmers. Subsistence farming in the area can be regarded as equivalent to a family income of \$2,000-\$3,000 US, since that is what it costs to buy, on the local market, the goods that are produced (Anderson ms.). The main product is, of course, maize, the sacred food of life for the Maya. For the subsistence farmers, it provides about 75% of daily calories (cf. Peraza 1985). For the middle class, who eat more meat and bread, it provides only about 50%. Fruit is the next most important product. Huge orange orchards have been developed along roads. Mangos, bananas, and many varieties of native fruit (avocados, sapotes, etc.) are important. Chunhuhub has no surface water, so most tree cropping depends on pumping groundwater. Most of the water is deep, requiring reliable electric pumps.

Forestry is the major source of income for the ejido government. The ejido is 75% forested, and most of the rest is regrowing forest-fallow. It abounds in the two "precious woods," mahogany and cedro (Spanish cedar, Cedrela odorata, which bears no resemblance to cedar). It also has vast

reserves of other valuable woods of many species (for complete account see Anderson 1992). These woods are sold to the sawmill, which is located in the center of town. This mill is owned by a non-ejido family, the Garcias. The Garcias were early immigrants, and are intermarried with ejidatario families; they have long-standing bonds of friendship. On the other hand, their non-
 ejido status provides a built-in check on what might have turned into self-
 dealing.

How Resources Are Managed

The allocation procedure for land is simple. Heads of households ask the ejido council and are allocated house lots, or fields of one, two or four hectares. There is no fee or rent.

Maize agriculture is almost entirely shifting cultivation. Forest is cut and burned, the field is cropped for two or three years, and then brush is allowed to grow again. Fallow may last from five to thirty years, depending on the soil. The best soil is at the foot of hills, where good soil washes down. The next best is on rocky hill slopes. The dense rainforest on the flatlands of eastern Chunhuhub conforms to the rather paradoxical rule: good rainforests have poor soil. Agriculture is rarely carried out in this area, and does very poorly. Shifting-cultivation land is normally granted for two years at a time. It then reverts to collective management (i.e. no management). Fallow lands are heavily exploited for hunting and plant gathering. When this involves plant extraction beyond firewood and medicinal herbs, it requires ejido permission. This includes such things as cutting poles, and selling plants for the house plant trade (many an office or hotel lobby plant started life on a rocky knoll in Chunhuhub). Commercial hunting and plant collecting are controlled and remain very small-scale activities.

Orchard land is granted as parcelas of one, two or four hectares on indefinitely long terms. Water is provided by government plans.

There is one major area of really good soil in Chunhuhub, and some smaller areas. The large area can be permanently cultivated, but requires a tractor to plow under the thick weedy grass. In 1991, the tractor broke down, and a large part of the area had to go uncultivated because of the grass. This grass is one of the reasons why long forest fallow is necessary in the Maya world. (The problem species are not native, being either introduced pasture grasses or out-and-out alien weeds, such as species of Sorghum and Penisetum.)

Ejidatarios get first chance at the land, and have the permanently-cultivated fertile soil area to themselves. The recent immigrants (non-ejidatarios) have no problem finding good land, however. Most of the immigrants are nonfarmers, though many have small orchards. The ejido is large enough to provide everyone with ample land. So far, the land has accommodated everyone without overdriving the fallow cycle or expanding onto really poor soil.

Families ask for particular plots, or more accurately for plots in particular areas. The ejido makes the final decision in an *asamblea*: an open public meeting for all ejidatarios. These *asambleas* actually attract only 1/4 to 1/2 the ejidatarios (depending on how important and controversial is the topic). They are social occasions of some note. They are held Sunday morning--interfering hardly at all with church, because Chunhuhub is one of the most singularly undevout towns I have ever seen.

Timber is handled differently: an *asamblea* must be held, and sales decided on therein. This involves long and vociferous debate in Maya and Spanish. Finally a contract is agreed on (or rejected), to sell certain species of trees from certain parts of the forest. Almost all the sales are to the Gar-

cia mill. This provides virtually the entire income of the ejido as a collective entity--a healthy 700,000,000 pesos a year (for statistical details see Anderson 1992). Their logging and milling operations employ a large percentage of the village and extend to many neighboring ejidos. On the one hand, they are obviously in a position to be very persuasive in asking for what they want. On the other, they are a small local mill with deep local roots, and not at all interested in "cutting and getting out"; moreover, there are many ejidatarios who are highly protective of the forest, seeing their own future as dependent on maize, hunting, and the like rather than logging. Thus there are many factors that prevent overcutting. Chunhuhub's forest is in good shape so far.

The ejido council includes a president, a secretary and a treasurer. The president, as of 1991, was Don Teodomiro Tun Xool, a very dynamic man in his early twenties. Scion of two major early-settler families, he was very well connected. However, his youth made it inconceivable that he could act as a cacique in the negative ways reported from many Mexican ejidos. Elders of several of the old settler families had great authority. So did many of the recent immigrants--specifically, the highly educated professionals, such as the senior staff of the technical college. Religion provided other structural lines. Moreover, the town had its own municipal government, completely independent of the ejido, and much more responsive to recent immigrants. A maze of cross-cutting authority systems made factionalism a chaotic and vexed affair in Chunhuhub. Thus, the *asamblea* operated democratically. This is not to say it was ideal. The problems of small towns everywhere were apparent. However, it was certainly not the stew of corruption, bossism and arbitrary mismanagement that some have claimed to be necessary and inevitable the ejido system.

This situation was one cause of the good economic situation of Chunhuhub. The other was the united front that the people presented against any-

thing that seemed to threaten the resource base. The Maya of central Quintana Roo are notoriously distrustful of the Mexican government, which fought them so savagely for decades (Sullivan 1989; Villa Rojas 1978). This, in Chunhuhub, has led to exceedingly careful inspection of new government plans, and opposition to all that did not seem clearly in the self-interest of the entire community. For example, an excellent forest management plan has been developed in the area (Murphy 1990). It involves government work with forest ejidos to plan and monitor log extraction. It has a headquarters office in Chunhuhub, but Chunhuhub is not participating, because the ejidatarios do not want to pay their small contribution and--above all--they do not want to give up any authority. This is, of course, not unrelated to the interests of the Garcia mill and its status as chief local employer. However, as noted above, the Garcias are the last people to want the timber to be rapidly exhausted for low returns. The government scheme, for instance, has encouraged cutting railroad ties in some nearby ejidos. Chunhuhub bans cutting railroad ties, since the wood is much more valuable for other purposes. Even when there is a market for ties and no immediate market for other uses of the wood, this ban holds. (See Anderson 1992; Murphy 1990.) Chunhuhub has been similarly dubious of large-scale clearing plans and other developments. They have, however, enthusiastically adopted the provision of water for irrigation and for the town, and the creation of a forest and fruit tree nursery. The latter produces tens of thousands of seedlings. Many mahogany and cedro seedlings are grown and planted out to replace those being cut.

Traditional Maya values on environmental protection are still powerful in the Zona Maya. Plants and animals are to be taken only for genuine need--to maintain a typical rural standard of living. Commercial hunting of game for the Cancun market, a major problem nearer Cancun, is not done in the Chunhuhub area. Fields are small and fallow cycles religiously kept (literally).

The power of the Yuntzilob--the forest deities who bring disaster on those who overuse resources--is still clearly felt. Our next-door neighbor often heard them whistling to one another as they passed through our neighborhood. For the young, the Yuntzilob are little more than quaint folklore, but they are aware of conservation issues from the modern media. Thus, they can and do reinterpret their ancestral teachings in light of modern realities.

Pressures for the Future

Obviously, counterforces exist and are often more powerful than the Yuntzilob. Nearby parts of the Yucatan Peninsula have succumbed to various schemes involving mass clearing of land--for cattle, sugar or just to swell government statistics on land opened up. All these schemes have had problems; most are total failures. (Important recent studies of regional development and its mistakes include Baños Ramírez 1990; Morales 1987; Villanueva 1985, 1990.) It is schemes of this kind that have discredited the government planners in the eyes of so many. Unfortunately, where the Maya see the high government officials as the problem, many urban Mexicans blame the ejidatarios as well as--or instead of--the government. It is entirely possible that the ejidatarios will suffer for the mistakes of the technocrats. It has happened before, notoriously in the case of the henequen industry (Baños Ramírez 1989; Benitez 1986; Villanueva 1985).

The worst immediate problem facing Chunhuhub is demography. With ever more rapid immigration as well as a high rate of natural increase, the ejido will have freely available land for only a very few more years. The town's government clinic has many posters for family planning, but the Catholic church in the Yucatan Peninsula is conservative and traditional in regard to birth control. Field work reveals that the future lies with the clinic; ideal and

real family size are both dropping very fast, and birth control technology is widespread. This will not solve the short-term problem. The forests of the southeast are Mexico's last cultivable open space, and Quintana Roo is particularly uncrowded and friendly. Thus, Chunhuhub will soon face the real overriding problem of most ejidos: exploding population on an increasingly inadequate land base. Overcutting the forest, overdriving the fallow cycles, overcultivating such that weeds and pests build up, and overcommitment to monocropping are all very real dangers. All have occurred widely in Yucatan state, with devastating and ruinous results. Only good planning will save Chunhuhub.

It is worth pointing out that, in explaining the plight of Mexico, demography is far more important, and political economy correspondingly less important, than most people realize. In the decade of the 1980s, Mexico's economy grew by a dramatic 27%--in spite of debt payments, corruption, ejidos, public-sector inefficiency and all the other favorite whipping boys of the media. The miracle countries of the Orient did not do much better. The difference was that Mexico's population grew by 32%, leaving everyone worse off than they were in 1980. The dependency ratio is also noteworthy; the average age in Mexico is 15. (Quintana Roo's population grew by almost 100%, but much of that was immigration of young, able-bodied, working people, so the situation is less dire.) Mexico's birth rate has fallen, but is still terrifyingly high: about 2.4% (some estimates are lower). It is hard to imagine any plans dealing adequately with increases of this magnitude.

One problem with population increase in Chunhuhub is that it will stress the decision-making process. Sharon Burton has pointed out that common property resource management requires a community of decision-makers, small enough to function at least sometimes as a face-to-face ongoing community (Burton 1992, from Maya data in cross-cultural comparative perspective). This means,

in practice, 100-200 people at most. Chunhuhub's asambleas, attracting normally between 100 and 150, are pushing the limit. Even this is possible only because most ejidatarios do not attend. Expansion of the politically active population would almost certainly cause more decisions to be made by the officers rather than by general debate and vote.

Another major problem is brain drain. Very few of the graduates of the technical school stay in town to improve farming practices or start local businesses. The problem with farm practices is especially serious. Of those trained in modern agriculture at the technical school, only one is currently modernizing agriculture in town (Anderson ms2). Chunhuhub reminded me of similar Midwestern United States towns of a generation ago, where a very frequent line was "Around here, anyone with any get-up-and-go has got up and gone." Cancun and Chetumal can absorb all the bright, hard-working young people they can attract. A worst-case scenario has Chunhuhub in ten years as a town of impoverished farmers with no leadership pool. Fortunately, the Maya are devoted to their milpas and parcelas, and this scenario could occur only if some unpredictable disaster affects Chunhuhub's economy.

The problem that has surfaced in so much of Mexico may yet surface here: corruption of the ejido government and consequent undemocratic rule by a leadership concerned only with self-enrichment. This occurs when one family or faction is inordinately powerful. It can appropriate or control a disproportionate share of resources or control access to government benefits. It has not happened in Chunhuhub because of the tight links of the old settler families, the rise of outside-owned small businesses, the manageable size of the asamblea, the relative economic equality of the ejidatarios, and other factors. The few rich of the village are mostly non-ejidatarios. Many of the largest old families have remained poor, yet have enough votes to dominate ejido elections. Finally, the Maya of central Quintana Roo simply do not take

kindly to direction, as is amply documented by Paul Sullivan (1989) and Alfonso Villa Rojas (1978), among others. Nor do they appear to like to give it to others. There are still elders in Chunhuhub who remember the Cruzob days, and their descendents were raised on tales of Maya freedom and defiance.

Can Ejidos Work?

The question is: Who is best qualified to deal with these problems? The choices are: Maya as private farmers; Maya as collective planners; and the Mexican government as great overall planner. Realistically, there will be a mix that will certainly involve private farmers--of whom there are already many around Chunhuhub--and the government. The real question is: what role may there be for the collectivity? Should common property management be part of the package?

On the basis of current evidence, the answer is an unqualified Yes. Maya as private farmers do the same things that they do as grantees on the ejido. The difference is that, as private individuals, they cannot combine to resist government pressures or to do their own planning. They would inevitably, necessarily, fall under government control in regard to all decisions above the level of the family and immediate neighborhood. A large ejido like Chunhuhub, in contrast, serves as an independent force that is able to do its own planning. It can potentially generate better plans than the government. At least it can generate more locally-sensitive plans.

If Chunhuhub ceased to exist, the land would probably be immediately bought up by anyone who had the money. Quintana Roo has a range from billionaire developers around Cancun to subsistence-farming Maya with essentially a cashless economy. It is not difficult to see where the land will go. The large-scale developers have shown, throughout the zona turistica of north-

eastern Quintana Roo, no interest or ability in planning beyond the immediate future. Even when it is clearly in their self-interest, they do not look to the future. For one example among many, the lagoon within the Cancun hotel strip is still the recipient for much of the city's raw sewage, although this has become a major health and public-relations problem that threatens tourist revenues.

Increasing government presence and private-sector importance will come. The ideal future for the ejido would be to retain land and power to manage it and allocate it, and to work with government and international agencies to conserve resources and manage them on a sustainable basis. At present, the somewhat adversarial relationship between Chunhuhub and the government is valuable to both. It keeps them from making mistakes without challenge. The history of agrarian development in the Yucatán Peninsula has been interpreted in terms of various conspiracies (see the cited literature for reviews and comments) but could equally well be seen as a long record of more or less well-intentioned mistakes. The only way to prevent these is through a balance of independent agencies or polities with different conceptions of the general welfare. An issue that needs to be explored further is the degree to which the government's pro-development stance and the Quintana Roo Mayas' pro-conservation stance have balanced each other.

Conversely, not only are the government and the large corporate developers inevitably rather close in other ways; they also share an ideology of development that tends to weigh short-term gains relatively high relative to the long term.

The move to terminate the ejidos has been sold as a way to empower the ordinary people--small-scale farmers and the like. In fact, it is a way to concentrate power in the hands of the government and the giant private land-holding corporations. In Chunhuhub, as in much of Mexico, it would remove the

only organized, effective counterforce to these. There is essentially no hope of any post-ejido regime managing resources as well as the ejido is doing. If the land were divided up fairly among stalwart local farming families, management would stay the same or improve (as experience with nearby private land shows). However, most or all the land would probably go to large outside operators who would view it solely in terms of extracting quick profits and moving on.

It is possible that viable ejidos are relatively few in Mexico today. There is little point in saving ejidos that have become nothing more than rural slums exporting cheap labor. There is little point in saving ejidos so land-short that violence and corruption have become endemic due to sheer pressure on resources. On the other hand, ejidos such as Chunhuhub can have a place in Mexico's future, and should not be eliminated until the course of that future is made more clear.

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