

The Inadequacy of Article 27 Reforms in Shaping Sustainable Ejidos

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Abstract: Mexico's first revolutionary leadership framed ejidos as the mechanism for land reform early this century. One of the central tenets promulgated by Article 27 was the inalienability of ejidal lands. The law also allowed for the expropriation of large private land-holdings and the redistribution of those lands to form ejidos. Mexico's revolutionary government of 1992 reversed these provision with the January 1992 amendments to Article 27 of the Mexican Constitution, framing the reforms as the mechanism for rural modernization. The reforms unleashed potentially sweeping change in the rural property landscape by, first, the end of land redistribution to landless rural communities and, second, the creation of an agricultural land market. So far, however, exposure to land-market forces has had little effect on Mexican ejidos. The potential for sustainable management of natural resources in ejidos is limited and is not improved by current reforms. To promote sustainable development, additional reforms are needed to affect organizational change within ejidos.

Introduction

Mexico's agrarian revolution succeeded and was institutionalized with the passage of Article 27 in the Mexican Constitution of 1917. Article 27 defined property rights in Mexico and formed the legal framework for land reform and redistribution.¹ The local relationships between people and between people and their environment shifted radically. People who were once exploited by owners of the means of production became empowered to shape those means and available resources. The ejido system was one of government land ownership and communal land management by ejidatarios.

In 1992, the Mexican federal government narrowly passed sweeping changes to Article 27 of the Mexican Constitution. The reforms unleashed potentially sweeping change in the rural property landscape by, first, the end of land redistribution to landless rural communities and, second, the creation of an agricultural land market. So far, however, exposure to land-market forces has had little effect on Mexican ejidos.

There are serious environmental challenges facing Mexico, including high rates of deforestation and species loss. If structured well and managed properly, ejidos could be an effective system for sustainably, local resource management. However, sustainable management of natural resources in ejidos is currently limited. The Article 27 reforms are inadequate from the perspective of sustainability. To promote sustainable development (depending, of course, on how that is defined), additional reforms are needed to affect organizational change within ejidos. This paper considers the implication, impacts and limitations of the Article 27 reforms and considers whether they are sufficient to engender the sustainable development of rural Mexico.

First, I give an introduction to the Mexican ejido system before the changes to that system are discussed. This introduction to ejidos consists of a historical overview of the ejido sector followed by a description of ejido administrative structure in terms of organization, property regimes, and the role of the federal government. Next I describe the recent ejido reforms and consider predicted, potential, and actual impacts. Finally, in the section “Falling Short,” I suggest that, in terms of sustainable resource management, the reforms are inadequate and I offer recommendations for further reforms. Presently, I begin with the evolution of the ejido system.

The Evolution of the Ejido System

To an appreciable degree, extant social institutions and practices were thoroughly turned over by the Mexican Revolution of 1910 (Simpson 1937). In the years prior to the Revolution, “[i]ndustrialization was paralleled by a rapid increase in the cost of living without a corresponding rise in the wages of the masses” (Tannenbaum 1929, p. 144). Stagnant or declining agricultural wages, gross inflation, resultant decreases in the subsistence level of

Mexican wage earners and the increasing strength of *haciendas* (large land holdings or estates) versus small villages all contributed to a general sense of frustration. At the same time influences of Mexicans who visited the US and higher wages of new industries suggested a better way of life was possible (Simpson 1937, Tannenbaum 1929). This “ideal” contrasted with the existing unequal and unjust distribution of land.

Although some leaders prompted the masses to action, the Revolution was largely spontaneous and incoherent. Eventually, however, agrarian reform became a major motive and goal of the revolt, offering some cohesion to the process (Simpson 1937). The agrarian revolution succeeded and was institutionalized with the passage of Article 27 in the Mexican Constitution of 1917. Article 27 defined property rights in Mexico and formed the legal framework for land reform and redistribution.² The ejido system was one of government land ownership and communal land management by ejidatarios. There are also many non-ejidatarios making a living in and from ejidos who have no legal claims to ejido land (Garcia et al. 1994). Some, in the case of Ejido El Largo-Madera for example, are workers imported from other parts of the state or country to supplement an Ejido labor shortage (Thoms and Betters 1998). Most resident non-ejidatarios are family members of ejidatarios.

The ejido system evolved directly from the Mexican Revolution as *the* mechanism of land reform. It formed the answer to calls for the restitution and return of traditionally communal lands. But what is an ejido? Ann Craig offers the following definition:

"An ejido is an expanse of land, title to which resides in a community of beneficiaries of the agrarian reform (ejidatarios). Some ejidos are collectively owned or cooperatively farmed and the crops are also marketed collectively. In the majority of ejidos in Mexico . . . the property is collectively owned, and some lands (woodlands, pastures) are for collective use, but the arable land is divided into individually cultivated ejido parcels or plots (*parcelas*)" (1983, p. 5).

As used today the word refers to more than just granted or restored land as in Craig's definition, it also refers to the community of people living on such lands.

An understanding of the evolution of the ejido system should aid in understanding what an ejido is. In Mexico during the late 1800's, a great deal of land was, by government policy, alienated from public and traditional, indigenous communal ownership and placed into large private land-holdings called haciendas. By the start of the 20th century, 50 families owned 20 percent of Mexico's national territory (Thompson and Wilson 1994). Agrarian reform became a major driving force of the revolution, indeed, the only goal of Zapata (Mexico's most famous revolutionary) in his revolutionary tenure was the return of 'stolen' lands to the people (Simpson 1937).

Traditional indigenous land tenure was communal, but laws of Porfirio Diaz's administration (which was the dominant ruling power in Mexico from 1876-1911) facilitated the breakdown of traditional tenure to the benefit of private (many foreign) interests (Kelly 1994). This issue caught the attention of fledgling revolutionary president Venustiano Carranza who co-opted the politically expedient concept and produced the agrarian revolution's triumph with the decree of January 6, 1915 (Simpson 1937). This was the first legal statement of and for the agrarian land reform aspirations of the masses.

The decree exposed the injustice of pre-Revolutionary land distribution and expropriation and declared that those lands unfairly taken should be returned to communities or, in cases where titles were lost or destroyed, communities in need should receive outright land grants (Simpson 1937). This decree, later expanded into Article 27 of the 1917 Constitution of the United Mexican States,³ formed the main legal source of land reform and remains so today. The Mexican Revolution, argues Tannenbaum(1929), transferred power from a land-holding

aristocracy to the village, agricultural workers and urban labor. However, the extent of this devolution of power was mitigated by an increase in centralized government power.

Article 27 was designed to define and limit the nature of property, define who or what legal entities have the right to own property, and set principles and a loose procedure for solving the agrarian problem (Simpson 1937). This procedure involved limiting private land-holdings, recovering national land and waters, and creating ejidos. Article 27 also declared the inalienability of ejidal lands. Clearly paternalistic, this aspect of the law was designed to protect peasants from themselves and possible loss of land to private interests through capital leverage. Ejidatarios could neither rent nor sell parcels, nor hire out labor to work their parcels. In this way, land was prevented from being amassed by individuals, as with haciendas. Contrary to Tannebaum's suggestion of complete devolution, this policy limited the extent of local control over the land, despite peasant empowerment being a critical issue of the revolution.

Replacing and revising all laws relevant to the ejido program was the Agrarian Code of March 22, 1934 (Simpson 1937). The Agrarian Code gave the government new and stronger reform powers, laying out the regulations governing the organization, functioning, and administration of ejidos. Although ejidatarios made day to day farming and land use decisions, the government imposed significant limits from outside. Social organization greatly influences resource management decisions, and a centralized government agency determined the organization of ejidos, consequently limiting local capacity and authority to make resource management decisions. The development of this "locally" based development and resource management system was not locally based. In at least one ejido, that of El Largo – Madera, most of the ejidatarios were brought into the area.⁴ Because of this, the people did not evolve with the local environment.

The Agrarian Code outlined the process of forming or expanding an ejido. Ejido establishment followed a four-step procedure as follows (Craig 1983). The first step was for the community in question to petition for land. In theory agrarian reform laws thus left actual land reform up to peasant initiative. The request for a grant of land was made of federal agrarian authorities on the basis of restitution in cases where previous title was held or dotation or expansion if the community had no title but was in need of land. Land redistribution usually involved the expropriation of land from large private holdings or haciendas. While expropriation of hacienda lands was minimal between 1915 - 1934, in the six years following passage of the Agrarian Code "the administration of Lazaro Cardenas distributed 18 million hectares to over 800,000 peasants" (Thompson and Wilson 1994, p. 463). This is the highest rate of land reform by any Mexican administration. The petition needed to show that the community was eligible and in need of land, had enough eligible petitioners (at least 20), and that lands that met expropriation requirements were available. Such expropriations are no longer allowed as of 1992.

The second step was a census conducted by government technicians designed to get an accurate count of those eligible for ejidatario status. Those eligible were males aged 16 or over, males of any age if married and agricultural workers, or women if widowed or the sole family provider. One must also have lived in the area for at least six months prior to petitioning. Thirdly, the government technicians filed a report with recommendations for approval of the state governor who could give a provisional grant contingent on the final decree of the President of the Republic. If not approved by the governor the President could still approve the grant. Finally, after approval was gained, a ceremony was held where the community received its grant and elected governing and review councils.

A few brief words about the limits and jurisdiction of ejidos are important here. Ownership of all minerals and most waters under and over ejidal lands is vested in the Nation, as are wildlife resources. In some cases concessions for exploiting these resources can be granted as outlined in paragraph 6 of Article 27. Ejidos are given jurisdiction of pasturelands, woodlands, and arable lands within their bounds. With this arrangement an ejido may only manage range or forests and has no say in the management of wildlife, watersheds, fish, mineral or archeological and recreational resources. Again, local power is limited. Forested ejidos, for example, are practically limited to timber extraction as their only resource management activity.

Ejido Administrative Structure/Functioning

ORGANIZATION

The Mexican federal government invests power in an ejido's administrative structure as outlined in the *Codigo Agrario de los Estados Unidos Mexicanos* ("Agrarian Code") of 1934.¹ Ultimate local ejido authority is vested in the assembly of ejidatarios while administrative functions are performed by the *commissariat*, which is headed by the ejido President. Oversight of the President is conducted by a Vigilance Council elected from the assembly just as are the *commissariat* members.

The most basic and powerful entity in ejido administration, in theory, is the General Assembly comprised of all the ejidatarios of a given ejido. The commissariat must call regular general meetings every month, giving at least one week prior notice. At such meetings the *commissariat* gives an account of its activities, submits a statement of accounts and submits proposals for discussion and resolution by the General Assembly. General meetings are open to everyone, including non-ejidatarios unless the meeting is political or involves elections. In such

cases, the only non-ejidatarios allowed to attend are government observers. Regardless, only ejidatarios have voting power regarding ejido affairs. Quorum for meetings is one half of all ejidatarios plus one. If quorum is not achieved a second meeting is announced and held regardless of attendance (Whetten 1948). Reportedly, general meetings are very open where anyone may voice an opinion and some do so rather forcefully. However, public dialogue, while fairly open, is not necessarily geared toward consensus.

The General Assembly elects the officials who manage ejido affairs on a daily basis. There exist two councils for ejido governance, that of the *comisariado ejidal* ("ejido commissariat") and the *consejo de vigilancia* ("vigilance council") (Craig 1983, DeWalt 1979, Karst and Clement 1969, Whetten 1948, Simpson 1937). The *commissariat* is a three-person directorate consisting of a president, secretary, and treasurer. The vigilance council is also comprised of three people in the positions of president (or chairman), secretary, and spokesman. Both councils also have alternates for each position that fill in if an official is removed from office, dies, or is otherwise incapacitated. All 12 officials are duly elected by majority vote and serve three-year terms.

It is the responsibility of the *commissariat* to perform the duties necessary to run an ejido. Specific functions of the *commissariat* are to represent the ejido in dealings with outsiders, administer and seek to improve ejido lands in general, manage the working of communal properties and ensure individual parcels are worked legally, call assembly meetings and carry out the instructions and decisions of the assembly (Simpson 1937). As far as individual duties go, the president is *the* official voice of the ejido, is charged with settling disputes between ejidatarios and is in charge of the most important natural resources of an ejido community (DeWalt 1979).

¹ see Simpson 1937 for a translation and analysis of the original code.

Tasks of the treasurer are to collect and account for ejido money, while the secretary is supposed to take minutes at meetings and disseminate information. Both positions in practice tend to serve as support and advisors to the president (DeWalt 1979). It can be seen that the president is the most powerful formal leader in an ejido. The intent of the ejido system is egalitarian and the president is meant to be a leader among equals. In the case of El Largo-Madera, three people are in charge of the resources of 1745 ejidatarios, decisions that affect 10,030 people living within the boundaries of the ejido.

While making great demands of a person, such power as is vested in the president can also present opportunities for corruption and abuse. It is the responsibility of the vigilance council to guard against such potential abuse and corruption. The council functions as a watchdog over the *commissariat* and, towards that end, is empowered to review the accounts of the *commissariat*, call assembly meetings when necessary or when 20 percent of ejidatarios so demand, and report irregularities and cases of malfeasance within the *commissariat* to the assembly and federal agrarian authorities (Simpson 1937). Instances where officials do commit abuses and are caught may end with the removal of those officials, although that is a rare occurrence.

When elections are held, all ejidatarios may run for any position as long as they have resided in the ejido for at least six months prior to the election and have a record of good conduct. If an ejido is divided in the election of a *commissariat*, the vigilance council must be, by law, elected from among the minority (Karst and Clement 1969, Whetten 1948). Voting is by secret ballot. In the case of a tie, voting is repeated. If the second vote also garners a tie, a mixed ticket of candidates is formed and assignments are made by drawing. Candidates may be

re-elected by a two-thirds vote but this is rare (Karst and Clement 1969). No representative districting for election purposes or political parties exist within the ejido system.

The only leadership training available for newly elected officials is on-the-job. As a result, officials are replaced just when they are likely beginning to understand their positions, duties, and relationships. The potential also exists for a particularly strong leader to unduly influence an incoming official looking for advice. According to Karst and Clement(1969), in some ejidos there is a thorough turnover of leadership after an election, but in others effective political control makes the change-over merely formal while the real bosses stay on in the background. "Thus is produced an institutional dilemma of serious proportion: continuity is nearly impossible except when its very illegitimacy makes it undesirable" (Karst and Clement 1969, p. 285). Positions in ejido administration may require experience and skills not found in most ejidatarios.

Elected officials of the *commissariat* and/or the vigilance council can be removed from office in certain circumstances. Removal may be effected when officials fail to comply with assembly decisions, transgress ejido regulations for land use and management, fail to comply with federal decisions, or in cases of misappropriation of ejido funds, criminal activity, or other malfeasance. Removal requires approval by a two-thirds majority vote of the general assembly at which time his alternate replaces the ousted official. Ejidatarios, when they fail in adequately developing their lands or in contributing to the ejido, may also be "removed" from their ejido rights, but not without a fully justified cause (Simpson 1937).

PROPERTY REGIMES

During its establishment, an ejido could choose whether it would be organized with an individual or collective property rights regime (Whetten 1948). Under the individual rights

regime arable lands were parceled with each ejidatario receiving a certain amount of land to be individually managed, giving them usufruct rights, but not ownership *per se*. A collective arrangement meant that all lands were communal and even farmland was tilled, used, and profited from collectively. Within a collective ejido capital is controlled by the ejido, ejidatarios are at the disposal of the ejido for production directed by the *commissariat* and various foremen, products belong to the whole ejido, and profits are distributed to ejidatarios in the form of money, social benefits, or both. Such a collective ejido may provide social services to its members (Whetten 1948). Issues for these ejidos are task distribution, task compensation, and profit distribution.

Regardless of its organization, woodlands, pastures, and otherwise legally indivisible lands are always held in common. Recent reforms allow the sale of ejido lands, but sale of common lands requires a two-thirds approval by the general assembly and lands must be transferred as a block, not in parcels (Thompson and Wilson 1994). Forest ejidos are effectively organized as collectives by default.

ROLE OF THE FEDERAL GOVERNMENT

Federal agrarian authorities possess significant power over the local administration of ejidos. Observation is the primary role of the federal government in ejido affairs. The federal government makes sure an ejido is managed according to the law and authorizes ejido management plans. This task falls primarily to the Agrarian Reform Secretariat (SRA), charged with ejido oversight. Another federal institution (PROFPEA - similar to the US EPA) has the power to impose fines against legal transgressions (Commission for Environmental Cooperation 1996). The federal agrarian authorities may also intervene in election disputes, remove ejido officials in cases of malfeasance, approve/disapprove changes in ejido councils, and regulate

school land (Simpson 1937). In questions of inheritance, use, and possession of ejido parcels, the federal government also functions as a court of last appeal. The government also provides some subsidies to ejidos, usually in the form of matching funds, for conservation, research, reforestation, fire management, forest improvement, etc.

The government also, as stated previously, approves management plans submitted by ejido forestry units and therefore has some authority over them. Although technically a federal government agency, the forestry unit effectively functions like a department or agency of the ejido government. Foresters are professionals almost all from outside the ejido, under the authority of the federal government, but paid by the ejido. Resource surveys, land management plans and conservation oversight are conducted by the unit and reported to the *commissariat* for approval and the federal government for authorization.

Formerly, the federal government directly appointed forestry unit directors. The ejido *commissariat* now makes this appointment from within the ejido with no set term limit. The unit director makes all hiring decisions for the unit and submits a budget to the *commissariat* for approval. While the unit is required by the federal government to ensure the ejido manages its lands in accord with Mexican law, it is paid by the ejido. This arrangement places the unit in an awkward position balanced between two separate (and sometimes opposing) interests.

Depending on individual capacities, integrity and motivations, a forestry unit director could be paralyzed by disparate interests or s/he could play those interests off of each other to achieve separate goals.

Recent Ejido Reforms and Potential Effects

REFORMS

One of the central tenets promulgated by Article 27 when it was adopted in 1917 was the inalienability of ejidal lands. The law also allowed for the expropriation of large private landholdings and the redistribution of those lands to form ejidos. Both of these provisions were reversed with the 1992 amendments to Article 27 of the Mexican Constitution. According to Cornelius and Myhre, these reforms essentially ratified a long-standing status quo (1998). The goals of the policy change were ejido modernization and increased agricultural productivity through attracting private investment (Thompson and Wilson 1994, Cornelius and Myhre 1998). Potentially sweeping change in the rural property landscape has been unleashed by, first, the end of land redistribution to landless rural communities and, second, the creation of an agricultural land market (Kelly 1994).

Two factions within the Salinas government supported ejido reform from two different perspectives. A “*campesinista*” faction sought ejido reform as a “vehicle for autonomous expression of peasants’ needs and democratic participation...” (Cornelius and Myhre 1998). Their goal was greater security and autonomy for ejidatarios. On the other side were a group of “modernizing technocrats,” to use Cornelius and Myhre’s term. This group saw ejido reform as a means of recapitalizing Mexico’s agricultural sector to increase exports in the new free market trade environment created by NAFTA (Cornelius and Myhre 1998). The technocrats wanted to phase out costly agricultural subsidies and reduce the number of people engaged in agricultural production. Both factions wanted to expose clandestine, de facto privatization such as secret land rental agreements which occurred in ejidos, “give adequate legal protection to investors,” and “protect ejidatarios from exploitation by private firms...” (Cornelius and Myhre 1998). The result was a compromise between 1) the existing ejido system and 2) complete abolition of the ejido system.

Initial national opinion polls showed broad-based support for the reforms. Two-thirds of Mexicans nation-wide were supportive, and the proportion was even higher in the most rural areas (Cornelius and Myhre 1998). The state of Mexico's economy, particularly the agricultural sector, prompted this broad support. By the early 1990s, Mexico had experienced persistent agricultural trade deficits. A 1988 survey found less than half of Mexico's ejidos were using modern agricultural technology. Poverty in Mexico was concentrated in its rural sector. Finally, agriculture lagged behind all other sectors in terms of domestic and international investment (Cornelius and Myhre 1998). Mexico were ripe for agrarian reform. Table 1 lists the specific reforms to Article 27.

Table 1. List of key elements of the 1992 Article 27 reforms

- end to government redistribution of land
- ends expropriation of improved privately owned land
- presidentially appointed, decentralized and autonomous Superior Agrarian Tribunals are established to settle disputes over land rights
- individual ejidatarios may obtain certificates of land title
- ejidatarios with title may legally sell, rent, sharecrop or mortgage their land as collateral
- common lands may also be sold for commercial development if a majority of ejidatarios so decide
- ejidatarios no longer are required to work their parcels personally
- legal limits on maximum property size remain
- ejidatarios who opt not to sell or rent their parcels may enter into joint ventures with outside investors or form associates among themselves
- ejidatarios can sign long-term production contracts with outsiders
- the reforms open the ejido sector to foreign direct investment (FDI)
- allows formation of production associations with foreign private investors

source: Cornelius and Myhre 1998

The deletion of sections in Article 27 promising and regulating agrarian land redistribution proscribes the redistribution of land through expropriation (Thompson and Wilson 1994, Kelly 1994). The implication is that no new ejidos can be formed, nor can existing ejido's expand (except, perhaps, by purchasing land). Agrarian lands may now be traded in a market

environment because of the 1992 amendments making ejidal land alienable. For titles to be granted within an ejido, a majority of ejidatarios must vote to participate in the government titling program PROCEDE (Cornelius and Myhre 1998). Ejidatarios may legally sell, rent, sharecrop or mortgage their land as collateral for rural loans, but any decision to sell land to an outsider must be approved by a two-thirds majority of ejidatarios (Cornelius and Myhre 1998). Investment companies can buy land through shares (de Janvry 1997). Indeed, the agrarian reform encourages ejidos to enter joint ventures with private investors (Bray and Wexler 1996). The concentration of land remains forbidden. Corporate ownership of land is limited to 2500 hectares, individual farmers may own 100 hectares of irrigated land (or its equivalent in rain-fed or pasture land), and no single ejidatario may acquire more than five percent of the land in any ejido community (Cornelius and Myhre 1998).

Article 27 distinguishes between parceled farm land, land used in common, and land for human settlement. Common land cannot be appropriated individually, but it can be assigned individually for commercial purposes (de Janvry 1997). Although ejido commons cannot legally be titled or privatized, there appears to be two ways to circumvent this proscription (Key, et. al. 1998): 1) some ejidos have poor documentation of land boundaries and therefore have some “flexibility” in defining what their commons are and how many plots need titling; 2) historical use of land can be formalized, i.e. squatters on officially common land can be given title.

POTENTIAL EFFECTS

Promoters of the ejido reform have predicted several positive impacts of the reforms. The Salinas government expected that associations of ejidatarios and private investors, which would be able to achieve economies of scale with legally protected capital investments, would stimulate domestic and international private investments in the ejido sector. Collateralization of

ejido parcels was expected to increase access of small-scale producers to commercial bank credit. The government also hoped that increased private sector involvement would increase World Bank and Inter-American Development Bank credit flows to agriculture (Cornelius and Myhre 1998).

Perhaps the most dramatic predicted effect of the new land reform, as reported by Stephan, is the displacement of nearly 15 percent of Mexico's population from the countryside (1994). Weak or underdeveloped farm-markets and the promise, if not the reality, of greater economic opportunity in urban areas may precipitate urban migration. In such an environment, many ejidatarios may wish to sell their land and move to large cities in hopes of earning a wage. The potential for this, I believe, is weaker in those ejidos solely or almost solely dependent on cooperative exploitation of a communal resource. Collectively, the ejido as a unit can operate on an economy of scale and make sustained revenue whereas an individual, without the manpower and capital to manage and harvest a plot of forest land over the long term, could only sell her land for a one time profit. Thus, there is little incentive for opting out of the ejido in such a situation. On the other hand, increased capitalization and access to credit may stimulate ejido agriculture to the point of reducing migration pressures through improved economic opportunities.

Another potential effect, according to Thompson and Wilson (1994), is the amassing of private land-holdings. With some beginning capital an individual could buy up land or coerce ejidatarios into selling their land to build up a larger private land holding than his fellow ejidatarios, which the newly land-poor ejidatarios might end up working on as labor. Such private holdings could lead to economies of scale that would seriously curtail the development and competitiveness of intact ejidos, thus depressing living standards for remaining ejidatarios.

However, Thompson and Wilson overstate the potential for this. There are relative limits on how much land a single ejidatario may control in a particular ejido (5%), and absolute limits on the amount of land an individual (100 ha) or corporation (2500 ha) may own. Of course, there certainly are ways around these limits.

Ejidatarios might also lose their property by loan default. Many ejidatarios may take advantage of legal reforms allowing them to offer their land use rights as collateral without realizing they could really lose their land if they default. They may not understand this because, previously, penalties for loan defaults were slight (see Kelly 1994).

Finally, the new land reform could affect the government's ability to manage and protect the environment. If large amounts of previously ejidal land became controlled by private parties, the federal government would have less influence on how those lands were managed. Even where only small amounts of land shifted ownership, for example if a few ejidatarios defaulted on loans and lost their rights, a particular ejido could be broken up to some extent, disrupting its economy. Indeed, considering the dominance of neo-liberalism and free-market ideology in Mexico today, breaking up the "communitistic" ejido system may be an unstated goal of the reforms. In any case, if an ejido broke up it would have reduced resources for land management. There might also arise discontinuities in management of the ejido landscape from separate land-use approaches. And, as we all know, environmental effects know no boundaries.

NOTED EFFECTS

Preliminary research suggests that, despite contrary expectations, the Article 27 reforms have had very little impact thus far (Cornelius and Myhre 1998, de Janvry 1997, Key et. al 1998). Over time the reforms may more greatly impact the ejido sector. For now, immediate changes in ownership patterns are modest, although many ejidatarios are gaining title (Cornelius

and Myhre 1998). A majority (59% by 1996) of ejidos are participating in PROCEDE, but few ejidatarios are selling their land. A nation-wide survey by de Janvry (1997) does suggest that the smallest farms, where households were living below subsistence level, are being abandoned and consolidated into more viable small farms. Specifically, the percent of ejido farms of less than two ha. was 28.8 in 1990 and 22.8 in 1994, while 27.9% of farms were between two and five ha. in size in 1990 and 34.4% were two to five ha. in 1994 (de Janvry 1997). Other indicators that little has changed as a result of the reforms are listed in Table 2.

Table 2. Indicators of change in ejidos

- no significant increase in the level of investment in the ejido sector
- no increase in access of small-scale ejido producers to commercial bank credit
- no significant effect on migration
- greater local authority is not fully realized
- resident non-ejidatarios continue to be excluded from local decision-making
- mixed, but relatively minor impacts on environment, dependent on local context

source: Cornelius and Myhre 1998

The reforms have begun to affect some relatively significant changes (Cornelius and Myhre 1998). Individual level land ownership has created a perceived need for the expansion of government bureaucracy, which formerly could deal with entire ejidos. Whereas, previously, government agencies could deal with a given ejido as a unit, all of the ejidatarios of that ejido must now be worked with individually. Additional personnel and additional levels of bureaucracy are now considered needed, increasing centralized government power rather than local power. Investigating the efficiency of this process to determine whether greater bureaucracy is actually needed would make an interesting and useful study. Titles, which make land exchanges a matter of private property rather than family patrimony, undermine the authority of spouses over the dispensation of ejido rights upon the death of an ejidatario, thus discriminating against and further marginalizing women.

Change in the Mexican ejido sector, it would seem, is and will continue to be slow. Communal solidarity, risk aversion, lack of outside interest and other cultural factors seem to be curtailing rapid and significant impacts of the reforms, both positive and negative. At this point, the biggest winner as a result of the reforms are ejidatarios who gained title to their parcels. Having title promotes a greater degree of security. There do not appear to be any major losers at this time. However, there are groups who remain disadvantaged, especially women and non-ejidatarios living within an ejido, and power remains centralized. Whether or not the current reforms are in and of themselves flawed, I believe they are incomplete. From an ecological perspective, they fall far short of what is needed to promote sustainability in rural Mexico.

Falling Short

Mexico is home to a diverse array of ecosystems, plants, animals and human cultures. The country contains temperate, sub-tropical, and tropical forest ecosystems as well as many desert and aquatic ecosystems. Recent surges in population growth and industrialization have intensified forest utilization and pressure on supporting ecosystems. This has resulted in Mexico having the highest rate of deforestation, some 800,000 ha/year, in Latin America (Carabias Lillo 1995, Bray 1996). Over-intensive cropping and other activities have produced erosion damage on approximately 90% of Mexico's territory (Carabias Lillo 1995). Industrial and agricultural pollution have contributed to the contamination of 29 of 37 water supply regions in Mexico (Carabias Lillo 1995).

The Mexican government is promulgating a new ecological policy stressing more complete use of natural resources within the perspective of environmental protection and restoration (Carabias Lillo 1995). The Secretariat of Environment, Natural Resources, and Fisheries (SEMARNAP) was created on December 1994 to promote a transition to "sustainable

development" in Mexico (Carabias Lillo 1995). Carabias Lillo, secretary of SEMARNAP, summing up Mexico's new environmental approach says,

"[C]omplementing the development of improved mechanisms of participation and co-responsibility, a strategy will be put forward for the decentralization of environmental and natural resource management, aimed at strengthening local management capacity, particularly at the municipal level" (1995, p. 53).

Do the Article 27 reforms complement this goal?

The ever-changing nature of ecosystems asks of ejidos that they be willing to adapt and modify management plans based on new information and new situations. Such an approach, focusing on uncertainty and iterative evaluation, obviously requires innovation and change. Barriers to risk taking and experimenting tend to constrain against trying out new ways (Yaffee 1996). The Article 27 reforms should mitigate some of these barriers, but may also present new ones.

Titling of ejido parcels gives greater security to ejidatarios. If an agricultural experiment fails, an ejidatario can always sell or rent his parcel and either try some other business or hire out as labor. Innovation is also less risky now because the reforms legitimize individual or partner funded capital improvements, making such investments in new technology more comfortable. On the other hand, if ejidatarios wait for an innovation's worth to be proved by an entrepreneurial ejidatario, and his innovation fails, risk aversion could be reinforced. Also, it is conceivable that ejidatarios might wait for outside investment and initiative before experimenting, limiting internal ejido initiative.

My main critique is that the reforms make no organizational changes to ejidos or their jurisdiction over resources. Changes are needed because, internally, power is concentrated and some interests are powerless, and externally, power is centralized, preventing local control over

resources. Indeed, the current reforms encourage extra-local involvement in local resource use decisions.

The Salinas government did make changes to water and forest law in the same year as the Article 27 reforms (Bray 1996). In both cases consultative councils for citizen participation were made possible. In the case of water law, watershed management was mandated, with input from a citizen watershed council. However, rural citizens perceived this change as a maneuver by the government to continue raising water prices (Bray 1996). Changes in forest law also set up citizen councils, but the new law is fundamentally flawed from an ecological perspective. Forest activity is conceived of as entirely separate from agriculture and livestock, forests are valued almost exclusively for timber rather than multiple-resource use, and the new law promotes commercial mono-species plantations (Bray 1996).

Single-resource management approaches cannot achieve sustainability in the context of complex, multi-faceted ecosystems. Having jurisdiction only over a single resource dictates a single resource management strategy. Inasmuch as ecosystems are integrated and interconnected, manipulations of one resource will affect all other resources. Therefore, to approach sustainability, an ejido must have management jurisdiction over all resources found within its borders. Unfortunately, ejidos currently have management jurisdiction only over timber resources and have no official management power over waters, wildlife, soils, *et cetera*. Ejidos must be able to manage multiple-resources in an integrated fashion, which requires that jurisdictional lines be redrawn by the Mexican federal government (Thoms and Betters 1998). An ejido should also be the primary beneficiary from those resources so that it has a direct and explicit stake in ecosystem sustainability.

Here the federal government could extend ejido jurisdiction to management of wildlife, watersheds, minerals, fish, and recreational resources on its lands, yet also establish federal guidelines designed to keep ejido actions within ecological capacity. These guidelines must be met and are regularly revisited to account for new conditions and new information. Ejidos will also need significant technical and financial support from the government, which requires cooperation between ejidos and the government and cooperation between agencies within the government. What I am suggesting is co-management and collaboration.

Sustainable management also requires cooperation across different ownerships within a given ecosystem. It is unclear at this time to what extent ecosystem and ejido boundaries are coterminous, and it will remain unclear until further, scientific research is conducted to make such a determination. It is, however, safe to say that sustainable management necessitates management considerations beyond the boundaries of a given ejido, requiring federal involvement to coordinate management across ownerships. Ideally, although impracticably, ejido boundaries would be redrawn to match watershed boundaries.

Article 27 reforms do not address any shortcomings of ejido organizational structure, and it may be that substantial organizational change must also occur, which will require additional major policy reform. Although all of an ejido's members and a group of technicians and professionals advise him, one person, the president, manages a given ejido. Such a situation could overburden a given president, resulting in things left undone. The complexity inherent in a truly sustainable approach requires that tasks and duties are clearly defined and responsibility is broadly accepted.

Unified vision and consensus goals are important for sustainability. All those living within the bounds of a particular ecosystem are part of that ecosystem. As such, everyone within

an ecosystem has a stake in its health, and so should have a voice in its management. However, currently non-ejidatarios living on ejidos have no representation or influence in managing ejido affairs. This situation must change. The more viewpoints brought to an issue, the more information is available. Greater knowledge leads to sounder decisions and diversity of opinions is a strength. Non-ejidatarios could be brought into the ejido political and decision making process by including a non-ejidatario, ejido resident, elected by peers, on the commissariat. The position could be advisory only, with no voting powers, but this official's presence would be required at all meetings.

For many of the same reasons lack of non-ejidatario representation is an issue, so is lack of women's input into decision-making processes. Further, as managers of particular domestic economies, women may have unique insight into community subsistence needs. Although women can become ejido members, it is unlikely. Currently most ejidos have no or very few women with decision making power. There is growing evidence that empowering women aids development, economic or otherwise (see, for example, Jacobson 1992 and Jiggins 1994). Women could be brought into ejido political and decision-making processes with the formation of a women's advisory group to the commissariat. The members would be elected by and from among all the women living within an ejido.

It appears that market forces are inadequate to thoroughly reform Mexico's ejido sector. Ejidos need organizational change that grants them authentic autonomy and greater control over local resources, encourages broader participation by all ejido stake-holders, empowers women, and devolves power within ejidos.

ENDNOTES

¹ see Simpson 1937 for a translation and analysis of Article 27.

² *ibid.*

³ see Tannenbaum 1929 for a translation.

⁴ Information from Celedonio Aguirre-Bravo, Mexico-US Research Coordinator at the US Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO 80523, is taken from discussions during field research between 21 and 27 July 1996 and on 22 August 1996.

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