

TCD Field Research Grant Report Percy Peralta – Peru 2016

Small-scale subsistence farmers: Unusual suspects of forest conservation.

My main research goal is to find elements among the livelihood conditions of the inhabitants of forest frontiers, that can be affected by policy changes at different levels, thus resulting in improvements on the conservation of these forests and the quality of life of the local population. With this goal in mind, and with the support of the TCD Field Research Grant 2016, I traveled to the Peruvian Central Amazon from May to July 2016. This way I expected to better understand the current and local context, develop a network of contacts, and find answers that will then become the baseline of my doctoral dissertation.

I spent this time traveling between Lima and the Satipo Province. I made contact with at least 61 people, among public officials, researchers, business people, local leaders, as well as NGO and local grassroots personnel. I did apply 16 semi-structured interviews, one focus group involving 80 students of forestry at the local university, and carried out several non-structured conversations intended to enhance my understanding of the local context, as well as to validate the methodology of my research.

During my time in the field, I was involved in a series of activities that proved to be useful to introduce myself and my research to many key actors. One of these activities was the organization and implementation of a small-scale reforestation project that was funded during the TCD Fundraising Skills, which I took on in the spring 2016. I also carried out presentations on the sustainable production of edible insects to the local university students, local government officials and community leaders. Additionally, I was invited by the municipal office of environmental affairs to participate in the “National Congress on Biodiversity and Climate Change” and the “International Fair of Coffee”, both of which took place in Satipo.

According to my informants, there are no more available areas for new colonists to settle in the Satipo province. All the territory in this region has some type of land tenure status, such as conservation areas, forest concessions, indigenous territories, or private landholdings. Most of these private landholdings do not have formal property titles, and instead have a possession certificate. This lack of formal land tenure limits their ability to access credits and timber extraction permits. Most of the population are unaware of the ecological-economic zoning, which in turn causes that local farmers convert permanent forest production or protection areas into agricultural use. Most of the population is not familiar with the environmental and forest legislation, and the most common reason that violators of these laws provide is that they were not aware of their infraction.

The most important crops in this area are ginger (*Zingiber officinale*), pineapple (*Ananas comosus*), sweet granadilla (*Passiflora ligularis*), orange (*Citrus sp.*), coffee (*Coffea sp.*), and cacao (*Theobroma cocoa*). The production of both ginger and pineapple are very demanding in terms of nutrients, and are linked to deforestation and soil degradation. These crops are produced as monocultures, require the complete clearing of the land, high levels of agrochemicals and capital, and become hostile environments for biodiversity. These areas which are usually rented from indigenous territories, are depleted of soil microorganisms and are usually abandoned in a few years as unproductive lands. These crops are becoming an increasing threat to forest

conservation in the area due to its short-term profitability, and the lack of understanding of its consequences on the environment and the local population.

Then, the most important permanent crops in this area are coffee and cacao. The cultivation of these crops is differentiated by ecological zone, cacao is produced in the lower lands until 900 to 1000 m.a.s.l., and from these point until roughly 1800 m.a.s.l. coffee is the most important. Coffee has been the most important export crop in the area since the 1880s, while cacao which is a native crop has been increasingly expanding since the 1970s. In this area, there are two main types of coffee that are sold in the market: conventional and certified. In the case of cacao, there are also these types. For both crops, the cultivation of conventional varieties is associated with the practices such as slash and burn, and the heavy use of agrochemicals. On the other hand, the cultivation of certified crops is associated with more environmentally friendly practices such as slash and thinning instead of burning, the use of organic fertilization instead of agrochemicals, and the sparing of forested areas for conservation. There is an increasing number of farmers that are opting for friendly practices under certification schemes. These are often driven by the higher prices and end-of-season profit sharing that they receive when they are associated to a cooperative that is involved with specialty markets. The participation of farmers in cooperatives appears to have a positive effect on the improvement of the livelihood conditions and the potential of developing practices that are compatible with forest conservation. I am exploring to develop this question into one of my hypotheses.

In the case of the local indigenous population, most individuals belong to a formally recognized community, they are listed in the registry books, and have rights over the land for agricultural use. These individuals have rights to hunt, gather forest products, including timber extraction. One of my research questions was whether there is a significant number of indigenous farmers that are not affiliated to an indigenous community. According to my informants, most indigenous farmers are part formally or informally of some indigenous community.

Another research questions were whether local indigenous people, once they leave their village, do they behave as colonist farmers or they still keep their traditional practices. According to my findings, there are not known cases of indigenous farmers that have left their original villages and have adopted practices similar to colonist farmers. In the cases that indigenous people leave their village voluntarily or they are expelled, they usually find another village that will take them and allow them to practice agriculture as indigenous farmers.

Another hypothesis is that the observed difference between the forest management systems of colonist and indigenous farmers is caused primarily by the size of land for agriculture. Most colonist farmers have less than 50 hectares, while most indigenous farmers live in communities that several hundreds or even thousands of hectares. The available area for cultivation is definitively an important factor that is challenging to control for. On the other hand, other elements associated to cultural differences between these two groups must be considered in the design of policy addressing forest conservation and the improving of the living conditions of its inhabitants. Among these elements it is important the different perceptions of the forest by both groups. Generally, Andean colonists are seen as connected to these forests through a mere utilitarian relationship, as a mean of production which can have a defined market value.

Gradually, Andean colonists begin forming bonds with their new residence in the Amazon forests, they adapt to this environment, their children go to school, and they finally stay. Newcomers usually practice slash and burn, as well as other practices that cause forest

degradation such as cultivation on the top of hills, in areas with steep slopes, and around sources of water. Then, they learn how to manage tropical forests in a more compatible way with its conservation. These more forest-experienced colonist farmers replace slash and burn by thinning or “raleo” which consists on leaving the largest trees and the more valuable, cut the rest of the vegetation and leave it to rot in piles. In some cases, they use microorganisms that enhance the decomposition of these vegetal mater. These piles are left to decompose in order to start the planting. In some cases, they plant valuable trees within their crops to increase the value of the land. Replacing slash and burn by thinning requires a higher investment in labor and capital, but the benefits become apparent with the more sustained fertility of the soil and the lower requirements of fertilizers, and the improvement of microclimatic conditions. Additionally, this practice allows farmers additional income from the sale of valuable timber that they associated their crops with. Coffee and cacao plantations have an economic life of about 40 years, which coincides in many cases with the availability of the labor in the rural household. At this time, the adults are in their sixties, don't have the same strength to carry out the tasks required in the farm, and most younger members have left the household. At this time, also the trees that were left in the farm have reached commercial size and can be sold for a significant value. The exception is mahogany which requires more than a century to be ready for the market, but in this case farmers are planting this species as means to increase the value of the land for future generations.

On the other hand, Amazonian indigenous people have a more complex relation with the land. As in the case of colonists, the land is a mean of production since is needed to produce subsistence and cash crops. Additionally, the forest provides a variety of benefits that are generally not used by colonists, such as wild fruits, edible arthropods and mollusks, medicinal plants and resins, as well as construction materials for their homes and tools. Local indigenous people also have a spiritual connection with the forest related to the meaning itself of being a “forest people”, and a series of myths and beliefs that link these forests with its current inhabitants and their ancestors.

The broadest research question that I had coming to the field was about the motivations of colonist farmers for forest conservation practices, especially since they are usually considered the main culprits of forest destruction. In some cases, a combination of a better access to technology, capital and market skills, as well as the increasing scarcity of available land for agriculture are associated to the intensification of agricultural practices, and therefore with an increase in both the productivity and profitability of the landholdings. Through participant observation and communication with informants, I found a trend to generalize that the access to technical information and market skills, play a major role in changing agricultural and forest management practices. This access to technology can be achieved through personal experimentation and learning, knowledge exchange among farmers, training by extension agents, or formal education in technical schools or universities.

A well-known indigenous leader stated that the origin of the environmental problems in this region are associated to the mercantilist message from the Peruvian State and the international markets. According to the traditional indigenous perception, these forests were managed in a sustainable way according to their ancestral wisdom, and whose meaning was not limited to the production of food but would also extend to social, environmental and spiritual elements which encompass a holistic life style. But, with starting with the arrival of the Europeans, the message dictated by the Peruvian State and the international market changes. According to this message, the Amazon rainforests should provide coffee for the international market. From this point, the migration of Andean people to the Amazonia is promoted through

planned colonization projects or spontaneous migration waves. These migrations caused conflicts between the Andeans and the Amazonians, which have been living in relative peace for several centuries.

The presence of Andean colonists in the Amazon region is generally connected to the degradation of tropical forests. In the Satipo Province, these colonists settle close to roads and rivers which provide access to the market to produce cash crops such as coffee, cacao, citrus, and since the last few years, sweet granadilla, ginger and pineapple. There is a lack of a culture of conservation, and little knowledge about practices that are compatible with forest conservation. Most colonist farmers don't have a conservation mindset, and their practices tend to be a mere reaction only based on short-term goals.

The little knowledge on sustainable practices in the forest, as well as the disconnection between conventional agricultural practices and their consequences, represents an important element that enables the occurrence of these practices. The programs implemented by governmental agencies and NGOs until 2001 have been insufficient to promote substantial changes in the conservation status of these forests. Starting in 2001, and due to the activism of grassroots organizations, local governments became involved in extension programs which have started to show positive results in the practices that farmers carry out, and in the conservation of their forests.

Additionally, around the same time, the international market is promoting better environmental and social practices to fulfill the requirements of specialty coffees such as organic, fair trade, conservation, and biodiversity friendly. An increasing number of farmers are joining cooperatives for both coffee and cacao. According to my informants there is about 25 to 30% of colonist farmers that are implementing forest friendly practices, and these are virtually all part of a established cooperative. These cooperatives do corporative purchases and sales, have different types of certification, and are able to give a higher price for the production as well as a dividend at the end of the season. They also coordinate training on how to improve agricultural production, conservation and health. There is also another 25% of farmers who belong to cooperatives that are not taking advantage of these opportunities, or are in the process of doing so. It appears that there is a strong correlation between better practices and being part of a cooperative. It comes to my mind the statement of the indigenous leader about how the message of the State and the market determines the fate of the conservation of the forests, in this case, the increase in good practices is also a consequence of this message.

The learning of conservation practices appears as a critical element beyond the short-term means an increase in the profits and the quality of life for colonist farmers. This learning can be achieved by self-teaching and experimentation, information sharing with peers, training from government agencies, certifying companies, cooperatives or through formal training in technical school or the university. A new generation of colonist farmers is developing in the Central Amazon region, that has experience in the humid tropical forests. Many of them have been born in these forests, or have migrated from other tropical areas. They differ from their parents or grandparents by having a deeper understanding of forest management and the potential consequences of the conventional practices.