

MEXICAN EJIDOS IN A FREE MARKET ECONOMY: BETWEEN COLLECTIVE ACTION AND PRIVATIZATION

1. Introduction

This work resumes part of the preliminary results of the project *El ejido y la gobernabilidad territorial rural*, coordinated by Gustavo Gordillo de Anda. The aim of the project is to know who are the main actors and most relevant processes in the current ejidal governability, before the vacuum left by the state after the Agrarian Reform of 1991, such as the relationship between the governability levels and the resilience capability of ejidos when they are threatened by organized crime, energy corporations interested in ejidal resource exploitation, the free market and others.

The objective of this article is to explore, through direct testimonies of ejido members, which are the most successful strategies and main challenges for a governability which promotes the rational use of ejidal resources, and the sustainable development to improve the life quality of ejido inhabitants. The hypothesis is that ejidos with higher institutional capabilities achieve a better governance, and this allows them to be more resilient to different threats; in the opposite, ejidos with weak institutions, are more liable to be managed by external agents.

It is expected that the results obtained with this project will be taken as a referent for the revision and adjustment of federal public policy oriented to ejidal population attention. Although currently the project has had limited coverage and descriptive scope, it is desirable that through its continuity, more complete and representative information at national level can be obtained.

2. Background

One of the major achievements of Mexican Revolution was the supply of land handled by big landowners. Over 100 million hectares of land (comparable to half of national territory), were distributed to dispossessed peasants, most of them day labourers and sharecroppers; as a result, 30, 000 ejidos and communities were established (Warman, 2003).

Ejido had an important political control function during XX century that was executed mainly through five mechanisms: 1) Authentication of ejidal assemblies by any agent of Agrarian Reform Secretariat (SRA); 2) SRA presence in ejidal arbitration agreement to solve agrarian conflicts; 3) Government control of public resources toward ejidos; 4) Long intervention process in sense of welfare and infrastructure; and 5) Widespread political statements, among them, the requirement of ejidal adherence to affiliated Institutional Revolutionary Party (PRI) corporations, particularly to National Rural Confederation (CNC) and other ejidal unions and collective common interest associations, in order to obtain commodities and public state services, and furnish government programmes enforcement (Gordillo, et. al, 1999). This elements shrink ejidal autonomy, even though, they count on traditional informal institutions founded in reciprocity to organize community life (Gordillo, et. al, 1999).

Another limiting element was composed by legal restrictions defined for land transactions and ejidal assets. Under applicable laws before 1992, land should be laboured directly by the holder of ejidal rights, and plots must not be sold or yielded, even used as a guarantee, this caused proliferation of secondary markets, mainly among migrant ejido members: some of them never came back and preferred to sell their plot, other returned and did not want to lose their ejidal rights, because of this, they rented lands to be laboured by someone else during their absence; it was also frequent to rent or sell plots just to solve any economic hardship (Gordillo, et.al., 1999). These and other various not allowed by law actions were provided and

supported by chieftains and intermediaries, who commonly occupied positions of authority in ejidos and in government, and obtained advantages in exchanged of.

Ejidos played a key role in food production and low cost labour force that contributed to country industrialization (Warman, 2003; Puyana and Romero, 2008). Debt crises, increasing split of plots and increases in international markets prices delayed the sustained economic market growth, and in the 80's decade, stagnation of agricultural sector was clear (Escalante, et. al., 2005).

In 1989, 71% of extreme poor were rural labourers, and 82.6% of poverty was concentrated on primary sector labourers (Lustig y Székely, 1997). In addition, with public spending contraction, countryside suffered a decapitalization process. Additionally, the executive power, who granted itself the faculty to distribute land to peasants after Mexican Revolution, could not satisfy the claim anymore.

As a consequence, series of agrarian mobilizations gave rise and possessed on public discussion the need of new rural sector institutionality capable to respond, among others, to peasant autonomy demands, democratic representation, and the urgency to conform options to compound rural sector for the purpose of increasing productivity and competitiveness in an open economy context. Initiative of reform were presented to the Congress by Executive on november 1991 and awaken several fears. On one side, many thought that it was leaving the door open to the grabbing of large grounds through a massive sell of lands. On the other side, it was expected that if subscribing contracts with local and transnational companies was allowed, this would take holds of great extensions of ground by means of creating business corporations, furthermore to control productive process and submit peasants and ejidos members into disadvantage labour and economic conditions.

Constitutional reform was approved on december 1991 and new agrarian law on february 1992. Between the most important changes, the plot yields, and even sells, were legalized, establishing as one of the requirements the previous approval of the

Ejidal Assembly. Besides, with the idea of enabling capitalization of ejidos, it was established that agrarian cores could make agreements with thirds to use and benefit of ejidal resources (corporations, organizations or private enterprises).

New rules removed the requirement of SRA presence to validate assemblies; the Ejido Commissariat, conformed by a president, a secretary and a treasurer, who must be elected by Assembly each three years, was defined as a representation management ejido entity, while the Supervisory Board, also chosen by Assembly is the commissioned to supervise Commissariat functions and use of ejidal resource according with the internal rules, to be managed in a transparent and appropriate way.

After the reform deployment, several studies have been developed, mainly at local level, that give an outlook of the results the agrarian law modifications had. First, there have been no massive conversion to full possession or ejidal ground selling at long scale (De Ita, 2006; Nuijten, 2003; Warman, 2003). It is observed that the presence of land selling is higher in ejidos with great cadastral value, i.e., urbanized ejidos, and those which are near to touristic areas (Barsimantov, et. al 2009; Barnes, 2008). Conversely, land yield is regularly associated with ejidatarios decapitalization, and the impossibility to invest and labour land (De Ita, 2006).

Although many of the prophecies related with the reform have not been real, new ejidal institutions have not had the expected results in the sense of improving the living conditions of ejido members. According to the recent National Council for Evaluation of Social Development Policy (CONEVAL) information, in 2014 there were 55.3 million of people living poorly in Mexico, 17 million of them were in rural localities (most of ejidal lands belong to rural areas); in other words, 61.1% of rural population lives in poverty: 20.6% in extreme poverty and 40.5% in moderate poverty.

3. Analytical framework

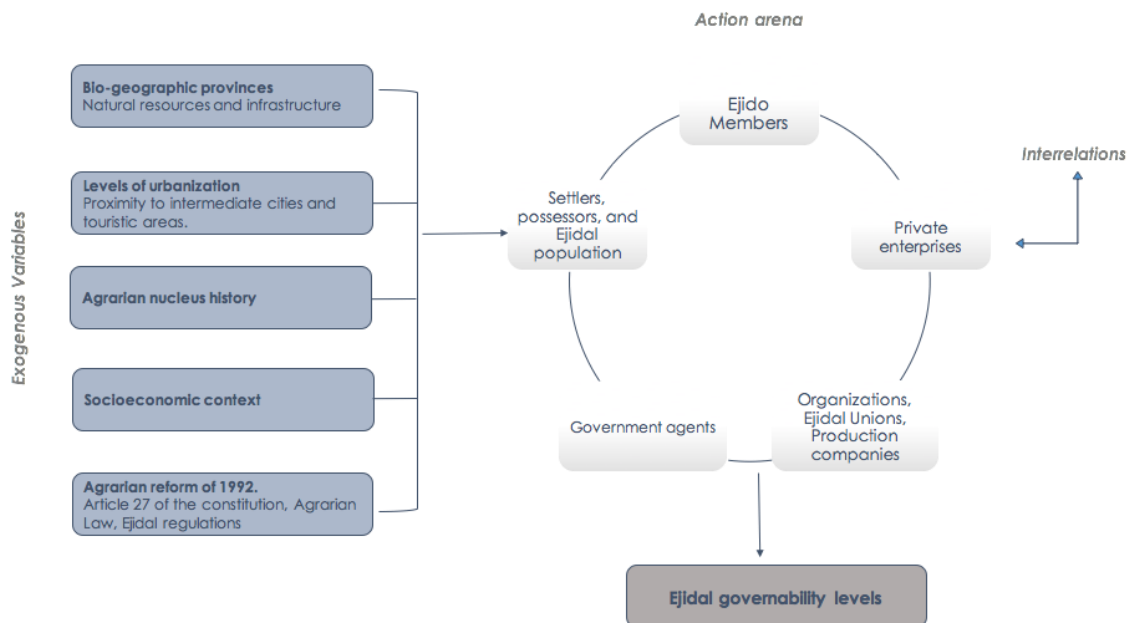
Along this paper, governability is defined as a dynamic state of balance between social demands and government capacity of response (Camou, 2013). For governability, institutions are relevant because they constitute mechanisms to deal with the collective social reality; if their design is appropriate, institutions can be effective tools to solve conflicts, and in this sense, contribute to social stability and achievement of changes and agreed settings.

Ostrom (2011) laid out that theoretical approaches setting governmental centralized control or privatization as unique alternatives to the social dilemma for common pool resources government (RUC), left out a third possibility, consisting on communities own management capacity. Creating institutions to RUC's governability results from a process that implies social dilemmas overcoming. In this sense, collective action focused on common benefit through cooperative behaviour, is the product of a number of contextual conditions and inherent to the group in question (Ostrom, 2011).

The *Institutional Analysis and Development* (IAD) framework evolved by Ostrom (2005), results adequate for the ejidal institution analysis because of the wideness of its categories and variables, that allow the structural understanding of institutions and screen broad patterns of results (Ostrom, 2005). The framework, considers the following exogenous variables:

1. Biophysical conditions, classified by its level, subtractibility and for the difficulty of excluding potential beneficiaries;
2. Communities characteristics, including history of previous interactions, uniformity level, internal heterogeneity, knowledge and members social capital;
3. Current rules that express a shared understanding of the members and actions that can be implemented. (Ostrom, 2009; Ostrom, 2005).

As a part of the action arena, it is relevant to consider the situation aspects (participants information about reality, costs and benefits from it, number of times in which the action will be repeated); as well as members characteristics (number, if the action is individual or in group and predictability of behaviour; and relevant qualities for the action). Finally is important to analyze all interactions in the real situations and outcomes. (Ostrom, 2005)



Adapted from Ostrom (2005).

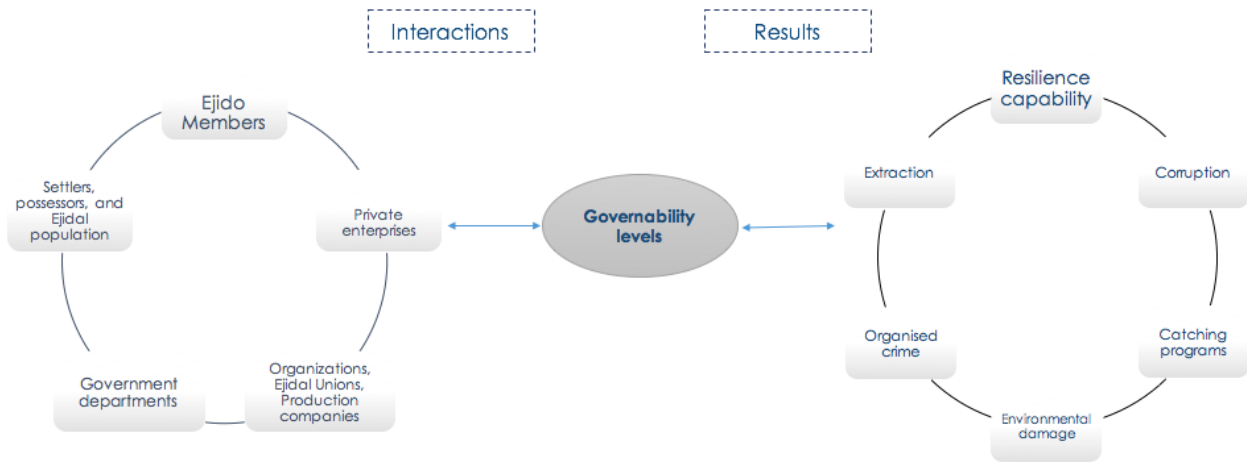
Keeping in mind institutional design principles stated by Ostrom (2009), Pedro Álvarez Icaza propose in his text *El uso y la conservación de la biodiversidad en propiedades colectivas. Una propuesta de tipología sobre los niveles de gobernanza*, that, RUC governability is based on in collective group strength, and this is founded in three conditions: a) Being recognised as capable to govern themselves; b) To settle rules for regulation of access, usufruct and safeguard of natural resources, and c) Obedience and help to enforce rules via monitoring mechanisms and penalties between the communities own actors (Álvarez Icaza, 2014).

Based on these, author suggests six levels of governance described in Table 1 (See appendix), which will be used to evaluate the degree of RUC governability in the visited ejidos.

Although this is a descriptive analysis of visited ejidos based on the IAD Framework, it is desirable a future deeper analysis of how governability levels impact on the system's resilience in terms of sustainability. In accordance to Walker and his colleagues (2002), resilience is the potential of a system to remain in a particular configuration and to maintain its feedbacks and functions, and involves the ability of a system to reorganize following disturbance-driven change (Walker, et. al., 2001).

Competition, effective government and effective Institutions are relevant for the accomplishment of resilience (North, 1990, in Levin, et al., 1997) These authors understand effective institutions as a variety of them, leading different results; in this sense, governments and markets can be insufficient to achieve and cover the amount of necessary interactions for the resilience; trust between agents involved in situation becomes fundamental. (Levin, et. al., 1992)

Ejidal resilience could be then, the product of institutional capabilities developed across continuous internal level interactions and with external agents. This capability could enable ejidal population to face different threats, for example the extractivism, environmental damage, impoverishment caused by market fluctuations or insecurity.



Adapted from Ostrom (2005).

4. Preliminary results

4.1. Exogenous variables

This paper analyses the results of 113 interviews made to ejidatarios in 9 biogeographic provinces, located in 11 states. The interviews were made in period from July to December 2016. It is important to say that the visited ejidos are not part of a representative sample, and for this reason, the results can not be generalized to localities, municipalities or regions. This is an exploratory work which can show some important guidelines for a deeper analysis in a broader selection of ejidos.

Biogeographical provinces, natural resources and infrastructure

For this study it was used the classification of the National Commission for the Knowledge and Use of the Biodiversity (CONABIO) of the Mexican territory. This methodology divides the country into different biogeographical provinces, defined as areas with physiographic and ecological identity, where the distribution of two or more endemic species overlaps. (CONABIO, 2008). This was done under the premise that natural resource endowment in ejidos could be a relevant factor for the

kind of collective arrangements developed by communities affecting their governability.

<i>Biogeographic province</i>			<i>State</i>	<i>Ejido</i>
<i>Name</i>	<i>Weather</i>	<i>Ground</i>		
<i>Golfo de México</i>	<i>Mountain environments, sub-humid</i>	<i>Coniferous and holm wood</i>	<i>Veracruz</i>	<i>Justo Sierra, before Ximonco</i>
<i>Altiplano Sur - Eje Neovolcánico</i>	<i>Arid</i>	<i>Scrubs and sub- alpine grasslands</i>	<i>México</i>	<i>San Cristóbal Texcalucan</i>
<i>Eje Neovolcánico</i>	<i>Mountain environments, sub-humid</i>	<i>Transitional zone between woods and rainforest</i>	<i>Puebla</i>	<i>Santa María Acozautla</i>
			<i>Puebla</i>	<i>San Nicolás Tolentino</i>
<i>Depresión del Balsas</i>	<i>Subtropical arid</i>	<i>Bushes, grasslands and rainforests</i>	<i>Hidalgo</i>	<i>San Miguel Ferrería</i>
			<i>Morelos</i>	<i>Ticuman</i>
			<i>Morelos</i>	<i>Tepetzingo</i>
<i>Yucatán</i>	<i>Humid, sub-humid tropical</i>	<i>Rainforest</i>	<i>Yucatán</i>	<i>Hunxectaman</i>
<i>Petén</i>			<i>Yucatán</i>	<i>Uci</i>
			<i>Quintana Roo</i>	<i>San Antonio Nuevo</i>
			<i>Quintana Roo</i>	<i>Felipe Carrillo Puerto</i>
			<i>Campeche</i>	<i>Escárcega</i>
			<i>Campeche</i>	<i>División del Norte</i>
<i>Sierra Madre Oriental</i>	<i>Tropical, semiarid, sub-humid</i>	<i>Ferns, grasslands and rainforests</i>	<i>Tabasco</i>	<i>El Faisán</i>
<i>Costa Pacífico</i>	<i>Tempered, tropical, humid</i>	<i>Mountain transitional zone</i>	<i>Chiapas</i>	<i>Arriaga</i>
			<i>Chiapas</i>	<i>Cabeza de Toro</i>

Sierra Madre del Sur - Costa del Pacífico	Sub-húmid	Southern highlands	Oaxaca	Capulálpam de Méndez
			Oaxaca	Ixtlán de Juárez

Based on information of Espinoza, 2008.

The biogeographic provinces included in this article are plenty of forests and rainforests. Mexico has been internationally recognized for the success in the communitary management of natural resources, specially forestry resources in south east states (Bray and Merino, 2004). This experiences of communitary management in communal or ejidal tenure, are characterized by certain forms of collective organization, supported by norms and customs previous to the 1917 Agrarian Reform, which have been reshaped along the history (Zendejas and Vries, 1998).



Taken from Espinoza, 2008.

The Sierra Madre Oriental, where the ejido *El Faisán* is located, is characterized for having conifer forests with holm oaks and mesophile mountain trees in its wet region and xenophile scrubs in its dry region (CONABIO, 2008). Even though, the use of timber resources is not one of the major economic activities of the ejido; previously this were used to produce coal, but now, due to environmental norms and the lack of advice, the ejidatarios stopped doing this. Despite the ejido adjoins with Usumacinta river, fishing is very limited due to overexploitation and the high cost of extraction. Sometimes, inhabitants extract sand and gravel from the river to sale it for building purposes, but this activity has become hard and costly due to the increasing depth at which it has to be taken. In some plots ejidatarios sow sugarcane, and sale it to an *Azuremex* sugarmill; most of ejidatarios do not sow because of the reduced size of plots and inappropriate conditions of land: it has to be removed with machinery to which they have no access; neither are there irrigation systems.

In the Costa Pacífico province are located the ejidos *Arriaga* and *Cabeza de Toro*. This are characterized by their tropical vegetation with deciduous rain forests, holm oaks and pine forests (CONABIO, 2008). In this ejidos, as well, land has been converted to cattle grass, major activity with prawn fishing in the case of *Cabeza de Toro*, that adjoins with Pampa Cabeza de Toro lake. In some cases, ejidatarios sow maize for self-consumption and sorghum to feed the cattle. There are not irrigation systems and in the last years they have suffered droughts due to rain scarcity, grass has not grown enough, and it has been difficult to feed the cattle.

The Yucatan province has low deciduous rain forest and middle sub-deciduous; is relatively dry due to rains scarcity (CONABIO, 2008). Weather is appropriate for vegetable sowing, which is the main activity in ejido plots of *Hunxectaman* and *Uci*. They do not have irrigation infrastructure, sometimes ejidatarios engaged in agricultural production install pump systems. Some ejidatarios sow maize for self consumption and often they breed few cows, chickens or other kind of small livestock.

The ejidos *Felipe Carrillo Puerto*, *San Antonio Nuevo*, *Escárcega*, and *División del Norte* are located in the province of Petén, characterized for having evergreen low, medium and high rainforest (CONABIO, 2008). In the ejidos located in the state of Campeche (*Escárcega* and *División del Norte*) were not detected forestry activities; the main activities are the *chihua* sowing (a type of pumpkin of which seed is bought by hydrogenation industry to extract oil), and the cattle breeding (mainly cows and sheeps). There is not irrigation infrastructure; and due to the previous kind of crop sowed (rice), soils were deteriorated, and now ejidatarios express the need of machinery to remove the land and continue sowing. In the ejidos from Quintana Roo (*Felipe Carrillo Puerto* y *San Antonio Nuevo*), forestry activities are relevant, they have an eco touristic park and sale the forest timber. Here ejidatarios sow maize for self-consumption and in *San Antonio Nuevo* some of them develop apiculture and sheep raising activities.

The ejido *Justo Sierra* locates in the municipality of Perote, Veracruz, in the Mexican Gulf province, with medium mountainous weather plenty of conifer and holm oak forests (CONABIO, 2008). Ejidatarios were devoted to maize and beans sowing, but due to the low revenues, increasing pollution and discovery forest use suitability of the land, they decided to change the seed to pines and pine nut trees, such as starting the forest conservation together with the Forestal Union of the region.

San Cristóbal Texmelucan in the municipality of Huixquilucan, Estado de México, is located between Altiplano Sur and the Eje Neovolcánico, where the weather is mostly arid and scrubs and subalpine grasslands can be found (CONABIO, 2008). Due to the biogeographical conditions of this ejido, there were maize, beans, broad beans, barley and oats sowing, but the context changed because of urbanization, and people decided to stop sowing to engage in mining (oil products), and land sales to real estate agencies.

The ejidos *San Nicolás Tolentino* and *Santa María Acozautla*, located in Santa Isabel Cholula and Izúcar de Matamoros municipalities, in Puebla, belong to the Trans-

Mexican Volcanic Belt biogeographical province, such as the ejido *San Miguel Ferrería* in Zacualtipán, Hidalgo. Here the weather is mountainous, sub-humid and tropical-arid, giving origin to the transition forest-rainforest (CONABIO, 2008), which makes possible high quality land and crop diversification into this microclimates. In both ejidos can be found self-consumption crops like maize and beans, and population dedicates almost exclusively to seed and sale of flowers, and vegetables in the case of *Santa María*, such as sugarcane in *San Nicolás* for the sugar mills. In none of these cases exists reflection about environmental impact and soil erosion. In *San Miguel Ferrería* this phenomenon can be clearly seen, there is a lost of natural resources, endemic species and soil properties due to pollution caused by the waste water which comes from Pachuca city; here municipal authorities have installed only one water treatment plant which works at 50 percent of its capacity.

In Morelos, ejidos *Ticumán* and *Tepetzingo* in the municipalities of Tlaltizapán and Emiliano Zapata respectively, belong to the Depresión del Balsas province, with arid subtropical weather, and rainforest varieties, scrubs and grasslands (CNABIO, 2008). The microclimate variety is appropriated for a diversity of crops, such as in Puebla ejidos. Crops like onions, maize, bananas, pumpkins, and sugarcane are important for self-consumption and sale in the town and with the sugarmill of Yautepec. The ejidatarios are conscious of the intercropping relevance, and practice it to avoid sugar can damages in soils.

The ejidos *Calpulálpam de Méndez* and *Ixtlán de Juárez*, both from Ixtlán de Juárez, Oaxaca, are located between Sierra Madre del Sur and Costa Pacífico. They have sub humid weather, which characterises meridional mountain range, and this makes possible forestry and sowing of maize, beans, pumpkins, wheat, chickpea, and fodder.

Urbanization, closeness to medium cities and touristic zones

In all cases of study, the distance between ejidos and medium cities is of half an hour or less. Some of them are benefited of public infrastructure for connectivity. The most urbanized ejidos of those visited in these regions are *Felipe Carrillo Puerto, Escárcega, Arriaga, Justo Sierra* in *Veracruz*, *Santa Ana Acozautla, Tepetzingo, San Cristóbal Texcalucan*, and *Hunxectaman*. Urbanization can be an advantage in some aspects and disadvantageous in others: there is a higher access to public goods and services like drinking water, drainage, schools, hospitals, and there is more closeness to big markets for the direct sale of products and services, which diminishes the presence of intermediaries.

Between disadvantages, the increase of cadastral value of plots can spark off land sales and speculation, which becomes disadvantageous for ejidatarios when they do not know the real value of their lands, and sale them below it. In some urban cases were found plot invasion conflicts, by foreigners or even within the same ejidatarios and their families. Additionally, social cohesion deteriorates because of dispersion of ejidatarios in big territories with non ejidatario population.

Ejidos in (or near) touristic zones are *Felipe Carrillo Puerto*, *Cabeza de Toro, Calpulalpam de Méndez* and *Ticuman*. In the first of them, ejidatarios created a forestal eco touristic park. Due to the law prohibition to parcel forestal lands, these are not sold, and ejidatarios have started projects to use the land resources. *Cabeza de Toro* is near to the Pacific Coast beach, but there are not touristic activities, the major supply of income is the fishing and sale of prawn in Pampa Cabeza de Toro lake. *Calpulalpam de Méndez* and *Ticuman* have received the title of "Magic Towns" by the government (a strategy of federal Tourism Secretariat to attract visitors), they have natural and cultural resources to become a touristic place. *San Miguel Ferrería* and *Ticuman* have forestal resources and historical sites, and are planning projects to attract more tourists.

Ejidos history

Pérez Castañeda (2007), divides the land distribution resulting from the 1917 Revolution into four stages, starting from Lázaro Cárdenas presidential period, (Pérez, 2007). There was not found a clear relationship between the distribution stage of ejidos and their organizational characteristics. Probably is it necessary to obtain more information about the institutional evolution of each ejido, the main problems they have confronted historically, and how these have been solved. For this, deeper case studies could be highly useful.

4.2. Action arenas (participants and their interactions)

Ejidatarios

There are important variations in the number of ejidatarios per ejido, from 27 to 800 members in the visited ejidos of this region. It is common to find differences between the number of ejidatarios from the National Agrarian Register (RAN) and the quantity recognized by ejidatarios. This can respond to multiple reasons, for instance, lack of notification to the RAN of land transactions (plot sales), migration, or death. It is necessary to investigate more deeply this reasons to have a clearer picture of ejidal dynamics.

Taking this in account, there wasn't relation observed between Assemblies attendance and ejidatarios registered in the RAN or recognized by ejidatarios. Some of the ejidos with higher attendance (*Justo Sierra, Ixtlán de Juárez*), have ejidal enterprises or common activities for the use of ejidal resources, which could be an incentive for Assemblies attendance, but not in all cases of ejidos owning business this happens. In *Felipe Carrillo Puerto*, there are ejidal business, but a high proportion of ejidatarios are too old, or dispersed as a result of urbanization.

On the other hand, ejidos which Assemblies are less frequent, tend to require external mechanisms for conflict solution, is the case of *Hunxectaman* and *San Antonio Nuevo*, the first has boundary conflicts and in the second some organizations keep public resources assigned to the ejido.

There are cases where ejidatarios have solved public issues through organization: in the ejido *Ticumán*, to deal with the strong contest for water (mainly used for sugarcane production), ejidatarios have created a new and solid water administration, formed by many committees which participate actively with associations, confederations and other non governmental institutions to give solution to the problem, in absence of the response of governmental authorities.

Frequently, the ejidos with higher number of internal committees, manage a big quantity of resources, which come from ejidal enterprises or governmental programs (mainly forestal programs). It is common for this ejidos to have internal mechanisms for conflict solution, it is the case of *Felipe Carrillo Puerto*, *Justo Sierra*, *San Miguel Ferrería*, *Ticumán*, *Calpulálpam e Ixtlán de Juárez*, *San Nicolás Tolentino*, and *San Cristóbal Texcalucan*.

One of the important interaction arenas between ejidatarios is related with the common use lands, frequently used for agriculture and livestock. The following ejidos have common use lands: *Uci*, *Carrillo Puerto*, *San Antonio Nuevo*, *Escárcega*, *División del Norte* and *Arriaga*, *San Miguel Ferrería*, *Justo Sierra*, *Ticuman*, *San Nicolás Tolentino Calpulálpam de Méndez* and *Ixtlán de Juárez*. In *Hunxectaman* common land is informally divided in plots. In most of the cases, there are not clear rules for the access and use of this lands, which generates conflicts between ejidatarios.

Regarding their economic activity, ejidatarios can be classified into: 1) Those who get an income from any non farm activity and don't develop productive activities in ejidal lands; 2) Those who get an income from a non farm activity but use ejidal lands

for a productive activity, or yield them; 3) Those who are involved exclusively in productive activities in ejidal lands. Most of ejidatarios belong to the second group. Ejidatarios from the first group give to the ejidal lands a housing use; is more frequent to find this ejidatarios in urban ejidos, where more of them have formal jobs or a retirement pension.

Ejidatarios from the third group still have as priority the farm activities, and in remarkable cases they obtain high revenues for crop sales, which allow them to capitalize, intercrop, and avoid loans (*Santa Ana Acozautla, Tepetzingo, Ticuman and San Nicolás Tolentino*).

In most of visited ejidos there is any form of productive or commercial organization. There are three identified:

- 1) Familiar organization. Is the most frequent type, they use to be informal. Sometimes they are formed just to accomplish the requirement for a governmental program request.
- 2) Informal organizations between ejidatarios. There are some cases of informal collaboration, mainly for livestock and commercialization of some products like milk.
- 3) Formal organizations for production and commercialization. This kind of organizations is more frequent between ejidatarios exclusively engaged with agriculture, livestock, forestry, fishing and apiculture. Most of times they are inter-ejidal unions and cooperatives focused on a particular product, and are involved with its collection and sale. Although ejidatarios are associated to this organizations frequently they don't have enough information about the way they work, and don't have enough power to decision making into it.

Some of the reasons why many ejidatarios answered not to be involved in some production or commercialization organization are:

- 1) Because of the low scale of production in ejidos. The organization is seen as a result of high production, and not as a cause of it. Ejidatarios perceive a context of difficult market conditions, lack of access to credits and loans, and bad infrastructure.
- 2) Lack of trust between ejidatarios, enforced by previous experiences of collective failures mainly due to wrong management, free riding and fraud. This is the most frequent opinion.
- 3) Because governmental programs discourage organization. Some ejidatarios mentioned that the Certification of Ejidal Rights and Urban Plots Titling (PROCEDE) program broke up grupal links because now they do not have a common productive base, and additionally, many governmental programs now can be requested individually, which is an incentive to work alone.

However, most of ejidatarios mentioned that in case of being possible, organization for production and commercialization would be positive and useful.

Avecindados, posesionarios and ejidal population

According to Agrarian Law, *avecindados* are those mexicans of age who have inhabited in the ejido for a year at least, have worked ejido lands and have been recognized by the ejidal Assembly or the Agrarian court. *Posesionarios* have plots, while *avecindados* have urban housing lands. *Avecindados* and *posesionarios* are not members of the Ejidal Assembly, and according to law, *avecindados* can participate in a settlers meeting together with ejidatarios, to make proposals about settlement services, and community works.

In less urbanized ejidos, land sales are occasional, and use to happen when an ejidatario has an emergency, a disease for instance, and needs ready cash to solve it. For this reason, population changes are due more to familiar growth, which widens housing use of ejidal plots. In the most isolated ejidos, or with strong social linkages, there was found mistrust to the arrival of foreign inhabitants, and the lands sale is socially frowned upon. In some cases, the arrival of new inhabitants causes

problems because of the lack of awareness of community rules, or about plot boundaries.

In more urbanized ejidos, coexistence with *avecindados*, *posesionarios* and other population is usual. In this contexts, committees aren't exclusively ejidal anymore, they acquire a wider and spread territorial character, mixed with neighborhoods, localities and municipalities. Here ejidatarios can be members of different committees according to their neighborhood.

In urban ejidos, ejidal lands can be yield for housing, in some cases like *Arriaga*, ejidatarios collect a fee from other inhabitants, and use this for the maintenance of ejidal infrastructure. However it is more difficult to keep the territorial control in this kind of ejidos, and it is common having to turn to the Agrarian Court.

When common use lands are not in use, it is easier that foreigners invade them. There were found cases where even municipal governments use common ejidal lands without ejido authorization, causing ejidatarios anger.

Private enterprises and organizations

It is important to distinguish between productive activities in common use lands and those in individual ejidal plots. Since 1992 Reform, Agrarian Law established that ejidal lands can be object of any association or use contract celebrated by the ejido or ejidatarios, depending if they are communal or individual plot lands. Contracts regarding the use of ejidal lands by third parties, must be for a length of time according to the productive project, not higher than thirty years extendable.

Additionally, Agrarian Law establishes that land usufruct can be given as guarantee, and defines the size limits for parcel rights per ejidatario (no more than 5% of ejidal lands, nor more surface than the equivalent to small property).

Ejidos make different kind of contracts with private enterprises: real estate rentals; yield of lands for installation of eolic energy generators; collect of fees to authorize the sale of certain soda or beer brand; for the sale of timber product; sale of lands for minery or houses building.

The most simple and frequent contracts are rents of commercial buildings, this are signed for periods of one to three years (the duration of an ejidal Comisariado in its duty). Contracts for brand sales authorization are common in Costa Pacífico and Petén, and they are signed for a year.

In relationship with crop selling to companies, in the Depresión del Balsas province (*Ticumán y Tepetzingo*) and Eje Neovolcánico, are common the supply contracts for sugarcane crops.

Other kind of contracts are those signed with local governments, where ejidos are suppliers of work and materials for municipal or local infrastructure buildings, is the case of *Calpulálpam de Méndez, San Cristóbal Texcalucan, and Justo Sierra*. In *Felipe Carrillo Puerto, Justo Sierra and Ticumán*, building supplies are occasionally sold to enterprises, such as timber for sawmills and particular buyers, respecting the National Forest Commission (CONAFOR) restrictions.

There were found contracts for eolic generators installation in Yucatan and Pacific Coast provinces. This are more complex contracts because are signed for longer periods, compromising the use of lands and ousting other activities like agriculture and livestock. In *Hunxectaman* for example, was signed a contract for an eolic generator installation in common use lands, but the president of the Comisariado Ejidal, nor ejidal population, have a clear idea about the temporal term of it; besides, the payment to each ejidatario is very low.

In the ejido *Arriaga*, Costa Pacífico, the president of the Comisariado Ejidal said that some eolic enterprises are interested in sign rental contracts to install generators in individual plots, because in this case the ejido does not have enough common lands. For this reason, the company asked for help to the Comisariado president to expose the purpose before the ejidatarios.

In both of the previous cases, the presidents of Comisariados Ejidales expressed their concern because they don't understand accurately the legal terms of this kind of contracts, and were afraid to prejudice ejidatarios supporting this kind of arrangements. None mentioned the possibility of consulting the Procuraduría Agraria for some orientation.

When ejidos are more organized, revenues are invested in infrastructure development, or activities to increase ejidal resources. In some cases like Quintana Roo, Oaxaca and Estado de México, has been established the delivery of a retirement pension for oldest ejidatarios, and economic help in case of disease or death. In other cases, revenues are distributed equally.

Farm production commercialization in individual plots was present in almost all visited biogeographic provinces. Intermediaries are the most frequent and relevant actors, they cover a wide variety of crops, like maize, beans, chihua, and livestock so as its products like milk. Just in some of the ejidos located close to big cities, ejidatarios sale their products directly in local markets (*Hunxectaman* and *Santa Ana Acozautla*).

In many cases, ejidatarios don't have clear what is the ending price of their product, and how many intermediaries they pass by. Additionally, in informal sales with intermediaries, they deal with the risk of being left without payment, because of the informality of the transaction. Even though, many times they do not know or see feasible other sale mechanisms; sometimes quality and health controls required by formal buyers are too expensive and difficult to be accomplished by ejidatarios.

Most of ejidatarios have not given the productive jump, meaning by this that their crops do not have any added value, neither are presented as finished products, and this results not just in lower revenues, but in dependence to market prices.

On the other hand there are formal enterprises with collection centres of different products in many regions of the country. For cattle there is the company *Sukarne*, with presence in almost all the visited provinces. In the case of sugarcane, more relevant in the centre of the county, the monopoly of the Yautepec sugarcane mill is clear, because one company buys almost the whole production of sugarcane from Morelos and Puebla. This company not just fix the contract prices, but delegate the responsibility of harvest transportation to ejidatarios.

In the provinces of the south region, there are many references to cases where companies arrive to ejidos and propose an arrangement for product commercialization, but usually this does not carry out because of unknown reasons for ejidatarios, which discourages them. Ejidatarios explained the low frequency of association with private companies as a result of distrust, bad organization in ejidos and low productive scales.

Among the reform goals, there was diminishing political state control over ejidos. Although few corporative organizations like UNORCA and CNC have still linkages with ejidos, mainly searching for political support, ejidatarios do not feel compromised to give their political support to any specific party, however it is still noticed certain partisan inclination in government support distribution.

A considerable number of ejidos are affiliated to organizations as UNORCA or CNC, the only province in which these were absent in the visited ejidos, is Yucatán. In many cases, this affiliation has no relevant benefit to the ejido beyond occasional consultancy for programs requests, but ejidatarios mentioned that this it is not an efficient channel.

In some ejidos, people mentioned the existence of Ejidal Unions where attend regional level Ejidal Commissioners. Through them, some small projects for farming production or tourism promotion can be handled.

There are organizations that offer technical advice to forest ejidos for safeguard and benefit from forestal resources. Forestal supports are frequently requested through organizations, but many frauds were been detected, particularly in Petén province, where this organizations had entered projects in ejido's name to obtain government resources and support, nevertheless, ejidos do not receive any resource or support, despite of have been chosen and authorized: ejidatarios mentioned that organizations keep the resources.

In spite of in fourteen of eighteen visited ejidos presents migratory phenomena in a vertical, horizontal, temporally or definitive way, migrant organizations are infrequent, only in one ejido with high level of migration exist remittances from a migrant club through 3x1 federal program. Income is destined to social infrastructure and in some cases is invested in productive projects, but only in benefit of those who have the economic capability to afford correspondent part of the co-investment.

Government agents

In analyzed regions, it is usual that members of ejidos receive federal social programs like *Prospera*, more than productive or commercial support programs. Government resources are indispensable part of familiar livelihood, even certain productive programs like *Proagro* and less frequently *Progan*, ejidatarios can receive this support even if they do not sow or raise cattle, and sometimes they take money to cover basic needs.

In Yucatán and Petén provinces, the National Commission for Indigenous Population Development (CDI) institution is present, in Petén, Costa del Pacífico, Golfo de

México and Eje Neovolcánico, there's National Forestal Commission (CONAFOR) support.

Process to obtain productive programs support is usually through individual attendance to governmental offices. Occasionally, members of ejidos join to go together, even if each one make its own procedure once there. Also there are occasions when Comisariado Ejidal president informs to ejidatarios about program offers and makes solicitant lists, that delivers in management offices.

Consulting firms, buffet or particular advisors were mentioned in few occasions, usually the relationship with them conclude when they deliver the design of requested projects to the ejido. Some consulting firms offer projects deployment, and there are stories of fraud with ejidal resources in some of this situations.

Some of the main problems that ejidatarios referred in sense of programs management was:

- 1) Lack of information;
- 2) Negative cost- benefit balance in program management, because of the difficulties in procedures (due to remoteness of government offices, for example);
- 3) Lack of response by government authorities (as a result of catching supports, it is really annoying for the ejidatarios not receiving a positive or negative answer);
- 4) Catching supports and corruption. Frequently mentioned in local and municipal support cases (should be mentioned that in several ejidos, delegate commissioner municipal, plays an important role in municipal support procedures).
- 5) Lack of governmental supports relevance, thus do not solve real needs, or require investment that ejidatarios can not afford.

Socioeconomic context

CONEVAL founded that in 2014, 80% of rural habitants had not social security benefits; 57.9 % were in lack of basic services into their homes; 31.5 % had educational lagging; 17.3 % had no health services; and 32.1 % were in lack of feeding access. It is noted that at national level, 72.3% of indigenous population lived in poverty, 31.8 % were on extreme poverty, and 34.4% in lack of feeding access. Also hired farmworkers are in difficulties: in a total of approx 2 million, close to 78 % live in poverty and 99% are vulnerable for income insufficiency or social deprivation.

At productive terms, PIB annual growth average in primary activities between 2000 and 2012 was 1.4%, below of registered in national economy of 2.1%. Deployment of North American Free Trade Agreement (NAFTA) had had various effects in our national territory, small scale producers suffered hardship further, their income declined by 22%, besides, food insecurity increased (Puyana and Romero, 2008).

This analysis takes in account Centre and South regions of Mexico, characterized by a high concentration of the national biodiversity -70% in southeast- and more than 74% of national native population. Water is more abundant in the Southeast than in the Centre; in the South there are huge hydro electric infrastructure, but this has not translated as yet in enough and low cost covering electricity provision in region (San Juan, 2013).

In light of a study of the second agrarian reform effects based on 1990 and 1994 ejidal enquiries, was found that overcoming poverty was associated with three types of assets that ejido members can possess: a) agricultural assets; b) labour force assets; and c) migratory assets (even though migration increases in so far XXI century). Families from Centre and South Pacific and indigenous communities frequently lacked of these three assets. (Gordillo, et. al., 1999).

5. Governability levels

Taking as a reference all criteria and governance levels set out by Álvarez Icaza (2014), no evidence of plenty autonomous and independent resources management were found in ejidos. Most of them have lower or relative levels of autonomy because of the inexistence of internal clear effective rules to monitoring resources, conflict solution, the absence of monitoring and penalty mechanisms, and the lack of activities non depending on third parts that allow them to obtain economic resources for management.

The case with the lowest ejidal governability levels is *Hunxectaman*, it has internal conflicts because of the inexistence of official limits and division of land; with PROCEDE program after the reform in 1992, members of ejidos did not want to deal with plot certificates and this issue and the fact that the ejido is near city of Mérida, land invasions, sell and speculation are constant in their lives. In this case institutions like Agrarian Tribunals and Agrarian Attorney Office (PA) take action for conflict solution. Trust links are practically null, even though there are some familiar production organizations. In the ejido people talk about groups catching endorsements, corruption and favoritism in government supports distribution which undermines even further the weak social trust. Future vision is pessimist, some members of the ejido think that all their lands will end up being sold and ejido will disappear, and it is probable, unless the ripe of an institutional environment which encourages collective action to accomplish common benefits.

Under same scheme, *Felipe Carrillo Puerto*, *Calpulálpam de Méndez* and *Ixtlán de Juárez* are the ejidos with highest governability levels. Even if this ejidos are not totally autonomous because of the dependence to government support (this also implies political good communication and relationship with party in charge), there exist clear rules for common resources achievement, openness and good accountability in Assemblies regarding ejidal entrepreneurships and in relation to utilities distribution. It is important to say that there are in this ejidos a large number

of ejidatarios with high academic level, and they collaborate actively in pro of community. Trust links are strong, however it starts to grow a clear gap between older members of the ejido who oppose to certain kind of ventures on ejidal lands (real estate for example) and younger ejidatarios, who think this kind of projects can be profitable for the ejido. Also in *Calpulálpam* and *Ixtlán* common enterprises management started to get in trouble because of lack of growth planning. Time will show how communities deal with this particular issues.

6. Conclusions

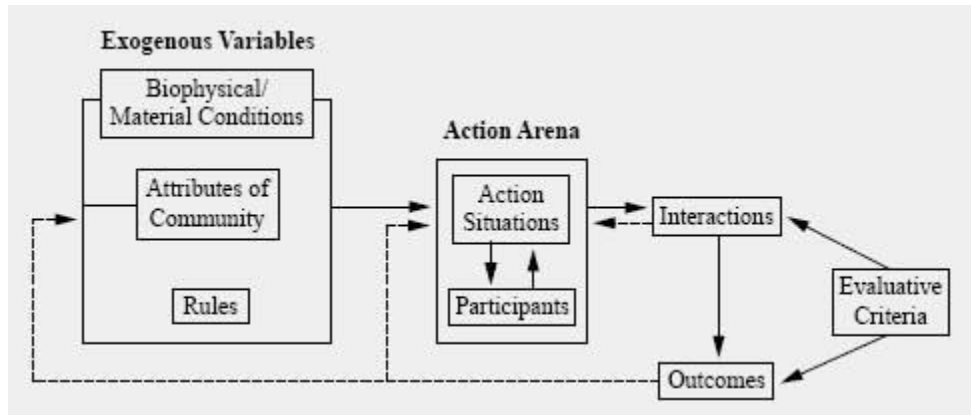
Since agrarian reform in 1992, ejidos started institutional adjustment processes with multiple results. In centre and south zones, governmental agents (mainly federals) still have high relevance for ejidal governability, whether it be to contribute support for ejidal economy through social, productive or environmental conservation programs; to solve ejidal settlement problems; and in consult and backing in diverse projects and development processes. Nevertheless, this relationships are still vertical, which has negative implications for the ejidal institutional capabilities development, and probably for the quality and appropriateness of goods and services provided, as proposed by Gordillo, et. al. (2009).

Lack of information and institutional capabilities in ejidos collocate them in a disadvantageous position into the different games they play with multiple actors. High ejidal dependency levels to governmental agents, make them vulnerable, thus, when these government institutions cannot function properly and in pro of ejidos governability, ejidos are in risk of see their resources involved in perverse dynamics: unfair operation, unfair sell or provision contracts; catching of governmental support resources by non governmental organizations, corruption of government agents, all this resulting in an increase of distrust and a process of institutional damage. In this sense, a deeper analysis of resilient capabilities in ejidos is necessary.

It is necessary to make a more accurate and deeper analysis of the information provided by ejidatarios. Preliminary results show us the necessity of a decentralisation policy who foster institutional strength in ejidos in favour of interactional branching and efficiency of results.

7. Appendix

Figure 1. IAD Framework



IAD Framework, tomado de Ostrom, 2005.

Table 1. Governance levels

Governance level	Resources access	Monitoring and oversight	Trust links in a communitary level	Autonomy level
With or without organization and with free access	Without control	Do not exist	Absent or in crisis	Null. There is no rules or conflict settlement mechanisms. Impunity.
Directed user common resources organizations	Weak control, profit maximization with environmental costs	Governmental offices in charge, inexistence at community level.	Critical	Weak. Decisions taken by private enterprises, civil organizations and government authorities. Conflicts settled by government agents.
Common use resources assisted organizations	Relative control. Extern agents had lost exclusive access control.	Community oversight and accountability Committee to local Assemblies.	In construction.	Relative political autonomy (dependent links with gremial organizations and cooperatives. Emerging economic autonomy.

Common use resources semi- assisted organizations	Clear community control or resources acces. Communal rules for a fair benefit distribution.	Intermediaries, with established forms to guarantee communal rules accomplishment.	Affiliate extended trust that reinforce collective trust.	Limited. Associated with external financing, governmental or international cooperation to promote natural resources governability. Economic autonomy in development process, with external developers support.
Autonom common use resources organizations	Communal control of access and use rules of tapped resources.	Clear and efficient monitoring and oversight mechanisms and strict control of external agents intrusion in common lands.	Strong trust in internal authorities and relationships of coexistence that enhance collective action.	Decisions about resources taken in Assemblies, committee or council. Decision making process is independent from government organisms or external agents. Economic autonomy in process of consolidation, ongoing reinvestment of profits in communal enterprises and social projects.
Independent organizations	Plenty Community regulation of resource access.	Rare rule infringements because of the effectiveness. Consolid communal institutions and clear solving settlement mechanisms.	Affiliate and groupal trust. Confianza filial y grupal. Sense of belonging.	Political autonomy in the framework of current regulation Economic autonomy followed by accountability and training. e cuentas y capacitación. No need of external assistance to oversight and monitoring current rules accomplishment.

Based on Pedro Álvarez Icaza Longoria's proposal, 2014, pp.217-219

Table 2. Governance levels in visited ejidos (South and Centre regions)

Ejido	Resources access	Monitoring and oversight	Trust links in a c. level	Autonomy level
Hunxectaman	Weak control, profit maximization with environmental costs	Do not exist	Critical	Weak
Uci	Weak control, profit maximization with environmental costs	Community oversight and accountability Committee to local Assemblies.	In construction.	Weak
Felipe Carrillo Puerto	Plenty Community regulation of resource access.	Intermediaries, with established forms to guarantee communal rules accomplishment.		Relativa

San Antonio Nuevo	Control comunitario intermedio, sin reglas claras.	Comunitario, medianamente eficaz sin sanciones establecidas.	In construction.	Weak	
Escárcega				Relative	
División del Norte			In construction	Strong trust.	Weak
El Faisán				In construction	Relative
Arriaga					
Cabeza de Toro	Clear community control or resources acces. Communal rules for a fair benefit distribution.	Community oversight and accountability Committee to local Assemblies.	Affiliate and groupal trust. Confianza filial y grupal. Sense of belonging.	Relative	
Justo Sierra					
San Miguel Ferrería		Rare rule infringements because of the effectiveness. Consolid communal institutions and clear solving settlement mechanisms.	Affiliate and groupal trust. Confianza filial y grupal. Sense of belonging.	Relative	
San Cristóbal Texcalucan					
Ticuman	Communal control of access and use rules of tapped resources.	Clear and efficient monitoring and oversight mechanisms and strict control of external agents intrusion in common lands.	In construction	Limited	
Santa María Acozautla				Community oversight and accountability Committee to local Assemblies.	Affiliate and groupal trust. Confianza filial y grupal. Sense of belonging.
San Nicolás Tolentino	Plenty Community regulation of resource access.	Limited			
Tepetzingo					
Capulálpam de Méndez	Clear community control or resources acces. Communal rules for a fair benefit distribution.	Rare rule infringements because of the effectiveness. Consolid communal institutions and clear solving settlement mechanisms.	Affiliate and groupal trust. Confianza filial y grupal. Sense of belonging.	Limited	
Ixtlán de Juárez					

8. Rerefences

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