

Yuracare Forest Community

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1 Part I: Static Analysis - Collective Action

1.1 Introduction

This case focuses on the changing relationship between the Yuracare people and the forest where they live in the Rio Chapare basin, in northern Bolivia. At the time of the study, 400 Yuracare families lived in the northeastern part of the Department of Cochabamba.

In the 1990s, after land tenure conflicts and popular pressure made by indigenous political groups, the Bolivian government finally recognized indigenous groups in the Amazon and started the process of providing indigenous peoples with legal authority over their territories. The Yuracare people claimed about 250,000 hectares along the Rio Chapare watershed as their traditional territory. However, to be able to acquire legal authority over it, Yuracare people were required to provide a management plan for the stewardship of the natural resources within their traditional territory.

In 1994, the Yuracare people started a collaboration with the Forest Trees and People Program (branch of Food and Agriculture Organization of the United Nations - FAO) to forge a management plan would have to follow standards that would be acceptable to the government.

In 1996, Bolivia's Department of Forestry (DIDF) established timber extraction quotas in the Rio Chapare region. Incentivized by the DIDF, the Yuracare established a Forest Associations to meet the quotas and commercialize timber, which influenced Yuracare's relationship with the forest.

This case illustrates how external drivers can disturb common-pool resources systems by affecting resource use patterns through the introduction of an economic activity based on natural resource extraction. The external intervention introduced scarcity to the system.

1.2 Commons Dilemma

The government requirement that the Yuracare produced an official management plan to obtain legal authority over their traditional territories implies that Yuracare people lack forest management practices and knowledge.

This may not be the case, since Yuracare have norms that explicitly prescribe sustainable forest management, such as "use of forest trees and animals without depletion". Their management practices enabled the preservation of food and medicine species for centuries.

However, there is evidence that timber species have been over-exploited in areas with greater market pressure (closer to Cochabamba urban center). Importantly, timber extraction was not an important livelihood activity for the Yuracare before the intervention of the government.

The installment of commercial timber extraction also affected the social infrastructure of the Yuracare, bringing new conflict situations to the communities. In a culture that previously had no sense of ownership over the land, a "tree ownership" system had to be established to avoid wealth inequities between members of the community.

Additionally, the increasing transition from hunting and tending forest gardens to focusing on market of timber products leads to a decrease in importance of fruiting forest in Yuracare culture and language.

1.3 Biophysical Context

- **Natural infrastructure**

Forest sites located in the Bolivian Amazon, along the Rio Chapare watershed. Forest resources used are tree species that provide commercial and domestic timber, fruits and medicines, and game species.

- **Hard human-made infrastructure**

Two areas with permanent settlements (Santa Anita and Misiones), and one seasonal settlement (Trinidadcito). Misiones is the closest to Cochabamba urban area.

1.4 Attributes of the Community

- **Social infrastructure**

The Yuracare people control use of forest resources at three nested levels: Clans, Corregimiento and Territory.

Clans, core of Yuracare social system, are the extended families (10-20 nuclear families).

Clans compound eleven Corregimientos along Rio Chapare.

Kuklete: family forest gardens that work as private property in terms of maintenance and monitoring. However, there is no permanent private land-holdings, families rotate within their Corregimiento and the territory, and create forest gardens in different places along time to access diverse forest resources. This means that each and all families are responsible for sustaining the resources along the watershed. It also indicates that Yuracare rules and norms reflect their landscape-level sustainability perspective.

Besides the family forest areas, there are also communal forests.

After the incentive to timber exploitation to commercial purposes, the social infrastructure was affected due to the emergence of new conflict situations involving extraction of timber from family forest gardens by individuals from another family.

- **Human infrastructure**

The Yuracare people are the stewards of an important knowledge concerning forest sustainable management, which is revealed by their language and sayings. "All Yuracare must care for the forest", for instance, which relates to taking care and promoting fruiting trees to guarantee the presence of game species. "Use of forest trees and animals without depletion" and "One should plan for the future", both reflecting the perception of finitude of resources, and need for sustainable use through constraints on individual use of resources and long-term planning. Collectively, the Yuracare could name 52 fruiting tree species that they monitor, protect and promote.

1.5 Rules in Use

- **Position Rules**

- Member of Yuracare people
- Cacique Mayor Yucarare: representative at the clan level.
- Representative of Consejo Indigena Yucarare: Corregimiento level.
- Member of Forest Association (since 1992, one in each Corregimiento, to work in coordination with external government forest agencies and timber marketing associations)

- **Boundary Rules**

- Belonging to the Yucarare people is determined based on ancestry.
- Forest Law and Law of INRA (Rights of Indigenous Peoples) - Yuracare people as exclusive resource users within their territory (with constraints imposed by the government forestry agencies).

- **Choice Rules**

- The Yuracare have social norms that prescribe their actions concerning forest management. Two examples are "all Yuracare must care for the forest" and "use the forest trees and animals without depletion". The second one leads to the rotational use of the land by families and seasonal variation in resource use. The existence of those norms means that the Yuracare are subjected to rights and obligations (payoff rules) related to common-pool resource use.
- Only the members of a family can use the resources within the family's area.

- **Aggregation Rules**

- Cacique Mayor Yucarare is elected by consensus within each clan.

- Representatives of Consejo Indigena Yuracare make decisions (concerning the Yuracare as a whole) based on majority of votes.

- **Scope Rules**

- Protection of fruiting trees, transplanting and selectively encouraging fruiting trees.
- Selective harvesting of male individuals of game species and establishment of no-hunting seasons.

- **Information Rules**

- Families: informal system for monitoring resources and use within Corregimiento.
- Corregimiento: informal inventories of resources made by walking and canoeing through the region and discussing spatial distribution of resources (locations of timber species, hunting areas, trees in fruit, good areas for cultivation). This knowledge has been systematized over centuries and used to establish successful systems of forest agriculture and, after government intervention, commercial exploration of timber.
- Collectively, the Yuracare could name 52 fruiting tree species that they monitor, protect and promote, and were capable of mapping the locations of forest resources, forest cover classification, water resources, and use patterns.

- **Payoff Rules**

- Traditionally: Individuals that break Yuracare rules are punished via social reprimand and ostracism.
- After growth of commercial timber: payoff rules had to be revisited and stronger sanctioning became needed due to emergence of new conflicts. As an example, individuals that harvested and sold timber from an area that belonged to another family, would have to split the income from the sale with the original tenures of the land.

1.6 Conclusion

The Yuracare people have their own forest management rules and practices that have been in place for hundreds of years before the government agencies started demanding an official forest management plan. Their management practices favor fruiting trees, which increase resources for game animals ("mutualistic strategies inherent in the traditional Yuracare forest management"). However, those practices have not been applied to timber species when commercial exploitation began. The loss of timber species can potentially affect the fruiting species due to breakdown of ecological links between those species. If this prediction turns out to be true, the Yuracare traditional system of resource management and sustainable use can collapse, threatening the 400 years-long relationship between this people and the forest and important aspects of their forest gardening culture.

2 Case Contributors

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