Gender, local governance and non timber forest products. The use and management of *Satureja macrostema* in Oaxaca’s central valleys, Mexico

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**A B S T R A C T**

This paper explores the gendered norms regulating access, use and management of poleo *Satureja macrostema* (Benth.) Briq., a multi-purpose Non Timber Forest Product used as ornament, food or medicine in western and central Mexico. Research was conducted in San Miguel Mixtepec, a Zapotec community of Oaxaca’s Central Valleys. Drawing on the literature on governance, forests and gender rights, the paper aims at answering the following questions: who gets to make poleo access, use and management rules? How does gender ideology shape these rules? Whose knowledge (men’s, women’s, both) takes precedence in poleo decision-making? What is the relationship between these rules and governance efficiency? Results show that poleo harvesting practices are regulated by male-dominated institutions that do not grant rights to women. Female plant uses remain unaccounted for, in spite of the fact that they are more varied than men’s.

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**Introduction**

The efficiency of natural resource management largely depends on the ecological, social and economic context; local governance conditions are one central aspect of success (Larson, Barry, & Dahal, 2010). In the forestry sector, governance refers to the process through which various stakeholders define and implement regulations of forest resource use. Participation has become an “institutional imperative” of governance, and “community forestry groups represent one of the most widespread and rapidly expanding attempts at participatory development” (Agarwal, 2001: 1623).

Various studies (Brown & Lassoie, 2010; Djoudi & Brockhaus, 2011; Lewark, George, & Karmann, 2011; Mai, Mwangi, & Wan, 2011) have shown that women are important forest users, but their participation in local governance is weak. Legislation and entitlement processes of forest lands have not taken into account women’s interests and needs. FAO (2013:58) has reached similar conclusions: “Women’s effective inclusion (having them as leaders and active participants in planning processes) contributes to their empowerment because they have a chance to express and act upon their interests and needs. FAO (2013):58 has reached similar conclusions: "gender equality... in decision making processes and institutions is a human right, and evidence suggests that enabling local women's participation alongside men in all land-related institutions can also improve the overall gender equity of outcomes for land tenure governance".

Mexican scholarship on forestry governance has a lot to learn from these experiences. Klooster & Ambinaukudige (2007:401) describe the country’s forest communities as “reasonably representative [and] democratic”, neglecting the fact that the people who participate in the most important decision-making body (community assembly) are overwhelmingly male. In a similar vein, Merino and Martínez (in press) argue that communities with consolidated economic activities have developed strong institutions for forest management and conservation. However, the authors fail to address gender differences in access to information, benefits and participation opportunities.

This paper brings gender at the forefront of forest governance analysis. It focuses on the gendered norms regulating access, use and management of poleo *Satureja macrostema* (Benth.) Briq., a multi-purpose...
Non Timber Forest Product (NTFP) that grows between 2500 and 3500 m above sea level (masl) among pine (Pinus sp), oak (Quercus sp) and Mexican fir (Abies sp) trees (Aguilar Ramírez, 2002; Turner, 2008; Rzedowski & Calderón de Rzedowski, 2010). Poleo is a bushy plant very popular in western and central Mexico (Oaxaca, Guerrero, Colima, Jalisco, Michoacán, State of Mexico, Tlaxcala, Hidalgo, Querétaro, Puebla and Morelos).

In Oaxaca’s Central Valleys, where research was conducted, poleo is widely utilized in rituals (i.e. the renewal of community authorities) and fiestas (i.e. weddings, mayordomías), while also often consumed as food and medicine (Rzedowski & Calderón de Rzedowski, 2010). People have even written a song on poleo (“El jarabe de la rosa”), where singers and dancers celebrate the plant’s powers to treat hangovers. Poleo rituals show the importance of pre-hispanic religions in modern Oaxaca (Ramírez Reyes, 2009). However, scholarship has failed to acknowledge the highly gendered use of the plant: occasional rituals to renew authorities are overwhelmingly male, while women trade poleo in the valley’s market plazas for weddings, food and medicine on a regular basis.

The paper is divided into eight sections following this introduction. The first discusses the conceptual framework while the second describes the research site and methods. Section three to six analyze the gendered rules, norms and knowledge concerning poleo governance. The analysis of governance efficiency is conducted in the seventh section while the last one summarizes the paper’s major findings and reflects upon them.

**Conceptual framework: governance, forests and gender rights**

Brody (2009) defines governance as decision-making by a variety of stakeholders. It takes place through formal and informal institutions operating at multiple levels of jurisdiction and in different areas of society, with nested institutions influencing each other (Ostrom, 1990). Rules, norms and knowledge are three essential ingredients of institutions. Rules determine who is included in decision-making, how information is structured and what sort of actions can be taken. Norms are adopted and internalized by people—as such they structure social behavior and refer to the evaluative role of institutions. Finally, the cognitive dimension addresses what kind of knowledge is endorsed in decision-making. For example, “scientists take for granted an objectivity that stakeholders find hard to challenge”. Experienced-based knowledge is reduced to “no more than anecdotal information that should not be taken seriously” (Jentoft, 2004:140; see also Haenn, Schmook, Reyes, & Calmé, 2014).

Property is a core institution that structures social relations by creating different groups of people, each with a distinct bundle of rights, from access and use rights to management, exclusion and alienation rights (Schlager & Ostrom, 1992). Access refers to the possibility of entering the forest area, while use is the right to obtain resources, i.e. removing them from the forest. Management implies the regulation of use patterns and/or resource transformation. Exclusion is the right to decide who can actually use resources while alienation is understood as sale or lease (Larson et al., 2010). The distinguishing factor between all these categories is power. As Kurien (quoted in Jentoft, 2004:140) puts it, “property is the term used to describe a legally and socially endorsed concentration of power over natural things and resources”. Exclusions are often identity-based (gender, ethnicity, age). They reinforce unequal power relations by limiting the rights of unprivileged groups such as women and tribal peoples (Ribot & Peluso Lee, 2003; Bose, Arts, & Van Dijk, 2012).

Property rights determine what people can actually do with timber and NTFP. Depending on the context, men and women will be authorized users, claimants, proprietors or resource owners; and they will have access and withdrawal rights (at the operational level) or management, exclusion and alienation rights (at the collective choice level). The difference between these two is crucial: exercising rights is not the same as participating in the definition of them, i.e. collecting poleo versus determining how, when and where such harvesting may occur. In some settings, women are authorized users (with harvesting rights) whereas men are full proprietors (with alienation rights). Women’s bundles of rights are smaller than men’s—typically, women have operational rather than collective choice rights (Gray & Kevane, 1999). Women’s heavy use of forest resources is disproportionate to their limited ability to participate in resource planning and management (Rocheleau & Edmunds, 1997).

Women’s exclusion from governance may lead to various negative outcomes: insecure arrangements and ambiguities in female rights (Ribot & Peluso Lee, 2003); women’s marginalization into niches where they have little control and low returns (Grigsby, 2004); gender differentials in the ability to benefit from resources, i.e. subsistence versus political and ritual uses of NTFP (Ribot & Peluso Lee, 2003). Women are more likely to follow rules and monitor the behavior of others when they are engaged in decision making, and when livelihoods are insured (Ostrom & Nagendra, 2006). As authorized users with no collective choice rights, women may be less likely to agree to the necessity and legitimacy of the rules made by men, and their resource use may remain unaccounted for, thus impacting negatively on governance efficiency.

**Research site and methods**

Research was conducted in San Miguel Mixtpec (SMM), a Zapoteca municipality located in Oaxaca’s Central Valleys. It has a total area of 73 km², most of them (92.12%) covered by forests (INEGI (Instituto Nacional de Estadística y Geografía), 2010). Major economic activities include timber production, subsistence agriculture, petty trade and cyclical migration to export-oriented northern states (Sinaloa, Baja California Sur) for temporal agricultural employment. SMM has a total population of 3245 inhabitants, most of whom speak Zapotec, the most common indigenous language in Oaxaca.

Information was gathered from June 2012 to March 2013 using a variety of qualitative and quantitative methods. Participant observation was conducted throughout the whole research process in market plazas, fiestas and forest collection areas, in order to get familiar with trading location and procedures, poleo uses, plant extraction sites and techniques. A total of 21 interviews (12 men and nine women) were conducted in order to increase our understanding of the different meanings of poleo for both genders and the role of local institutions in regulating access. Two workshops were carried out (one with 10 men and the other with 19 women) to collectively problematize these issues. Finally, a survey of 92 closed-ended questions was applied to a stratified sample of 80 households. The questionnaire captured socioeconomic data of each household; knowledge on the environmental conditions that allow poleo to grow; plant uses; collection and trading procedures; and perceptions on local institutions. Half of the questionnaires were answered by men and the other half by women for the purpose of comparison.

**Mexican institutions governing poleo**

Around 1000 NTFP are utilized in Mexico (Musálem, 2007), although no government policy has been designed to promote its sustainable commercialization and use (Chapela & Madrid, 2007). The dominant approach applied to forest land management privileges male-dominated timber production and makes invisible the NTFP generally used by women as food, energy and medicine (Shiva, 2004; Bose, 2011; Bose et al., 2012). SMM is no exception. Timber production is regulated by a management plan prepared for and approved by SEMARNAT, Mexico’s Ministry of the Environment. This management plan states that timber extraction must operate within a “permanent forest area” of 2599.471 ha, with a total annual production of 3469 m³ of pine and oak timber (SEMARNAT, 2009; INEGI (Instituto Nacional de Estadística y Geografía), 2010). The management plan also includes
of community governance that are now part of Mexican rural culture. Comuneros must attend and vote in assemblies, perform tequio (unpaid labor) and hold voluntary posts if they want to keep their land rights and transfer them to their children. Assemblies have been making decisions regarding land use and resource management for one hundred years or more, thus “providing recognizable patterns of community governance that are now part of Mexican rural culture”. State agents are used to dealing with Comisariados and know very well the crucial role of assemblies in decision-making (Klooster & Ambinakudige, 2007: 401). Comunero representation in assemblies is not individual, but rather, family-based. Men are considered de facto family heads, and as such they are responsible for working the land, attending assemblies, doing tequio and holding posts (Bosnil Sánchez, 2002). As family heads, widows also have these responsibilities. By contrast, married women do not attend assemblies because it is assumed that their men will speak for the whole family. If their husbands are assigned tequio responsibilities or are elected for a position, women must accompany them in their duties, usually preparing meals and entertaining people. Women exercise an “incomplete citizenship” in that they are expected to contribute to community wellbeing as much as their men, but they are excluded from decision-making and unable to express their own views and needs (Altamirano Jiménez, 2004). In short, comunero assemblies are based on a gendered system that reproduces male power (Rasgado, 2004).

Assembly rules regarding poleo

The most important assembly decisions are contained in the Estatuto de Bienes Comunales, a document written by SMM’s authorities (CBC, 2009) which states that outsiders cannot enter SMM’s territory to extract any kind of floristic resources. According to an ex-president of the Comisariado, having this in writing adds legitimacy to assembly agreements: “we have an Estatuto... [it] includes all the rules, people cannot avoid the Estatuto”. The assembly in SSM has decided that any person or group of people interested in harvesting poleo, regardless of the purpose, must ask the Comisariado for permission. Local authorities will examine the petition and give or refuse permission depending on the amount to be harvested and the time of the year. Failure to comply with these stipulations have negative consequences: “you have to go to the Comisariado’s office, ask for permission... You have seen our roads, we have chains to prevent animals or unknown people to enter... we have surveillance”, said one comunero. This surveillance includes a forest police made up by local men that patrol different areas and communicate through a radio system.

Gendered norms: the subsistence ethic

Male-dominated local institutions (Comisariado, Surveillance Council and assembly) have the power to define all five poleo rights (access, use, management, exclusion and alienation) for people living in SMM and surrounding areas. They do so by drawing on a “subsistence ethic” that “stresses the fact that land and resources should be made available for use to people seeking to sustain livelihoods” (Grigsby, 2004: 208). Poleo use for family fiestas (i.e. weddings) and occasional sales fits well within this subsistence ethic. Authorization for these purposes is usually granted although restrictions may occur depending on the time of the year and the amount of the plant. Only locals can obtain such permission, provided they do not make a regular living on poleo. Outsiders must pay a fee (150 to 200 pesos) to extract poleo for non-commercial purposes, and they are supervised by the Council when harvesting in order to make sure that the amounts are those previously agreed. In our first visits to SMM, we were told that widows1 are the only group in the whole community that is allowed to harvest poleo for sale on a regular basis, because they have “to support their families”. Widows sell poleo “to buy food”, “not to make money”. This concession stems from a patriarchal notion of the subsistence ethic, where a man is de facto the main breadwinner, and only if he is missing at home, can women make a living by trading poleo.

Whose knowledge?

The majority of surveyed men (82.5%—33 of 40) gave a positive answer when asked about the existence of poleo assembly agreements, compared to 65% of women (26 of 40). Thirty-two men and 24 women were actually able to describe the agreement contents (that permission must be asked). The 33 men that knew about the existence of agreements also knew that they were taken at the comunero assembly; 30 were familiar with the contents because they actually attended the assemblies in which this topic had been treated. By contrast, only half (23 of 40) knew about the agreement content because a male relative had told them. This means that women depend on male relatives for information. This is what two women told us: “men go to meetings, I do not know what they do, what they talk about. Men in my family will tell me”. “Men talk about all that in their meetings, but I know very little about the forest”. Slightly more than half of the surveyed men (26) and only half of women (19) “totally agreed” or “agreed” with the content of the agreement taken at the comunero assembly. This means that, when asked individually, men and to a larger extent women are critical of agreements regarding poleo access and use. When asked why, the issues more frequently mentioned were the limits imposed on frequency, amounts and motives of extraction. This situation may pose severe challenges to governance efficiency (see Empaform, 2006; Lewark et al., 2011 for similar situations in other contexts).

How effective is poleo governance? Male political power versus female daily subsistence

Survey data on poleo use reported important gender differences. For 57.5% (23) of the 40 surveyed men, the most important use of poleo is ritual, followed by nutritional (35%—14) and medicinal (7.5%—3). The majority of men (85%—34 of 40) gave a positive answer when asked if they had harvested poleo, mostly for local festivities. Four fiestas take place in SMM throughout the year: New Year Day (January 1st), San Miguel Arcángel (September 28th), Christmas (December 16th to 26th) and weddings. The ex-president of the Comisariado described how important poleo is for these community events: “we take care of [poleo] because it is used in community activities... Christmas... New Year’s Eve... we still have poleo... because we have taken care of it”.

1 The term refers both to women with children whose father is gone and women with children whose father is actually dead (real widows).
The most important fiesta is that of January 1st. Its purpose is not only to celebrate the incoming year, but more importantly, the renewal of local authorities. This is the fiesta where more poleo is used (Table 1). No permission is required from local authorities since collection is orchestrated by them.

The fiesta starts very early in the morning of December 31, when a group of eight or so men leave for the forest to harvest poleo. At their return, all adult men and women attend the fiesta and receive a bouquet of poleo and forest flowers, as a sign of celebration and unity around the entering authorities (Ramírez Reyes, 2009). Needless to say, all local authorities are male, and the rituals involving poleo show their control over decision-making regarding natural resources. Men utilize the plant to celebrate their power, which, in turn, grants them the authority to continue deciding over poleo regulation and use. Comuneros are the only group of people with fully fledged rights, and as such, they have the luxury to use poleo for the rituals intended to renew their power.

By contrast, women are only authorized poleo users, in spite of the fact that their uses are more diverse. Among the 40 surveyed women, the most important uses of poleo are nutritional (47.4%–19), followed by ritual (28.9%–12) and medicinal (18.4%–7). Four nutritional subuses were identified: tea, condiment, green and fresh water. The most significant is the tea which is used as a coffee substitute. Poleo is locally available, “it is a plant from the countryside”, “it tastes good”, “it is more pure”, “it is healthy”. As a condiment, poleo is used to prepare beans and tamales; as a green, it is eaten in tacos, thus becoming an emergency food when nothing else can accompany tortillas (Vázquez-García, Godínez-Guevara, Montes-Estrada, Montes-Estrada, & Ortiz-Gómez, 2004); as fresh water it is taken to the working fields for refreshment.

Three forms of poleo trade were identified: bartering in exchange for food not grown in SMM; sale on demand for fiestas taking place in Oaxaca’s central valleys; sale on a regular basis in markets nearby (Zimatlán de Álvarez, Ocotlán de Morelos, Ayoquezco de Aldama and Oaxaca de Juárez). Bartering and selling on demand is practiced in 26 (32.5%) households, respectively, whereas sales on a regular basis happen in 19 of 80 households (23.7%—these latter may have remained unreported due to the assembly restrictions described earlier).

Table 2 shows gender responsibilities in poleo trade. Men rarely barter poleo because obtaining food (as opposed to money) is a female responsibility. Nor do they sell poleo on a regular basis because this is considered a “complementary” activity, one that generates less income compared to more profitable occupations such as selling timber, agricultural products or working for a salary (Leach, 1994; Schreckemberg, Marshall, & te Velde, 2006). The only poleo-related activity that fits well with men’s breadwinning roles is selling on demand, because it is occasional, it does not take too much time away from other occupations, it generates more income in a shorter period of time, and it does not involve sitting at the marketplace waiting for clients. In Zapotec culture, selling poleo at the plaza is considered inappropriate for men; it reflects marginality and low status. “We men, we are ashamed of carrying and offering poleo... it is mostly women [who do it]”. By contrast, bartering and selling at the marketplace as opposed to on demand is culturally appropriate for women. Women barter poleo in exchange for tortillas, bread, fruit, vegetables and drinks (in order of importance). They spend their poleo earnings on groceries that are bought at the market and taken back home. Either bartered or bought, women bring products that “are needed in any woman’s kitchen” and contribute to diversify the local diet. These activities are an extension of motherly roles, which are thus performed not only at home but also at the plaza. The ideology of the good mother taking care of her family functions in both spheres as long as women’s trading endeavors do not threaten men’s more important, breadwinning activities (Seligmann, 2001).

Women’s participation in regular poleo trade does away with the supposed widow priority expressed by local authorities. As noted by a female informant, some women sell poleo every three or four days regardless of their marital status: “it has nothing to do with whether they are married, widows or single. They all go”. Survey data indicate that only 15% of the whole sample (six men and six women) actually knew about the alleged widow priority.

Conclusions

This paper contributes to the literature on gender and forest governance by analyzing poleo use and management in SMM, a Zapotec municipality of Oaxaca. Poleo is a NTFP of importance not only in Oaxaca but also in the forests of western and central Mexico. The paper aimed at answering the following questions: who gets to make poleo access, use and management rules? How does gender ideology shape these rules? Whose knowledge (men’s, women’s both) takes precedence in poleo decision-making? What is the relationship between these rules and poleo governance efficiency? This last section summarizes the paper’s major findings and discusses their implications.

First, poleo has not been included in the forest management plan prepared for and approved by the Ministry of the Environment because of its little commercial value compared to timber. Male-dominated local institutions (the Comisariado, the Council and the comunero assembly) have defined all five poleo rights (access, use, management, exclusion and alienation) for people living in SMM and surrounding areas. The most important rule states that anyone interested in extracting the plant must ask for permission, at the risk of being sanctioned for not doing so. To put it simply, male-dominated institutions have the power to include or exclude people from the benefits of poleo.

Second, a patriarchal subsistence ethic is the main criteria for granting such permission. Community belonging (internal/external stakeholders) and gender/marital status are important factors legitimizing collectors. Local authorities distinguish between three uses: sale on a regular basis; occasional sales; local fiestas. Discursively, widows are the only group of people with permission to harvest poleo for sale on a regular basis, because—so it is argued—they have to support their families. Gender norms are clearly embedded in this ethic: men are conceived as the main breadwinners, and only if they are missing can women actually make a living by trading poleo. By contrast, men

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Poleo extraction in community fiestas.</th>
</tr>
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<tbody>
<tr>
<td>Fiestas</td>
<td>Number of men involved in harvesting</td>
</tr>
<tr>
<td>New Year</td>
<td>8</td>
</tr>
<tr>
<td>San Miguel</td>
<td>2</td>
</tr>
<tr>
<td>Christmas</td>
<td>2</td>
</tr>
<tr>
<td>Weddings</td>
<td>2</td>
</tr>
</tbody>
</table>

* Brazada: local term used to express what can be carried with both arms, equivalent to 20 kg approximately.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Men’s and women’s participation in poleo trade.</th>
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<tbody>
<tr>
<td>Who is in charge</td>
<td>Frequency</td>
</tr>
<tr>
<td>Barter</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4</td>
</tr>
<tr>
<td>Women</td>
<td>18</td>
</tr>
<tr>
<td>Both</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
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<tr>
<td>Sale on demand</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>15</td>
</tr>
<tr>
<td>Women</td>
<td>8</td>
</tr>
<tr>
<td>Both</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
</tr>
<tr>
<td>Sale on a regular basis</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>3</td>
</tr>
<tr>
<td>Women</td>
<td>13</td>
</tr>
<tr>
<td>Both</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
</tr>
</tbody>
</table>


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