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# La deforestación y la participación de mujeres en el manejo de recursos naturales: una comparación de casos de estudio de comunidades indígenas y colonas en la provincia de Napo, Ecuador

[Deforestation and Female Participation in Natural Resource Management: Comparing Case Studies in Indigenous and Colonist Communities in the Province Of Napo, Ecuador]

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**Dedication**

To my parents, who have always supported me and encouraged me to challenge myself, to work towards my goals, and to be open to new and unique experiences.

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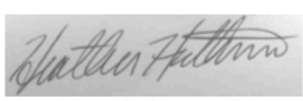

Nombre de la autora

**Summary**

Over the past century, deforestation of the world's valuable rainforests has been a primary factor in the growing problems of climate change, jeopardizing the future of the planet. In the Amazon Rainforest, poor resource management and unsustainable agricultural practices have been key drivers leading to the rapid progression of the agricultural frontier, resulting in unprecedented clearing of rainforest to make way for more agriculture and consistently shrinking the rainforest. Through fieldwork completed in three communities in the Province of Napo in the northern Ecuadorian Amazon, this research explores the relationship between greater participation of women in resource management and decision-making processes and decreasing local deforestation rates.

The research carried out in this thesis reveals that the differing socioeconomic and cultural structures of non-indigenous colonist and indigenous Kichwa communities in the Province of Napo directly impact the time, resources, influence and alternatives women have in their households and in communities, which directly influence the degree to which they are able to participate in decision-making processes related to resource management. In the cases studies, colonist women tended to have limited time, resources, influence and alternatives, and thus they participated very little in decision-making processes at all levels. Kichwa women, on the other hand, had more flexibility in terms of time, resources, influence and alternatives, and thus had stronger voices and participated more actively in community decision-making and resource management, particularly when their participation was formalized through a Women's Association. Based on these finding, this study seeks to define conditions, components and alternatives essential to maximize the effective participation of women in order to guarantee the sustainable management of natural resources in vulnerable ecosystems and to achieve sustainability through mechanisms that enable and strengthen the participation of women.

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## Introduction

Deforestation is a problem with numerous direct and indirect impacts on the environment, social issues and the overall survival of the planet. Every tree cut down diminishes the amount of oxygen available to breathe, interrupts carbon sequestration processes the keep carbon emissions in check, and destroys the habitats of countless species. Deforestation can also lead to territorial conflicts, endanger cultures and livelihoods, and create dependence on the unsustainable use of forest resources. Together, these impacts are causing a domino effect that will only continue to aggravate the impacts of global warming and make it ever more difficult to mitigate the effects of climate change. Unfortunately, despite the grave consequences of deforestation, such activities have yet to be controlled.

While there has been a significant amount of research exploring different social, economic, and cultural factors for consistently high rates of deforestation in the Amazon Basin and the consequences of such activities have been well documented, the role of women in decision-making and resource management has not received just attention. The research in this thesis aims to explore the relationship between the participation of women in decision-making related to resource management in Amazon communities and the deforestation patterns in those same communities. The analysis involved in this thesis project seeks to expand current academic knowledge and understanding of the factors involved in high deforestation rates by demonstrating how lower female participation in decision-making and resource management leads to unsustainable resource use and extensive agriculture patterns. This understanding can be applied to any context where deforestation and/or unsustainable agriculture wreak environmental havoc, though it is especially important in rainforest ecosystems, where the loss of vegetation makes the soil vulnerable to erosion and leads to a variety of other related problems in these regions.

Furthermore, this expanded knowledge lays a foundation for the rounded analysis of the problem of deforestation, which then allows for the formation of comprehensive solutions. After determining the relationship between female participation and deforestation rates and identifying the current and potential mechanisms to expand

female participation and influence in the region, it becomes possible to design local, regional, national and international initiatives and policies focused on empowering women and strengthening those mechanisms. Without taking into account the critical roles of local women, however, the debate on deforestation will continue producing mediocre solutions that, in the past, have failed to effectively curb deforestation rates and to mitigate the consequences they have on climate change.

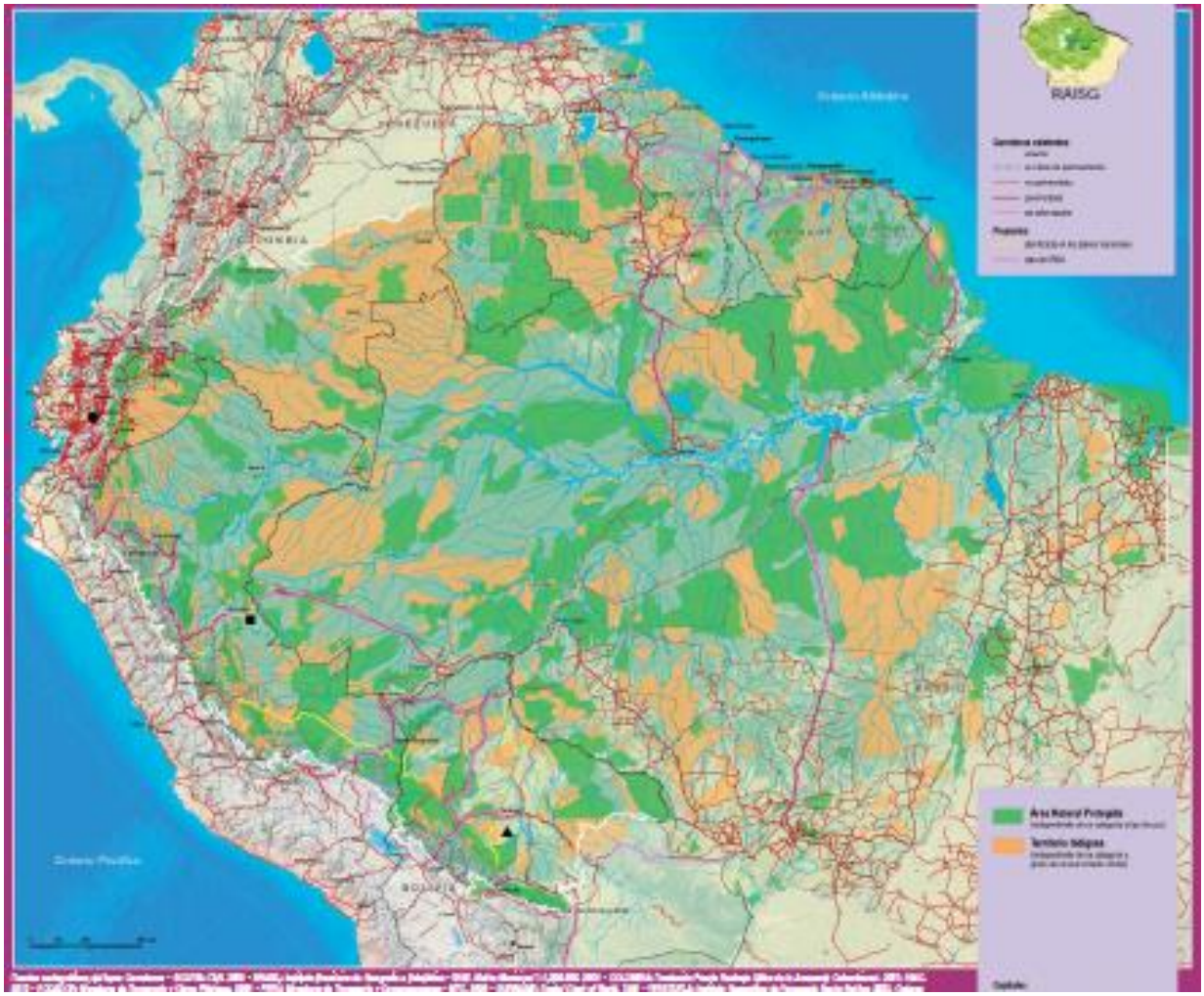
## 1. The Problem of Deforestation

The problem of deforestation in the Amazon came to the public eye during the 1980s, when satellite-based images of the estimated land cover in the Basin became widespread, spurring international pressure at a number of international summits by environmental groups seeking more responsible management of the Amazon Rainforest (Perz 2002). What caught the world's attention was dramatically changing land cover in the Amazon Basin. In the Ecuadorian Amazon, the annual deforestation rate in 1999 was 1.8%, one of the highest in South America, a rate at which, if maintained, the rainforest is expected to be depleted in a matter of decades (Pichón and Bilsborrow 1999). Figure 1.1 shows that the pressure on the rainforest (indicated by the dark gray areas) represents the majority of Ecuador's Amazon region, while other countries in the Amazon face relatively lower pressure in relation to their overall territory covered by rainforest.

Figure 1.1. Accumulated Pressure in the Amazon Rainforest

Source: RAISG (2012, 8).

Figure 1.2. Roads and Highway Systems in Amazon Region




Source: RAISG (2012, 17).

Most Amazonian countries experienced a similar pattern of deforestation as a result of the expansion of the agricultural and extractive frontier. The key factor was the discovery of commodities, such as rubber, gold, oil or wood, which led to the construction of roads and the consolidation of national territory to facilitate and control commodity extraction (Muratorio 1991; Schmink and Wood 1992; Whitten 1976; Whitten et al. 1989). During the mid-twentieth century, the Ecuadorian Amazon (a region largely ignored by the government before the twentieth century) entered the political scene as the last frontier left to be conquered (Whitten 1976). Following the violence and smuggling of the country's extractive resources into Peru that accompanied the peak of the rubber boom of the late 1800s and earlier oil exploration by the Royal Dutch Shell Oil Corporation in the 1920s, it became clear that the

Ecuadorian government needed to consolidate its borders and regulate the region's extractive economy (Muratorio 1991; Schmink and Wood 1992; Whitten 1976). When the oil boom of 1967 struck, the construction of new roads and the growth of the communications network enabled migration into previously unreachable regions (Pichón and Bilsborrow 1999; Muratorio 1991).

The greatest impact of the expansion of the extractive frontier into the Amazon has been the resulting highway system built to facilitate extraction. As shown in Figure 1.2, Ecuador has the highest density of highways in the Amazon region, with 37.5 km of highways per square kilometer (RAISG 2012). By comparing Figures 1.1 and 1.2, the grey areas indicating high pressure on the rainforest reflects the greater highway density in Ecuador's northeast Amazon, thereby supporting the direct relationship between road construction and high deforestation rates (RAISG 2012; Christian Velasco, interview by author, 2015, interview CVA05192015).

In addition to the expansion of the extractive frontier, overpopulation in other parts of these countries resulted in land scarcity, leading to two complementary scenarios: 1) peasant farmers chose to migrate to the Amazon in search of land; and 2) governments encouraged depopulation of densely populated areas by selling cheap land packages in the Amazon (Evans et al. 2001; Muratorio 1991; Perz 2002; Pichón and Bilsborrow 1999; Thapa et al. 1996; Schmink and Wood 1992; Whitten 1976; Whitten et al. 1989). Beginning in the 1960s and 1970s, demographic pressure as a result of an increasing population resulted in land inequality and poor soil quality in the highland and coastal regions of Ecuador. In response to the growing demographic crises, the Ecuadorian government started to encourage settlement or "colonization" of the "vacant" lands of the Amazon. Furthermore, as in other countries in the Amazon Basin, the state had largely ignored the Amazon region, a peripheral region considered "backwards" and an impediment to national development. At this time, however, the Amazon transformed into a region of opportunity with endless land and resources yet to be exploited (Muratorio 1991; Pichón and Bilsborrow 1999; Schmink and Wood 1992; Whitten et al. 1989; Bunker 1985).

The high rate of unplanned, chaotic migration into the Amazon that resulted from the state's colonization efforts led to conflicts over land tenure, hostility with indigenous populations living in the region, and haphazard deforestation as squatters strove to claim their land (Pichón and Bilsborrow 1999; Schmink and Wood 1992; Whitten et al. 1989). While many people blame extractive industries for deforestation, evidence suggests that unsustainable local demographic and economic activities, poverty and population growth, and the expansion of roads and highway systems into the Amazon have also had significant, impacts on deforestation trends (RAISG 2012). Although it has been more than three decades since heavy migration to the Amazon began, some scholars have suggested that population growth and in-migration to the region will continue and the current impacts – particularly, global warming and climate change – on the planet will escalate (Carr 2004; Thapa et al. 1996; Pichón and Bilsborrow 1999).

According to Malthusian theory, population growth has a positive correlation with high deforestation rates, implying the importance of analyzing demographics of the region in question. In the Ecuadorian Amazon, the population growth rate was 6% during the 1970s and 1980s, more than double the national average (Carr 2004), which can be compared to the region's annual deforestation rate of 1.9% in 1999 (Pichón and Bilsborrow 1999). This relationship is also observed in the region studied in this thesis, the province of Napo. From 1974 to 1990, the northeastern provinces of Napo and Sucumbíos had the highest rate of population growth in the country at 6.7% per year; these same provinces also had the country's highest deforestation rate from 1965-1984 at 1.4% per year (Thapa et al. 1996). In recent decades, the Province of Napo has continued experiencing increasing deforestation rates, with a deforestation rate of -0.21% (1,682 hectares) per year for the period 1990-2000 and -0.35% (2,735 hectares) per year for the period 2000-2008 (Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012). The Province of Napo's population also increased consistently during this period at a rate of about 3% per year for the period 2001-2010 (INEC 2010).

To date, there is no consensus on what can and should be done to turn around current deforestation rates. However, the conversation has primarily focused on population, agro-economics, and migration in the region, and discussions of underdevelopment and

the effects of the capitalist market economy have yet to analyze the relationship between deforestation and gender analysis (Feldstein and Poats 1989; Bunker 1985; Schmink and Wood 1992; Escobar 1995). A deeper and more recent analysis of the role and influence of women in household and community decision-making in relation to access, control and management of natural resources is essential to be able to formulate a comprehensive solution to deforestation at the local level.

A number of studies indicate that the Amazon region, particularly for colonist communities, is a high-fertility region primarily due to the labor demands of agriculture in the region. The lack of these factors in many Amazonian communities, paired with the high family-based labor demand of subsistence farming, results in higher fertility rates and thus may have a direct correlation with deforestation rates (Carr 2004; Evans et al. 2001; Lobao and Brown 1998; Pichón and Bilsborrow 1999; Thapa et al. 1996).

Furthermore, the unique agricultural pattern of expansion of particular communities in the Amazon has also been an influential factor in escalating deforestation rates. Early colonist communities often began producing solely for subsistence, but they soon expanded to cash crops to sell outside the home, followed by pastureland for cattle, which requires large amounts of land, and other land-intensive productive activities they or their families had previously done in their homeland (Bedoya 1995; Lu et al. 2010; Evans et al. 2001; Perz 2002; Pichón and Bilsborrow 1999; Thapa et al. 1996; Rudel and Horowitz 1996). However, it is critical to point out that these variations and patterns in productive activities are not unique to the colonists in the Amazon.

Several studies compare agricultural and economic activities of colonist communities and different indigenous communities in the Ecuadorian and Peruvian Amazon with the community's local deforestation rate to determine the impact of its agroeconomic activities on the surrounding forests (Lu et al. 2010; Lu, et al. 2012; Bedoya 1995; Rudel et al. 2002; Rudel and Horowitz 1996). Bedoya (1995) provides case studies in the Peruvian Amazon to demonstrate that agricultural patterns in indigenous communities in the region have been relatively more sustainable, although he notes a significant difference between different indigenous groups, some of whom have both

agricultural patterns and deforestation rates more similar to colonist communities than some of the other indigenous groups studied. Lu et al. (2010) discuss similar observations when examining varying deforestation patterns between colonist communities and different indigenous communities in the Ecuadorian Amazon, and Lu et al. (2012) analyze these differences more in-depth in a subsequent research study. The latter study reveals that some indigenous groups, such as the Shuar and Kichwa communities studied, have sedentary lifestyles, agriculture-based diets and household economies much more similar to those of the colonist communities than to other indigenous groups, such as the Cofanes and Waorani, who are much less sedentary and rely more heavily on hunting and gathering. Furthermore, Rudel et al. (2002) demonstrate that it is not unusual for indigenous communities to adopt the same environmentally-destructive economic activities as colonists, such as cash crops and livestock raising.

These studies on different colonist and indigenous communities illustrate a number of important points. First, it demonstrates that deforestation is not a black and white issue, with the "good indigenous people" trying to save the rainforest and the "bad colonists" selfishly destroying the Amazon. There are varying degrees of both deforestation and conservation occurring in each community, thus generalizing based on ethnicity or culture is not a realistic strategy to stop deforestation. Moreover, no indigenous or colonist community is the same as another, and some indigenous communities may be equally, if not more, at fault for local deforestation trends. Based on these conclusions, it is clear that local agricultural activity and economies must be analyzed on a case-by-case basis to understand the local impact on deforestation rates (Lu et al. 2010; Lu et al. 2012; Bedoya 1995; Rudel et al. 2002; Rudel and Horowitz 1996). Within the study of agriculture, however, the influence women have had has largely been invisible (Feldstein and Poats 1989; Rocheleau et al. 2004b).

Over the past ten years or so, the Ecuadorian government has created a number of programs and initiatives to encourage more sustainable agricultural production, incentivize forest conservation, discourage illegal logging, and promote cutting timber from "forest plantations" regulated by the Ministry of Agriculture. The most notable of

these programs is Programa Socio Bosque, which offers small monetary incentives to preserve forest cover, thereby reducing deforestation and erosion. While it is a positive sign that the current government is organizing programs and offering incentives in favor of forest conservation and sustainability, the success of such programs can only be determined over time. Critics argue, however, that many of these programs fail to take into account the distinctive economic rationale and reality of certain groups and individuals and, thus, they do not effectively deter unsustainable agricultural practices and illegal logging (Aníbal Gómez, interview by author, 2015, interviewAG05122015). Moreover, such initiatives failure to incorporate the potential benefits the participation of women could lend to ensuring sustainability in agriculture.

### 2. Guidelines and Regulations Regarding Land Reform and Deforestation

Regarding land tenure rights, a series of agreements led up to the Constitution of 2008, which currently serves as the basis of indigenous and private property rights. The 2004 Forestry Law on the conservation of natural areas and wildlife laid out the procedure for allocating government lands, forests and plant life to ensure their protection and sustainable use. The Ecuadorian Strategy for Sustainable Forest Development was established by the MAE (Ecuador's Ministry of the Environment) for the years 2007-2011, and incorporates Agreement No. 244 which sets forth regulations for sustainable forest management of dry forests; Decree No. 931 which defines the responsibilities related to the regulation, development, commercialization and exploitation as well as the sustainable management of forestry resources; Agreement No. 39 which lays out the guidelines for sustainable forest management in the exploitation of rainforest; Resolution No. 78 which establishes the restoration costs for primary forest and for the loss of environmental benefits in the humid tropical rainforest; Decree No. 969 which creates Ecuador's Forest Promotion and Development Unit (called PROFORESTAL, 2015); and Agreement No. 169 which creates the program Socio Bosque which offers incentives for protecting forest cover. Most of these Agreements and Decrees went into effect in 2008, so they reflect many of the same principles set forth in the new Constitution of Ecuador from the same year (Mejia and Pacheco 2013).

The Constitution of 2008 grants indigenous communities "titular authority" over their ancestral communal lands, which makes up more than half of the country's remaining forestland. This Constitution further states that ancestral communal land is not "divisible, conveyable or subject to legal attachment" (USAID 2011). Furthermore, the Constitution of 2008 also recognizes and guarantees the right to property as public, private, communal, state and associative lands. Indigenous tenure rights depend on the form of land tenure, three of which are identified in the Constitution. The first form of indigenous land tenure is in indigenous reserves, in which case indigenous groups are given a legal communal title to large areas of lands that encompass different indigenous communities. A second form of indigenous land tenure is community tenure, in which communities receive a legal title through customary land tenure laws. The third form of indigenous land tenure is protected areas, where the state publically and legally owns the lands, but indigenous groups are granted the legal rights to use the lands for their livelihoods (USAID 2011).

Up until 2010, the Instituto Nacional del Desarrollo Agrario (INDA), or the National Institute for Agrarian Development, was directly responsible for land titling and registration throughout Ecuador. When INDA dissolved in 2010, the Sub-Secretariat for Land and Agrarian Reform, a department within the Ministry of Agriculture, became the entity responsible for land titling and management. There is currently a Bill for Land Reform waiting to be passed by the National Congress, which will establish the entity or create a new entity to take charge of land titling issues. In the meantime, however, the Sub-Secretariat for Land and Agrarian Reform has limited staff and resources to carry out all of the responsibilities needed to manage the country's land titling processes, there are no longer ancestral rights granted for "ancestral lands" unless the community currently occupies that same territory. Instead, the Sub-Secretariat grants private land titles and "*titulación global*", a form of community land titles that are indivisible and granted if the community has lived in the territory for at least 50 years, presents a sustainable forest management plan, and meets specific cultural requirements (such as speaking a native language or using native dress) (Laura Izurieta, interview by author, 2015, LI08062015). Considering the history of the Napo region briefly described above, the constant displacement and retreat of Napo Kichwa further into the rainforest means

that most Kichwa communities are no longer on their ancestral lands and, as in the case of Shiripuno and Ilayaku Sardinas, have only occupied their current territory for two or three generations.

The lack of adequate regulation or the failure to effectively implement those regulations has been an important factor in high deforestation rates in Ecuador. For example, between 17.5% and 54% of wood extracted in Ecuador is cut down and sold or traded illegally. As these extraction activities are out of the government's control and thus regulations that encourage sustainability and environmental protection cannot be enforced. This is part of the reason why, according to Meija and Pacheco (2013), Ecuador has an annual deforestation rate of 1.5%, which is four times higher than in other countries in the region.

The legal framework relating to deforestation originates from the rights granted to Nature in the 2008 Constitution of the Republic of Ecuador, which states that the sustainable use of natural and forest resources is essential in protecting the rights of Nature. In Ecuador, the Ministry of the Environment (MAE) manages all activities relating to native forests, including national parks, protected areas, cutting of timber and forest management programs in general. MAE includes a number of programs such as the Socio Bosque program, designed to incentivize the conservation of forests, although local critics suggest the program does not offer an economically competitive price when compared to the alternative (exploiting the forest). MAE also regulates which tree species, how many, and where they can be cut through the issuance of licenses and inspections of trucks transporting timber. Unfortunately, critics also suggest that the licenses involve unreasonable paperwork, waiting, and fees. If someone needs money quickly, they are going to cut one or two trees from there land, whether or not they have the license, and still sell it illegally out of necessity. The provicial office of MAE, through the German cooperation organization, GIZ, also founded an Environmental Leadership School which trains youth, especially young women, in the importance of conservation in the context of the Sumaco Biosphere Reserve (Aníbal Gómez, interview by author, 2015, AG05122015).

In addition, the Ministry of Agriculture (MAGAP) also manages programs related to forest conservation, including the Incentive for Forest Plantations for Commercial Use, which encourages participants to reforest certain areas to be able to use that timber in the future. However, these programs have not been implemented effectively thus far in the Amazon region. Another new program is the Agenda for the Productive Transformation of the Amazon, the goal of which is to implement sustainable agricultural practices that intensify soil use to decrease poor agricultural practices and reduce the need to continually clear new land thereby slowing the expansion of the agricultural frontier. Unfortunately, this program does not incorporate gender analysis or encourage female participation directly. Nonetheless, it will be interesting to see the impact of the first program of its kind in the Amazon region when it goes into effect in May 2016 (Jimena Falconí, interview by author, 2015, JF08062015).

Overall, the new regulations, guidelines and programs designed to promote forest conservation and regulate the local drivers of deforestation in Ecuador are relatively new and are still adjusting to the reality of life in the Ecuadorian Amazon. For this reason, further research into the intricacies and difficulties of life in the Amazon is still needed to inform and make such regulations and programs more effective. The research and fieldwork carried out in this thesis aimed to do just that, by exploring the family and cultural dynamics of kichwa and colonist communities in the northern Amazon, emphasizing gender roles in local resource management and the participation of women in decision-making processes.

## 3. The Problem of Defining Deforestation

Part of the inability to find a consensus to confront the problem of deforestation lies in understand what exactly "deforestation" is. Deforestation does not have a universal definition, nor is it measured in the same way by all sources. According to the United Nations Framework Convention on Climate Change (UNFCCC), a fundamental tool for global issues impacting climate change, "the direct human-induced conversion of forested land to non-forested land", such as agricultural land, pastures, and urban areas (Schoene et al. 2007). However, that same year, the FAO defined it as "[t]he conversion of forest to another land use or the long-term reduction of the tree canopy cover below

the minimum 10 percent threshold" (Schoene et al. 2007). The FAO further explains that "deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use", a loss which can only be caused by repeated human-induced or natural disturbances (Schoene et al. 2007). Unfortunately, these definitions generally do not include loss of forest cover due to logging or other forest loss as this does not imply a conversion of land use, or where reforestation (whether natural or artificial) will occur as this does not imply long-term forest loss (Schoene et al. 2007).

Moreover, analyzing the definition and/or calculation of deforestation at smaller, more local levels, where policies and economic activities are planned, controlled, and/or monitored in a way that directly affects activities that impact deforestation, is also critical when discussion deforestation trends and possible efforts and initiatives to address deforestation. The Ecuadorian Dirección Nacional Forestal (or the National Forestry Office) defines deforestation as:

> a process of the anthropic conversion of forestland into another land cover and land use; below the threshold of height, canopy cover or area established in the definition of forest. Areas with removed forest plantations as a result of agriculture or logging and where it is expected that the forest regenerate naturally or with the help of silvicultural practice are not considered deforestation (Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012, 14) [1].

Therefore, based on this definition, the government of Ecuador does not include areas deforested as a consequence of agricultural activities in assessments and monitoring of deforestation activities, thereby ignoring a sector that, in many areas of the country, has a significant impact on land use and land cover and therefore significantly contributes to deforestation, as will be explored in this thesis, taking these local considerations and

[1] Translated by the author. Original text reads: "Es un proceso de conversión antrópica del bosque en otra cobertura y uso de la tierra; bajo los umbrales de altura, cobertura del dosel o área establecida en la definición de bosque. No se considera deforestación a las zonas de plantaciones forestales removidas como resultado de cosecha o tala, y donde se espera que el bosque se regenere naturalmente o con la ayuda de prácticas silviculturales" (Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012, 14).

variations in calculating deforestation rates is critical when evaluating varying deforestation numbers from different sources.

The complexities of deciding what constitutes deforestation and what does not has made it difficult to reach a consensus not only in defining the term, but also in determining how and to what extent to confront deforestation. For example, the FAO indicates that some entites aim to “avoid deforestation”, which could simply refer to a nominal decrease in the deforestation rate, while others may seek to do “as much as possible” to choose alternatives with less impact on deforestation (without necessarily committing to impacting deforestation rates). Still others may set a goal of zero deforestation, in the hopes of drastically reducing deforestation. The lack of clarity in both defining deforestation as well as in setting goals to counter deforestation have led to limited action, ineffective international policies and a non-existent consensus on how to tackle deforestation and how to implement effective policies to mitigate the impacts of deforestation on climate change.

Another problem preventing urgent action is a limited public knowledge of the relationship between deforestation and climate change. Although many people believe that global warming and gas emissions are the result of burning oil and gas, in reality, 25% to 30% of the annual greenhouse gases released is the result of deforestation. That is 1.6 billion tons of greenhouse gas emissions each year. Since forests store carbon in a process called carbon sequestration, when they are cut down or burned, the carbon they store is released into the atmosphere (Food and Agriculture Organization of the United Nations 2006). As greenhouse gas emissions are a key factor in speeding up global warming and climate change, controlling these emissions as soon as possible is essential to mitigating the effects of climate change.

## 4. An Escalating Problem: Deforestation Around the World

According to a 2010 report by the Food and Agriculture Organization (FAO) of the United Nations, the rates of deforestation of the world in general decreased between 2000 and 2010. This study, covering 233 countries and areas around the world, describe the main cause of deforestation as being due to the conversion of tropical forests to

agricultural land. In the 1990s, according to the study, the global deforestation rate was 16 million hectares per year; in the 2000s, this number decreased to 13 million hectares per year. However, despite these improvements, the study states that South America had the highest net annual loss of forests from 2000 to 2010 with a total of four million hectares lost per year. According to the FAO, forests cover 31% of the total land area of the planet or over four billion hectares. However, the net annual loss of forests as of 2010 was equivalent to an area of about the size of Costa Rica, indicating a largely unsustainable rate of forest loss (World deforestation decreases, but remains alarming in many countries 2010).

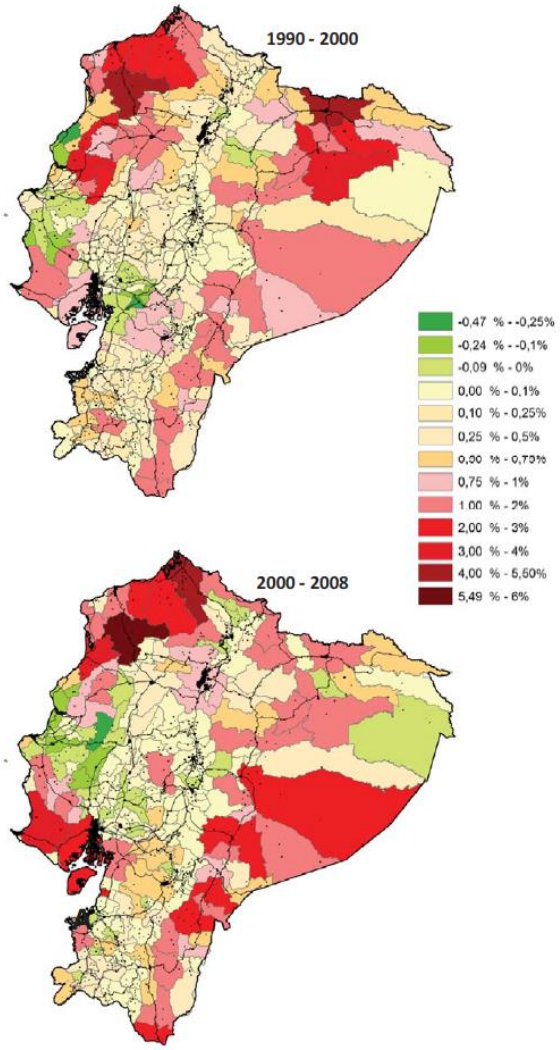
In 1990, Ecuador's national land cover was 15,519,590 hectares, which made up 62% of the national territory. Of that land cover, 12,896,224 hectares were primary forest. The amount of land cover decreased in 2000 to 14,503,682 hectares, 58% of the national territory, and the total amount of primary forest reduced to 11,816,204 hectares. This change from 1990 to 2000 included a decrease in national land cover of 1,015,908 hectares. In 2008, the national land cover included 14,123,637 hectares, covering 57% of the national territory, and implying a reduced area of primary forest to 11,307,627 hectares. This period from 2000 to 2008 represents another decrease of about 380,045 hectares, a deforestation rate of -0.66% or 77,647 hectares/year (Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012). These numbers mean that between 1990 and 2008, approximately 19,000 km2 of primary forest was lost. The annual net deforestation rates for the periods 1990-2000 and 2000-2008 were 1291.5 km2 and 753.9 km2, respectively (see Appendix 1 for more detailed information regarding changes in land cover during these periods) (Sierra 2013).

The change between these two periods is a decrease of about 42%, but this does not imply that the problem of deforestation has been resolved. Part of the misunderstanding caused by analyzing forest/vegetation cover is that it does not include areas that have experienced regrowth and/or reforestation, whether intended (active reforestation activities) or not (abandoned land). Although land may experience reforestation or regrowth, the biodiversity and ecosystem overall will have been significantly affected and the new growth may not be solely native species, further altering the ecological

characteristics of the region. Furthermore, despite the decreasing rates of deforestation, the relatively small numbers of -0.66% may seem to be minuscule, the reality is actually quite different. This rate of -0.66% actually represents 77,647 hectares per year. As the amount of primary forest was estimated at a little over 11,300,000 hectares in 2008, a decrease of 77.6 thousand hectares per year is, in fact, quite significant. For example, take into consideration the map in Figure 1.3. The negative deforestation rates (green and light green colors) represent areas where regeneration of land cover is greater than deforestation in that same canton. The greater deforestation rates (red and dark red colors), however, represent areas with greater deforestation than regeneration in each canton. Although, as can be observed in the two maps in Figure 1.3, there are more areas with more regeneration than deforestation in 2008 than in the 1990s, there are also more areas with more deforestation than regeneration, and several of these areas also have an even greater gap between deforestation and regeneration, as can be seen by more, darker red areas in 2008.

Other estimates of deforestation differ, sometimes slightly, sometimes significantly because of different sources (some of which may possibly be biased) and different criteria regarding what is considered deforestation. For example, some definitions do not include forest loss because of agriculture and others do not include areas that have been reforested, thereby causing differences in information depending on the source. According to the Food and Agriculture Organization of the United Nations estimated that Ecuador's forest cover was 11.68 million hectares in 2000, then it decreased to 9.86 in 2010, calculating Ecuador's deforestation rate to be about 197,000 hectares, or -1.5%, per year between 1990 and 2010. Ecuador's Ministry of the Environment (MAE), however, calculated a lower deforestation rate of 89,900 hectare between 1990 and 2000, or about -0.71% per year. The MAE also found a deforestation rate of 77,600 hectares from 2000 to 2008, or approximately -0.66% per year (Mejia and Pacheco 2013). , it is important to keep in mind the sources and definition or calculation of deforestation when comparing deforestation rates. Regardless, deforestation is still an existing problem that needs to be addressed.

Figure 1.3: Total Net Deforestation Rate per Canton




Source: Sierra (2013, 7). Calculated as: (Deforested Area/Net Regenerated Area per canton in km2)/ (Net National Deforestation Area in km2)*100. Positive numbers indicate deforestation > regeneration; negative numbers indicate regeneration > deforestation.

In continental Ecuador, 11,679,822 hectares of the country's territory is covered by forestlands. Public forestland covers 18% of the national territory through the Sistema Nacional de Áreas Protegidas (SNAP), or the National System of Protected Areas, which is equivalent to 4.7 million hectares across 34 different protected areas (Mejia and Pacheco, 2013). According to the USAID, 27% of the total land area of Ecuador is agricultural land, 39% is forested land, and 23% is protected land (USAID 2011). Broken down by region, 55% of the Amazon region, 27.5% of the Sierra and 21.7% of the Coast regions are covered in forests.

Evidence shows that changes in forest cover are often related to changes in land use, and more often than not are caused by expanding agricultural activities in Ecuador. Between 1990 and 2000, 99.4% of areas deforested during this period were transformed into agricultural and pasture lands. Of the remaining deforested lands, 0.14% of the land became infrastructure, such as urban areas and dense rural settlement, while 0.46% was dedicated to other activities. Similarly, 99.4% of the lands deforested from 2000 to 2008 were converted into agricultural and pasture lands. These changes in land use indicate an overall increase of agricultural and pasture lands of 97.5% between 1990 and 2000 and of 95% between 2000 and 2008 (Sierra 2013). The next section discusses the regulations and drivers related to deforestation in Ecuador.

## 5. The Research

Given that the relationship between the participation of women in resource management has not been directly linked to deforestation rates, this thesis aimed to fill that gap in the knowledge and information available about deforestation trends. To do so, the research involved in this thesis has centered on the impact of culture and gender relations on female participation in local economic systems, in local agricultural activities for subsistence versus for the market, and in decision-making related to natural resource management, as well as whether that participation influences local deforestation rates.

The main question this research proposal focused on was what the implications are for understanding the relationship between women's participation in resource management and deforestation rates in the Amazon, and how this relationship can contribute to finding solutions to halt deforestation. Other related questions that also received attention were: How does female participation in decision-making and resource management affect deforestation trends in an Amazonian context? What differences exist regarding the role of women in indigenous communities in relation to natural resource use and management, compared to women in colonist communities in the Ecuadorian Amazon? What role do these ethnic and cultural differences play in local deforestation rates? How are women empowered in both indigenous and colonist communities to influence community and household decision-making and economic

decisions that may impact local deforestation rates? Considering current female participation in indigenous and colonist communities in the region, what role can women play in recovering rainforest ecosystems and sustainability initiatives in the region? By understanding the impact women can have in deforestation, we move closer to proposing alternative solutions to the problem of deforestation based on in-depth gender analysis.

The overall purpose of this thesis was to analyze the present condition of women and the current degree of female participation related to local economic activities and livelihood in the northern Amazon region of Ecuador in the Province of Napo and their relation to deforestation rates. This research also had four secondary objectives, the first of which was to analyze the differences in deforestation rates between indigenous and colonist communities. Secondly, it aimed to understand the role of women in decision-making, economic activities, and resource management in colonist and indigenous communities. In addition, this thesis project sought to determine what public space, if any, women have to participate in public initiatives designed to mitigate and reduce deforestation, as well as how they have been able to utilize that space to become involved in local decision-making and resource management thus far. Finally, the research hoped to identify the current degree of female participation in decision-making and resource management, as well as to propose recommendations in order to encourage greater female participation in the hopes of promoting sustainable resource management that leads to decreased rates of deforestation.

The results of the research and analysis involved in this thesis project were expected to reveal logical results in line with the distinct relationships between women and the environment compared to men and the environment, as well as those relationships between indigenous people and nature compared to non-indigenous people and nature. Generally speaking, rural women and indigenous people have a closer connection with the environment and greater affinity towards protecting natural resources when compared to men and non-indigenous people, respectively, which will be analyzed and discussed herein. In conclusion, greater female participation in territorial decision-making and resource management in environmentally vulnerable areas of the Ecuadorian Amazon was

expected to result in more comprehensive efforts to halt current deforestation trends as well as encourage the sustainable use of local natural resources.

## 6. Structure of the Thesis

Through these three case studies, this thesis delves into a deep analysis of the implications of the differences between indigenous and colonist cultures on female participation, as well as the effects of the ability to organize as a form of empowering women in these communities on the role of women in resource management. In analyzing these situations, Chapter I of this thesis project lays out a detailed discussion of the theoretical foundations as well as the methodology used in the research described above. Chapter II describes the context of the case studies in the Province of Napo in order to understand the different complex factors involved in the study, and Chapter III explores the cultural differences between the case studies, including their distinct cosmovisions, their specific relationships and perceptions of nature, and their unique household economic structures and relationship with external actors. Chapter IV takes an in-depth look at the role of women in the three communities studied, including their responsibilities and their degree of participation and influence in different social spheres. Through this analysis, this research seeks to provide solutions regarding how to effectively incorporate and maximize the participation of women in conservation and reforestation programs in order to mitigate the effects of climate change.

## Chapter 1. Theoretical Framework and Research Methodology

In order to effectively analyze the multitude of topics, actors and factors that come into play in discussing complex themes such as deforestation, female participation in resource management, and the relationship between these two, it is critical to lay out an established set of theories and concepts used across a range of other interrelated fields.

This thesis emerges primarily from the field of Political Ecology, with its relevant subthemes focused on economics, here explored through Analytical Marxism; anthropology, emphasizing Cultural Ecology; and gender, primarily through the politicized theory of Ecofeminism. Other key topics explored in this chapter that support the research completed for this thesis include the Negative Socioeconomic Impacts of Capitalism and the Commercialization of Nature, the Agricultural Frontier and Changing Agricultural Patterns in the Amazon, Gender Analysis in Agriculture and Conservation, Feminist Ecological Economics, Gender Analysis in relation to Land and Territory, and Feminist Geography. By exploring these primary overarching theoretical areas, supported by the more specific, applied theories in the secondary theories, the research, conclusions and recommendations that are analyzed and proposed in this thesis can claim a higher academic integrity and can be the justified basis for real actions and further research on this and related topics.

### 1.1.Framing Research through Political Ecology

The theoretical basis for this thesis pulls primarily from the economic and social strains of Political Ecology. While Political Ecology itself is a relatively new and thus continuously evolving field, the principal work dealt with involves the convergence and mutual relationship between society, the environment and culture. Political Ecology, along with many of the topics discussed supporting the research in this theory, has evolved from classic Marxist theory and branched into various directions through additions and alterations to classic Marxism, including, but not limited to, Analytical Marxism, Neo-Marxism, and Structural Marxism (Leff 2006; Alimonda 2011; Peet and Watts 1996; Biersack 2011; Escobar 1998). However, the theory needed for this research requires topics beyond pure economics, including social and cultural aspects. As a result, the more recent tenets of Political Ecology are essential, in particular

Cultural Ecology, and Ecofeminism, a gender-based socio-environmental movement. Before delving into these subtheories, however, it is first fundamental to define Political Ecology and how it contributes to the work carried out for this thesis.

Political Ecology is a relatively new and thus continuously transforming field with concepts transcending and overlapping traditional theories and categories. According to Leff, it "not only concerns the conflicts of ecological distribution, but it also explores the power relations that interweave the worlds of different people and the globalized world in a new light"[2] (2006, 1). Based on this definition, it is clear that there are a number factors involved, including environmental, cultural, political and social topics. The interaction between local cultures and people and the globalized world and politics indicates interactions that are fluid and constantly transforming themselves. For this reason, the theory of Political Ecology itself has its roots in Marxist theory, especially in analytical and structural Marxism, which analyze different structures and varying roles of actors within the economic system.

Another key economic component of Political Ecology is the rise of the Commercialization of Nature (Alimonda 2011; O'Connor 1994; Escobar 1995). According to Alimonda (2011), the expansion of capitalism has led to the incorporation of nature, as the source of primary materials, into the economic system as a mere product, subjugated to the control of the market, assigned a monetary value and able to be owned and exploited by the owners of the means of production. The biodiverse resources of nature and the native populations that depended on the environment were thus colonized and dominated, as the "modern project always implied the exercise of a bio-power over nature, meaning a power not only over the physical-graphical spaces, the soil and subsoils, natural resources, [and] flora and fauna […] but also power over the human beings subordinated through domination"[3] (Alimonda 2011, 52). This

[2] Translated by the author. Source reads: "A la ecología política le conciernen no solo los conflictos de distribución ecológica, sino el explorar con nueva luz las relaciones de poder que se entretejen entre los mundos de vida de las personas y el mundo globalizado" (Leff 2006, 1).
[3] Translated by the author. Source reads: "El proyecto moderno implicó siempre el ejercicio de un biopoder sobre la naturaleza, entendido como poder sobre los espacios físico-geográficos, los suelos y los subsuelos, los recursos naturales, flora y fauna, el aprovechamiento de las condiciones climáticas, pero también poder sobre los cuerpos humanos subalternizados por la dominación" (Alimonda 2011, 52).

domination and subjugation of the environment and native communities has, according to Political Ecology, defined the modern relationship between society and the environment. The negative socioenvironmental impacts of the tendency to commercialize nature and natural resources are described, alongside those of capitalism, later in this chapter.

Moving away from economic theory, Political Ecology has continued to expand and incorporate other components, including politics, culture and, most recently, social movements. Two important contributions from the political spectrum of Political Ecology include Immanuel Wallerstein's World-Systems and Andre Gunder Frank's Dependence Theory. The former sets up the structure of the world system, with the center being the primary market and the periphery being the source of primary materials for the exploitation and over-exploitation of natural resources. According to Dependence Theory, the periphery, which is primarily located in the "Third World", depends on the economic activities and control of the center, creating a vicious cycle of dependence that results in the endless exploitation of the periphery's resources (Biersack 2011). These two theories are critical in understanding the position of Ecuador's Amazon region in the country's national economy in regards to market-oriented agricultural production, as well as the Amazon region's position as the peripheral source of natural resources for the world economy. Furthermore, these theories demonstrate how this relative position of dependence at the scale is leading the Amazon to towards over-exploitation and natural resource (forest resources) depletion.

Based on the above theories of the Commercialization of Nature, Dependence Theory, and World-Systems Theory, Blaikie and Brookfield (Biersack 2011; Peet and Watts 1996) explain the relationship between marginalization and land degradation. As local communities are marginalized as part of the periphery, they become impoverished and are pressured by the excessive demands of the center to increase production, leading to the unsustainable use of natural resources. This relationship is held together by an "exogenous" political economy in which the environment along with the local land managers is dominated by the capitalist market (Biersack 2011; Peet and Watts 1996). The social and economic relations, as a result, inevitably lead to the degradation of the

environment and depletion of natural resources, a trend that is clearly illustrated in the Amazon region in Stephen G. Bunker's book, *Underdeveloping the Amazon* (1985).

The cultural components of Political Ecology, with roots in structural anthropologist theory, concentrate on the principal concepts of Cultural Ecology. Cultural Ecology is based on the fact that human cultures are constantly adapting to the environment and that different cultures adapt to environmental changes in distinct ways. For this reason, cultures depending on different environments have developed differently. Moreover, Cultural Ecology suggests that it is possible that certain cultures may adapt imperfectly to the environment, resulting in socio-environmental conflicts (Biersack 2011). This relationship between culture and the environment explains why different communities adopt distinct resource management strategies, often rooted in the community's history, value, and relationship with the environment, that they implement when adapting to varying environmental conditions. In the cases studied in this thesis, these different forms of adaption through different resource management strategies can be seen in the Kichwa communities and the colonists living in the same region, based on their perceptions and the history of their relationships with the environment. These cultural differences manifested through unique resource management and adaptation strategies reflect what Leff describes as "value pluralism", implying that different cultures place distinct values, meanings and symbols on the same territory, resources, and forests (Alimonda 2011).

Based on the recognition of value pluralism, Political Ecology began to incorporate social movements into the analysis of the relationship between society and nature. Social movements, in particular Ecological Feminism, "advance a unique approach to biodiversity conservation and appropriation. This approach is couched in terms of cultural difference, territorial defense, and some measure of social and political autonomy" (Escobar 1998, 54). The subjugation and marginalization of social groups diminishes the social and political autonomy of those groups; the distinct relationship, a product of their cultural history, those groups have with their surroundings affects the way those groups make decisions regarding resource management. As a result, social movements can and will emerge in defense of threatened resources needed for the

subsistence and survival of those groups (Escobar 1998; Biersack 2011). Thus the emergence of Ecological Feminism demonstrates how rural, marginalized women may react to environmental problems by developing unique, localized resource management strategies that encourage conservation and the sustainable use of natural resources.

In conclusion, the consideration of all the different elements of Political Ecology mentioned above is critical in understanding the relationship between culture, the environment and society. As Lipietz states:

> Human beings product and reproduce their subsistence collectively, which necessarily implies that their relationship with the natural environment is always mediated by social relations of domination and consensus. Decisions related to what to produce, how to organize work processes, how to distribute the surplus and for what purposes are necessary when referring to situations of domination and consensus (Alimonda 2011, 41) [4].

Thus, Politic Ecology has a clear direct and indirect influence on rationalizing decision-making relating to resource management strategies in distinct cultures and socioeconomic situations. Analyzing these concepts in the case studies involved in this thesis is critical to understanding the influence of distinct social groups on resource management and economic decision-making.

### 1.2.The Economics of Analytical Marxism

According to classic Marxist economics, capitalism is an economic system based on interclass conflict and private ownership of the means of production (Roemer 1989). One consequence of capitalism, according to David Harvey (2012), is accumulation by dispossession, which involves privatizing public land and wealth, thereby concentrating them resources in the hands of the few who prioritize their own private gain. Furthermore, O'Connor (1994) cites the accumulation of capital and so-called

[4] Translated by the author. Source reads, "Los humanos producen y reproducen su subsistencia colectivamente, lo que implica necesariamente en que su relación con el medio natural es siempre mediado por relaciones sociales de dominación y de consenso. Son necesarios decisiones en relación a qué producir, cómo organizar los procesos de trabajo, cómo distribuir el excedente y a qué fines destinarlo, que necesariamente refieren a situaciones de dominación y consenso" (Alimonda 2011, 41).

"conservation" strategies dictated by capitalism as key factors driving competition, often leading to political and military struggles seeking control over resources. Bunker describes these processes in the Amazon Basin, relating uneven economic power structures to the impoverishment of local communities and depletion of natural resources, claiming that "local dominant classes' responses to world market opportunities ultimately impoverished the resource base on which their own wealth and profits depended" (1985, 238).

According to Bunker, energy flows and control over energy processes are essential to understanding the relationship between ecosystems as well as social and economic formations in a region. Bunker defines the connection between local communities and the environment:

> If social organization is adaptation to the relevant total environment, and if power is achieved through control over the environments of others […], social organization and social power are both reduced as the environment itself is impoverished. The reduction of social organization reduces the effective use of social power (Bunker 1985, 248).

In the Amazon, the sequence of extractive economies and uneven modes of production has depleted the natural environment and prevented the development of social organization, leading to the impoverishment of local communities and the environment (Bunker 1985).

While classical Marxist economics defines economic value in terms of labor power, Roemer defines value in terms of commodity inputs, thus shifting exploitation and class from the sphere of production to that of market exchange (1988). Furthermore, Roemer asserts that exploitation, defined by Marx as "to make use of a resource" (as opposed to the more common definition of "to take unfair advantage of a resource"), is not always immoral, thereby providing the justification for natural resource and labor exploitation central to capitalism (Roemer 1989).

O'Connor (1994) and Escobar (1995), on the other hand, discuss the negative ecological and social implications of capitalist development, explaining that integrated rural and

sustainable development, integral to modern development theory, resulted in the commercialization and subjugation of peasants, women and nature, making them essentially invisible. By bringing them into the global capitalist economy, Escobar claims, peasants are now considered "backwards" and "irrational"; women are marginalized from the production process, diminishing their economic position and relationship to men; and nature has been redefined as mere stocks of capital, allowing nature to be manipulated and exploited in the name of development.

According to Karl Polanyi, the "Market Society" can be described as the single human invention of the modern market economy together with the modern nation-state, marking a significant transformation in economic rationale (1992). Prior to the Market Society, individuals based economic decisions on reciprocity and redistribution, focusing primarily on production for household use and consumption. In modern Market Society, however, individuals focus on maximizing production, orienting activities towards the global capitalist market (Polanyi 1992).

Roemer employs rational choice and game theory to justify how individuals make economic decisions to maximize their profits in a commodity market, making decisions to maximize personal gain and exploiting resources before they are exploited by other actors (Roemer 1988; 1989). When incorporated into economic theory, these theories explain the exploitation of resources, illuminating the rationale in decision-making and economic models seen in agricultural expansion.

Considering the importance of the relationship between nature and women, the theory of the colonization of nature is fundamental, as described by O'Connor (1994), Escobar (1995), and Alimonda (2011) in which the commodification of nature is the result of internalizing natural resources into the capitalist market economy. Alimonda states, "cultural distribution conflicts have been created when the capitalist model of nature takes cultural precedence […], geared not only towards a single 'product' but towards the accumulation of capital" (2011, 75).[5] Similarly, Escobar explains, "as [resources]

[5] Translated by the author. Source reads: "los conflictos de distribución cultural han sido creados, cuando se privilegia culturalmente el modelo capitalista de la naturaleza […], enfocado no sólo hacia un único 'producto' y hacia la acumulación de capital" (Alimonda 2011, 75).

are being incorporated into the world capitalist economy, even the most remote communities in the Third World are torn apart from their local context and redefined as 'resources'" (1995, 194). Commodification devalues and justifies the exploitation of resources. The result, asserts O'Connor (1994), is the view of nature as something to be claimed or bought for little to no cost by international entities at the expense of local communities.

In addition, Alimonda claims that power, a result of differing culture systems and values, is the primary factor that drives distributive-ecological conflicts (2011). Bunker similarly describes how power over energy flows, by means of extraction processes, affects social relationships and social organization (1985). Therefore, understanding the commodification of nature and its influences on the power structure has important implications for analyzing the role of women in resource management decisions and their relative power within a given community.

As a considerable amount of research has shown, the degradation of the soils, underdevelopment and unequal relationships of power have forced local communities to make some difficult economic decisions. Unfortunately, as described in Blaikie and Brookfield (1987), Whitten, et al. (1989), Bedoya (1995), and several articles in the book, *Lands at Risk in the Third World: Local-Level Perspectives* (1987) by Peter D. Little and Michael M. Horowitz, many poor, rural families like those along the agricultural frontier in the Amazon region have few other choices other than to continue unsustainable agricultural practices.

Although many try to blame these farmers for unsustainable agriculture and deforestation, their logic is rationale when taking into account these families' economic situations. In some cases, increasing the yield of agricultural activities is the only way to secure a land title (Whitten et al. 1989); in others, a family with more children chooses more labor-intensive activities (which are often not land intensive) because they do not have the money to invest in more land-intensive technologies (Bedoya 1995); and for some families, their daily situation is just very risky, as their land claims may not be secure, they may need income quickly to feed their family, or they may be indebted due

to bank or private loans used to by cattle or new technologies, forcing them to prioritize activities with faster, more profitable yields just to be able to survive until tomorrow (Whitten et al. 1989; Bedoya 1995). Thus, it is essential to consider that each society has its own unique socioeconomic structure and sets of values, which may or may not incorporate different aspects of Marx's economics in distinct ways.

### 1.3.Anthropology and the New Cultural Ecology

In this research, the overarching theories of Anthropology with an emphasis on more recent studies in the New Cultural Ecology.[6] Tim Ingold (2000) differentiates anthropology from other fields because its purpose "is not to judge the truth of the proposition but to understand what it means, given the context in which it is advanced" (14), which thus implies considering that the everything, not just human beings, have agency and intentionality. Based on this idea, anthropology is a study of the system of "discursive worlds of culturally constructed significance" in which human beings live, or the observation of a cosmology, the relation between these different worlds of culture (Ingold 2000, 14). The result of these different cultures and cosmologies is what is known as "perceptual relativism", or the idea "that people form different cultural backgrounds perceive reality in different ways since they process the same data of experience in terms of alternative frameworks of belief or representational schemata" (Ingold 2000, 15). , no two communities have the same point of view, belief system, economy, lifestyle or culture as no two communities have the same history, experiences, cultural backgrounds, and so on. Perceptual relativism, thus, explains how the situation of women in a Kichwa community and that of women in a colonist community may be quite different despite having similar physical surroundings and depending on the same ecosystems.

In addition, Descola and Pálsson (2001) challenge the traditional perceptions of the dichotomous relationship between nature and society in anthropology, which often oversimplifies the role of nature as static and the relationship between nature and

[6] On the one hand, Cultural Ecology explores the cultural relevance of the relationship between nature and society, in other words the mutual impact between culture and Political Ecology, and the adaption of a given culture to its surroundings. The *New* Cultural Ecology, on the other hand, takes the relationship between nature and society a step further by proposing mutually dependent processes of formation, influence and adaptation between the material, the ideological and the cultural.

society as two distinct forces, black and white. Instead, they claim that there is no clear distinction between culture and nature, and that what is often believed to be human domination over nature is merely one form of conceptualizing the relationship between humans and non-humans, which, in this case, would be the social objectification of nature. Thus, this is not the only relationship between nature and culture, nor is it the only conceptualization of nature. Descola and Pálsson (2001) also state that these conceptualizations are the products of unique cultural history and factors, which manifest themselves in the form of rituals, symbols, language, and other forms of cultural expression. This complex relationship between nature and culture can be observed through such cultural expressions, making it possible to better understand a culture's greater conceptualization of nature and cosmology.

Marvin Harvis and Lesley White (Descola and Pálsson 2001) further challenge these traditional concepts by proposing that there is a more intricate and less black and white relationship between nature and society. They claim that cultures are constantly evolving in response to the environment, and that societies in turn are altering nature. There is a constant process of mutual evolution as cultures adapt to nature, which in turn is adapting to changes in the culture. Furthermore, based on Perceptual Relativism, each culture has a distinct strategy to adapt to the environment, therefore different cultures adapt differently to a given environment (Descola and Pálsson 2001).

Considering the complex, continuous process of mutual adaptation between cultures and nature, it is therefore essential to understand that one culture's adaptation strategy to the environment may subsequently cause changes in the environment that will force other cultures relying on the same environment to adapt to those environmental changes. This interrelationship between the environment and different cultures in a similar area may demonstrate how a colonist's strategies to adapt to conditions in the Amazon may alter the local environment, which may then force other colonist and indigenous communities to adapt to those changes in the environmental. Furthermore, understanding that each of these communities has a distinct cosmology, socioeconomic situation and relationship with nature can aid in analyzing how and why each community chooses a given strategy to adapt to environmental changes as well as the mutually effected transformations on

both society and the environment that result from those adaptation strategies. These complexities and evolving relationships is key to understanding that communities in the Amazon cannot be generalized based on culture, ethnicity, location, etcetera in their impact on deforestation, as well as the importance of analyzing each community's situation individually when tackling local deforestation problems (Lu et al. 2010; Lu et al. 2012; Bedoya 1995; Rudel et al. 2002; Rudel and Horowitz 1996).

### 1.4.Ecofeminism and Gender Analysis

Ecofeminist, also known as Feminist Political Ecology, emerged in the 1980s as a segment of the feminist movement questioning traditional, "masculine" history and ideologies. This particular brand of feminism challenges the ages old ideas of progress and development, often symbolized by the Enlightenment notion of man's control and domination over nature (Shiva 1988; Mies and Shiva 2010). Feminist Political Ecology theory contends that this idea of progress and development also applies to man's control and domination over women as a consequence of the spread of the enlightenment and the "western industrial man". The result of this male-dominated view, which argues that only paid labor is considered "productive" work, thereby ignoring man's relationship with nature and devaluing the "non-productive" work taking place at home, which is primarily the responsibility of women (Shiva 1988; Mies and Shiva 2010). According to Shiva (1998), the crises, both economic and related to natural resources, seen today are a direct result of the devaluation and subjugation of nature and women.

As a result, Feminist Political Ecology advocates a drastic paradigm shift, which must, undoubtedly, be led by women. Shiva asserts:

> Recovering the feminine principle as respect for life in nature and society appears to be the only way forward, for men as well as women, in the North as well as the South. […] Women's struggles for survival through the protection of nature are redefining the meaning of basic categories. They are challenging the central belief of the dominant world-view that nature and women are worthless and waste, that they are obstacles to Progress and must be sacrificed (Shiva 1988, 213-214).

Furthermore, Shiva (1988) describes the new paradigm as a redefinition of two concepts traditionally dominated by men: knowledge and the production of intellectual value, as well as wealth and economic value. As women often prioritize survival and subsistence first, they place a greater value, both economically and intellectually, on protecting the environment and natural resources (Shiva 1988; Mies and Shiva 2010).

Therefore, based on Feminist Political Ecological theory, the historical exclusion of women from the social and economic sphere has led to the degradation of the environment and economic crises. In order to reverse the effects of this degradation and exclusion, it is essential to include women into the discussion, thereby providing a voice sympathetic to the condition of nature that will prioritize its protection in search of survival and sustenance.

Feldstein and Poats (1989) develop a framework for gender analysis in agriculture, citing the critical role women play in agricultural production, noting that their access to resources and technology are often constrained by gender barriers. Consequently, gender analysis, the "examination of cross-culturally variable social roles of men and women" (Feldstein and Poats 1989, 3) is fundamental for a comprehensive understanding of and improving social structures that may negatively affect agricultural processes and sustainable resource management. Similarly, Schmink (2004), Rocheleau et al. (2004a), and Collins (1992) all emphasize the need to recognize the role of women in production and resource management, claiming that women face distinct conditions that create vulnerability to environmental degradation for some and a more harmonious relationship with the environment for others. For this reason, women are key actors in conservation and sustainability initiatives at the local level. Moreover, the role gender analysis plays in agriculture and conservation needs to be central to research related to deforestation, as this thesis aims to do.

Similarly, Escobar (1998) also indicates that there are varying definitions and relationships with territory that are the product of unique cultural models and experiences. As with the relationship between nature and society, the relationship between territory and society is complex and differs for each culture and can even differ

between particular social groups. One community may consider territory to be based on ancestral lands and resources needed for subsistence, while another may define its territory as the source of its economic means of production and accumulation. Women in one community, however, may consider territory to be defined by space and resources needed for subsistence, while men in the same community may be more focused on means of production and economic development (Escobar 1998).

With these varying views on territory in mind, the relationship Haesbaert (2013) defines between territory and relationships of power becomes essential. Haesbaert argues that control over and access to territory and processes of deterritorialization are fundamentally determined by political and social control. The working definition of territory in a given context will be that of the community or group with political and social control over the area in question. This power play over territory can be seen in an analysis of gender control over territory and land in Latin America and, more specifically, in Ecuador.

Furthermore, the discussion of territory and place in a more local context is critical in keeping women in the analysis. Understanding that national and global events have local impacts that are manifested through observations of place-making and daily routines (Dyck 2005). By analyzing how local household and care structure change, it becomes evident that national and global trends such as globalization and economic policies alter family and community dynamics through migration, technology and new spatial relationships. While broader analyses at regional or national levels have been most commonly used in understanding gender and cultural trends, focusing on the household as the primary unit of analysis needs to be central in these types of analyses. Not only do they demonstrate how large political, economic and social changes impact people at home, but they also bring in women as key influential actors when they would otherwise be ignored or generalized (Dyck 2005). This importance of household analysis highlights the significance of the methodologies used in this thesis.

The complexity of the interrelating and interdependent theoretical components laid out in this chapter, from Political Ecology and Analytical Marxism to the New Cultural

Ecology and Ecofeminism and Gender Analysis, signals the complex systems and components that are analyzed throughout this research. With this theoretical foundational in place, the in-depth analysis of the intersection and overlapping of these interdisciplinary concepts can be examined in order to understand the role of women in resource management, forest conservation, and sustainable agricultural practices.

### 1.5.Research Methodology

The research methodology and techniques utilized in this thesis project were primarily qualitative, with a variety of different interactive activities carried out with distinct family and community members, both male and female and of varying age groups and life cycles. These activities were designed to directly and indirectly provide information and opportunities for participant and non-participant observation of relationships of individuals, family members and community members with one another as well as with the environment and forest resources. As a result, this study was able to examine the relationships of power and gender dynamics in certain family and community activities related to natural resource management and decision-making processes. The majority of the analysis for this research resulted from fieldwork completed in the universe of study, centered on two Kichwa communities, Shiripuno and Ilayaku Sardinas, and the colonist community of Pununo, all located within the parish of Puerto Misahuallí, canton of Tena, Province of Napo in the Northeast Amazon region of Ecuador.

Furthermore, this research focused on two primary units of analysis. First, the family unit, referring to the male and/or female heads-of-household, their children, and any other family members residing within the same house, was key to analyzing the dynamics between family members, particularly between female and male family members, and understanding how decisions are made and resources distributed within a family. As Isabel Dyck (2005) explains, the family unit is the basic unit of analysis to evaluate how national and international events impact society at the local level and, more importantly, how they impact women.

The second unit of critical analysis is the community, or the lack thereof, which is made up of individual families that depend on one another for regular social, political and

cultural needs. In the case studies, two Kichwa communities have a strong community system, often tied together by cultural and familial relationships, while the colonist community lacks a significant political or social community relationship due to disinterest, distrust and disorganization. Wherever possible, the community level of analysis involved discussions with the (male and female) leadership of the community as well as observations of the daily interactions between men and women across the community as a whole, emphasizing the process of making decisions, working together, and distributing resources among community members.

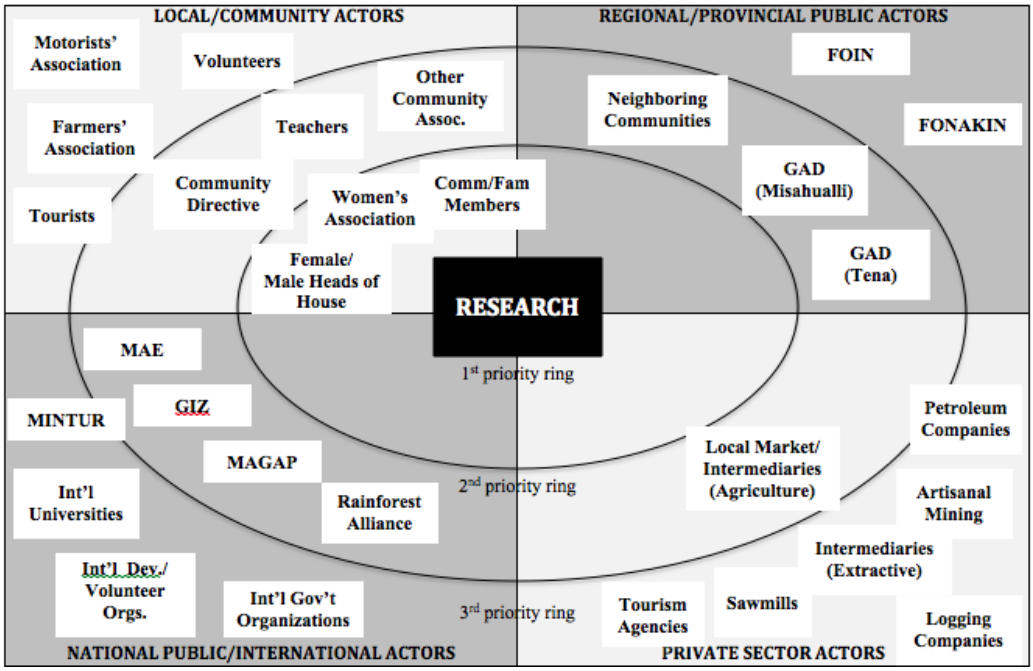
The particular time period that this research focused on was the period from 2000 to 2015. The most comprehensive reports on deforestation rates in the Province of Napo (and in the Amazon in general) focus on two primary time periods in analyzing changing deforestation rates in the region: 1990 to 2000 and 2000 to 2008. Given that the data from the latter timer period indicate consistently growing trends of deforestation in Napo, it is fundamental that events taking place in the region that spurred these changes be analyzed (Sierra 2013; Mejia and Pacheco 2013; Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012). In addition, the period from 2008 to 2015, representing the current government's administration, covers the most critical political changes regarding forest management and programs to conserve forests and combat global warming, making it an essential period to evaluate local impacts of regional and national environmental and forest policies. Although these policies have little to no impact at the level and in the area studied in this thesis, such framework is laid out for contextualization purposes an to aid in application to other possible investigations. Furthermore, since analyzing the relationship between the global and the local is more often becoming the greater focus in finding realistic solutions to global problems (Dyck 2005), mapping out these changes from 2000 to today (2015) will enable an analysis of possible future projections of the impacts of local resource management strategies on deforestation rates and vice-versa.

The research techniques completed during the field research involved a number of formal and informal interviews, interactive activities and, especially, participant and non-participant observation that allowed me to analyze relationships between distinct

family and community members. Given my emphasis on female participation and gender roles throughout this thesis, the latter technique proved particularly important during the interactive activities and overall interaction within the communities and families, at times even more informative than the products of the activities themselves.

To understand the actors involved in the field research, Figure 1.4 illustrates how different actors in the study area were involved and how closely their involvement with the research carried out in the region was incorporated into the analysis of that fieldwork. The actors were categorized according to the type of actor (Local and Community Actors, Regional and Provincial Public Actors, National Public and International Actors, or Private Actors), then positioned on the map based on the how high of a priority (1st, 2nd or 3rd priority) each actor was in their involvement in the techniques employed in this research methodology.

Figure 1.4. Map of Actors for the Universe of the Study Defined in the Research




Source: Prepared by author.

Based on this exercise, it became clear that the most important actors involved in the research carried out for this thesis were all local/community actors: Female and Male Heads of Households, the local Women's Association, and Family and Community

Members (including both men and women, of varying age groups). These actors were actively involved in the research techniques carried out in the area, including formal and informal interviews, focus groups, community walk-throughs, and other participatory activities. In the second priority ring were local, provincial and national government entities as well as other local-level associations, indicating that they were less involved in the research though still included in a significant way in the form of interviews. It is interesting to note, though perhaps not surprising, that nearly all of the private sector as well as indigenous organizations were all in the third priority level, primarily because they have very limited impact on the family and community dynamics being studied in the region.

This analysis of actors and how they were involved into the research methodology assisted in visualizing which types of actor had the most influence on the variables and subvariables analyzed in this thesis, as well as understanding the source of interpretations and observations that resulted from my field work. Overall, community- and family-level actors were the main actors involved, with the public sector, especially the regional offices of government ministries and the local parish governments, providing valuable background information and experience about the study area. To better understand the components involved in this analysis, the next section describes the components in accordance with which the research was analyzed.

Table 1.1 shows a summary of the different variables and subvariables used in this research methodology. This exercise aided in creating and organizing the research materials to ensure that these resources were utilized as efficiently as possible in regards to the defined variables and subvariables. The following subsections describe these variables and their subvariable as well as the techniques and actors involved in each.

Table 1.1 Research Variables and Subvariables

| Variable | Description | Subvariables | Techniques Used | Actors Involved |
|---|---|---|---|---|
| *I. Territory, Territoriality and Territorialization* | Different meanings and relationships with territory that both men and women have in Kichwa and colonist communities | Perceptions and representations of territory; Links of affectivity and identity constructed in relation to territory; Mechanisms of | In-depth/open interviews, social mapping, focus group, drawings with family groups, non-participant | Kichwa and colonist family groups (men/women of different ages), Women's Association, |

| | | | | |
|---|---|---|---|---|
| | | territorial control; Types of relationship with the territory | observation, 24-hour routine, seasonal calendar | male/female community leaders |
| *II. Social and Political Organization* | Institutional structure and mechanisms of organization and participation at different levels, with a focus on the participation of women; analysis of gender roles in relationship to political and social power in Kichwa and colonist communities | Structure of the home/family; Community structure; Intra- and Intercommunity Associations; Extra-community relations | In-depth/open interview, participant and non-participant observation, map of actors, focus group, gender roles | Community directive; female/male leaders and members of the community; tourism companies; national, local and provincial government officials; internal and external local associations; leaders and members of local associations |
| *III. Perceptions and Relationship with Nature* | Differences in values and relationships that women have with nature versus those that men have with nature, emphasizing the differences between Kichwa and colonist communities | Local perceptions of environment services; Cosmologies of relationship with the environment; Uses and practices related to the forest ecosystems | Drawings with family groups, mapping of territory, non-participant observation, 24-hour routine, seasonal calendar, semi-structured/open interviews | Teachers, community members and family groups (men/women, different ages) |
| *IV. Conflicts over the Access, Management and Control of Forest Resources* | Types of existing conflicts related to access, management and control of forest resources and how these conflicts are generally managed, as well as the role of gender in the incidence and resolution of these conflicts | Intracommunity conflicts; Conflicts between Kichwa-colonist communities; Conflicts with external actors | In-depth/open interviews, focus group, participant and non-participant observation, community timeline, social mapping, gender roles | Community members and leaders (men/ women), family groups (men/ women), leaders of local associations (men/women); Officials from national/regional government institutions |
| *V. Deforestation* | Analysis of the relationship between the attitudes of local people and local economic activities in regards to deforestation rates | Relationship with wood traders, intermediaries or companies; Local attitudes; Deforestation rates; Local activities that affect deforestation | Document review, In-depth/semi-structured interviews, focus groups, non-participant observation | Community directive; local, regional and national government officials; members of local associations; community members (kichwa/colonist, men/women); family groups (men/women, different ages) |
| *VI. Access, Management and Control over Forest Resources* | How men and women relate to forest resources and participate in forest resource management at different levels. The degree to which men and women are each able to use or make decisions regarding forest resources | Access to forest resources; Management of forest resources; Control of forest resources; Decision-making processes/mechanism; Land ownership in relation to the management | Semi-structured/open interviews, social mapping, 24-hour routine, non-participant observation, 3 drawings (past, present, future), focus group, gender roles | Community members (different ages, men/women, elders); family groups (different ages, men/women); community directive |
| *VII. Local economy* | Analysis of local and household economic activities to rationalize economic choices and to understand how the local | Composition and division of economic activities; Decision-making processes; | Open/semi-structured interviews, gender roles, participant and non-participant | Community directive; community members (men/women), directors of local associations; |

| | | | | |
|---|---|---|---|---|
| | economic situation and economic choices may or may not impact local deforestation trends | Relationship with the exterior market | observation, socioeconomic household data, seasonal calendar, focus group, timeline | local, regional, national government officials; family groups (men/women) |

Source: Prepared by author.

### 1.6.Research Techniques Used for Data Collection

In order to complete the research methodology needed for this thesis project, a variety of research techniques were required in order to collect, for the most part, qualitative data from varying groups of actors. Below are brief descriptions of the main research techniques implemented during the fieldwork for this thesis.

A combination of informal and formal interviews were done with a variety of actors. Informal interviews were used most often with the Kichwa community of Ilayaku Sardinas and with colonist families in Pununo because I spent the least amount of time in those communities and thus did not have the time to reach a level of familiarity or trust with them, as was also the case with some community members in Shiripuno with whom I did not spend a lot of time or who were especially shy around recorders. More formal interviews, often recorded, were generally done with officials from different government officials, organizations and community and association leaders who were more comfortable speaking in a more formal format.

In addition, semi-structured and open interview questions were the primary type of questions used. Open questions were most commonly used in the beginning of my interaction with a community or family in order to be flexible in orienting myself to a particular situation, to allow the subject to feel comfortable enough to share a larger amount of information (and to avoid him or her feeling uncomfortable or disaffected with more direct questions about something he or she does not know about), and also enabling the conversation to flow and to continue building a relationship of familiarity with the subject. I also ended up using an open interview style with interviews with individuals or groups with whom I was previously unfamiliar, in which cases it was difficult to properly orient more structured questions. Semi-structured questions were useful to obtain specific information from local leaders and government offices, who were often more knowledgeable about socioeconomic and environmental topics in the

region. A full list of interviews completed during my fieldwork can be found in Appendix 3.

Another important technique was focus groups, which allowed for a creative way to incorporate a variety of mixed activities and data collection at a single time into a single event, with the purpose of subtly observing the interactions between the group's participants. During my fieldwork, I was successfully able to complete two focus groups in the community of Shiripuno. Unfortunately, the lack of a community structure, busy schedules and long distances between families made it difficult to organize complementary focus groups with the families in Pununo. The first focus group in Shiripuno was with both male and female members of the community, with four male participants (two in their thirties and two in their forties; the two older men were the head of the community's primary school and the President of the community) and four female participants (one in her twenties, two in their thirties and one in her seventies; the youngest woman is a new member of the AMUKISHMI[7] Women's Association, the next two youngest women were the current and former Presidents of AMUKISHMI, and the older woman was the mother of the community's "founding family"). The activities completed in this focus group included the community timeline, semi-structured interview questions, dialogue with photos and drawings of the community in the past, present and future.

The community timeline completed in the focus group, as well as with the colonist family units, is a valuable technique to create discussion and observe interaction between community and family members in organizing the past. The timeline technique asked the group to define the significant events in the history of their community and/or family and to describe the condition of "family", "forest", "water", etcetera during each of those events, thus seeing the transformation of those categories over time. In addition to observing interaction during this activity, this technique was also useful in identifying the events the community and family unit believe to be most important for them, as well as how they view the changes in the specified categories over time.

[7] AMUKISHMI stands for *Asociación de Mujeres Kichwas de Shiripuno-Misahuallí,* or the Association for Kichwa Women of Shiripuno-Misahuallí.

The dialogue with photos, used in both the focus group is an interesting exercise in analyzing different perceptions and reactions to different images, inciting discussion about certain topics in a simplified visual format. Figure 1.5 exhibits the photos used during my fieldwork for dialogue with photos, which represent a variety of social, economic and environmental situations.

Figure 1.5. Photos Used in "Dialogue with Photos" to Provoke Discussions and Ideas within Focus Groups and Family Groups

Source: Created by author. Photos found in public domain using www.google.com.

The drawings of the past, present and future of the community were used both in the first focus group in Shiripuno mentioned above, in the general activities with Ilayaku Sardinas, and in colonist family groups. This activity is useful to observe different perceptions of the community over time and attitude towards the future, comparing men and women as well as different age groups.

The second focus group completed in Shiripuno took place with the participation of four women of the AMUKISHMI Women's Association, two young women (30 years and

under) and two older women (40 years and older). During this focus group, the participants did an ice breaker in which each woman drew four pictures with which she identified to present to the group; then, in pairs, the women completed the diachronic drawings, emphasizing the forest, *chakra*, water, and forest resources; and finally, as a group, the women completed the inventory of forest resources, the map of actors, social mapping, and open questions and discussion. As most of these activities are also completed in colonist family groups and in the general meeting in Ilayaku Sardinas, these are discussed further in Chapters III and IV.

Social mapping involves asking small groups to draw a map of their farms or community as an opportunity for participants to reflect on how they view their farm or community and to analyze the different spaces within that territory. The women of AMUKISHMI were asked to complete a map of their community during the focus group, and some colonist family groups were similarly asked to draw a map of their farm, marking the different economic uses and marking with a red "X" if there were any problems or dangers in their farm. The diverse groups of only men, only women and mixed groups of men and women of Ilayaku Sardinas were also asked to draw a map of their community, marking with an "H" (*hombre*) where the men work and "M" (*mujer*) where women work. They were also asked to mark with a red or orange "X" areas with problems or dangers within the community.

The diachronic drawings presented to the AMUKISHMI focus group in Shiripuno and colonist family groups were divided into a range of socioeconomic and environmental categories, including "family", "community", "farm", "animals", "plants", "forest resources", and "forest". The groups were then asked to draw how these categories have changed from the past to the present as well as how they believe they will change in the future. This technique encouraged the subjects to think about how these aspects of their lives have changed over time and how they continue changing over time. It also revealed the type of relationship the subjects had with plants, animals, and resources by analyzing what they included in each category (for example, domesticated farm animals versus wild animals).

The map of actors was completed in the AMUKISHMI focus group and some colonist family groups. The groups were asked to write down different actors that have some type of relationship with the community or farm, on different colored papers (coded to indicate public, private, etcetera), and then to place each actor on the map in accordance with their relationship to the community or farm. Actors with a strong relationship are placed close to the name of the community or farm in the center, while weaker relationships are shown by placing the actor farther from the center. In many cases, in addition to being another opportunity to observe interaction between participants, this technique revealed the degree of support each family or community receives from external actors.

The inventory of resources, which can be seen in Figure 1.6, was completed with the focus group with the women of AMUKISHMI as an exercise of analyzing the importance and availability of forest resources as well as encouraging the women to reflect on the biodiversity in their territory. The women were asked to list all types of medicinal plants, all animals, all trees, and all other resources found in their territory, which they then marked with green if they are important for the community or their families and with red if they are now rare in the area.

Figure 1.6. Inventory of Biodiversity, Focus Group with AMUKISHMI Women's Association, Kichwa Community of Shiripuno


Source: Focus Group, AMUKISHMI Women's Association, Shiripuno.

A number of other techniques were used to understand the dynamics and lifestyle of Kichwa and colonist men and women in the study area. In order to be able quantifiably compare the socioeconomic conditions of different family units, socioeconomic and demographic household data was collected was completed with male and/or female heads of household in Shiripuno and Pununo, though time did not permit this data to be collected in Ilayaku Shiripunos. The data collected for each household included the members of the household, their ages, place of birth, level of education, marital status, and occupation, as well as all sources of income and household expenditures. Along with this data, the heads of household were also asked a short list of complementary questions regarding decision-making, equality in household spending and percentage of food originating from household agriculture. The information collected through this data collection process was essential to analyze each household's economic and food security, its dependence on agriculture and forestry resources, and its spending habits and decision-making process. Furthermore, this data was used to compare households of different age groups within the same community, as well as to contrast households in colonist and Kichwa households in the same region.

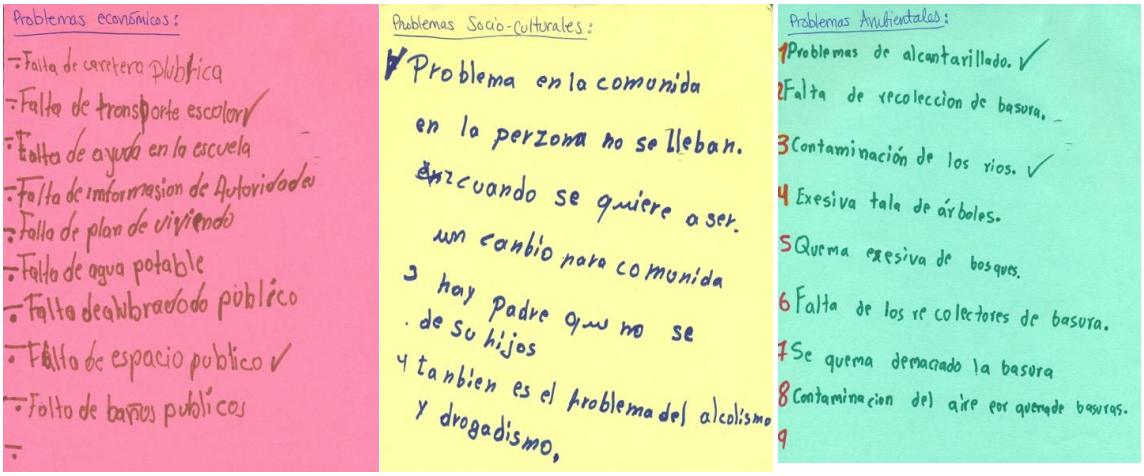
In order to compare differing roles based on gender, culture and age groups, I used three important tools that were completed in all three case studies. The first tool is the diagnosis of gender roles, which describes the responsibilities of each family member in regards to productive activities, reproductive activities, teaching and transmission of knowledge, and social/community activities (see Appendix 2 for a summary of these gender roles, contrasting Kichwa and colonist cultures). The second critical tool was the 24-hour routine, which lays out the daily activities of each family member. The third technique was the seasonal calendar, which describes the time periods different natural resources are used by a community or family throughout the year. For agriculture, the calendar involves the different activities done throughout the year, such as clearing land, planting, and harvesting. Other resources, such as seeds and medicinal plants, are also included in showing when they can be collected throughout the year, and community tourism, which relies on the existence of natural resources and thus has a greater impact on the environment during specific months of high tourism. This activity revealed the

types of resources used by each community or family group, thereby describing their relationship with the environment, as well as the pressure the community or group places on natural and forest resources. These three tools will be analyzed in greater detail in Chapter IV.

In both Kichwa communities, I was accompanied by one or two community members in a walk around the community with a discussion of the sites the community members believed to be most important in the community, such as the school and the community water tank. This activity served as a quick introduction to the community and also led to a deeper discussion of distinct social and environmental problems within the community as well as a subtle conversation about the community's perception and relationship with its territory.

The prioritization of problems, as seen in Figure 1.7, was used with family units to encourage family members to brainstorm social, economic and environmental problems in their community or farm, and then to mark which of those problems most affect their family or community. Although this technique was not originally included in my methodology prior to my field research, I added it when I realized that many community and family members were overwhelmingly focused on social and (especially) economic problems, while ignoring environmental problems. This exercise was meant to increase awareness and encourage reflection on environmental problems, as well as to start a discussion about how they influence social and economic problems.

Figure 1.7. Prioritization of Problems, Colonist Family Group, Pununo




Source: Family Group with Colonist Family Group #2, Pununo, 2015.

### 1.7.Fieldwork

Having described the techniques used during my fieldwork in the previous section, this section explains how the different techniques were incorporated into the fieldwork completed in the study area. After the preliminary research on the context of the study area and background information on the research topic were completed, the fieldwork in the study area described above was carried out over a period of about two and a half months.

As mentioned at the beginning of this chapter, the study area chosen for the fieldwork was selected because of my interest in the causes of increasing deforestation rates in the province. The area around Misahuallí is currently one of the “last frontiers” of the Amazon Rainforest and is located in the middle of the agricultural frontier. Furthermore, I chose the Province of Napo because of the province’s socioeconomic diversity, with growing ecotourism and agricultural activities, which provided a connection to previous studies on the relationship between agriculture and deforestation and the impact of salaried work outside of the home on a family’s agricultural activities and productivity (Bedoya 1995). In addition, the mixture of both indigenous and colonist communities that are still relatively dependent on agriculture made Napo, and in particular the region of Misahuallí, the ideal place to complete me fieldwork. The community of Shiripuno was chosen when a personal contact of mine working in ecotourism in the region suggested this community because of its strong, active

Women's Association and its proximity to colonist farms in the area. The Kichwa community of Ilayaku Sardinas was also suggested by this same contact as a more "isolated" community. The colonist families were selected through a snowball effect. My initial contact, by luck, was a family friend of the manager of the hostel where I was staying in Misahuallí, and from there, each family helped arrange visits with friends, families or neighbors in the same community.

After the initial phase of preliminary research and planning, I spent four weeks living with the Kichwa community of Shiripuno. During this time, I lived with the family of Janeth Rivadeneyra, the former President and a founding member of the AMUKISHMI Women's Association, and youngest daughter of María Grefa and Leo Rivadeneyra, the community's founding family. The first two weeks were primarily spent getting to know the community, the women and the activities of the Women's Association. Activities during this period involved informal interviews, the 24-hour routine and diagnosis of gender roles, community walk-through and, of course, non-participant observation. The second two weeks in Shiripuno were dedicated to organizing the focus groups, collecting socioeconomic and demographic data from various households, and completing more formal interviews. Unfortunately, due to overlapping holidays and tourist groups, only one focus group was scheduled with men and women from the community, in which we were only able to complete half of the planned activities, which included the community timeline and the dialogue with photos. The group decided to organize a second focus group to complete the rest of the activities, though this was continuously postponed.

Photo 1.1. Focus Group with Men and Women of Shiripuno

Source: Author's photo.

During this time, I was also able to review the minutes of community meetings and minutes of meetings of the Women's Association, as well as attend one of the monthly meetings of Women's Association. Although I was not able to obtain a copy of the statutes of the Women's Association and Community as no one was sure who had them, I was able to find out more about their components through interviews with former presidents. In exchange for the community's support in my research, I gave English classes in the community's school and occasionally assisted with translations for some tour groups, which provided valuable opportunities to interact with the children as well as learn about the areas surrounding Shiripuno.

After these four weeks in Shiripuno, I returned to Quito for three weeks to regroup before leaving for another six weeks in the study area. The first two weeks were spent finishing some activities with Shiripuno, visiting the Kichwa community of Ilayaku Sardinas, and completing interviews and gathering information in Tena. After taking the time to reorganize and reflect on my experience in Shiripuno, I had some information gaps to fill, so I returned to complete a few more interviews, the seasonal calendar and organize the focus group with women from the Women's Association. This focus group was completed successfully and included an ice breaker in which each participant drew four pictures with which she identified to present to the group; followed by the diachronic drawings looking at forest, *chakra*, water, and forest resources; the inventory of forest resources; the map of actors; social mapping; and open questions and discussion.

Furthermore, after reflecting on my observations in Shiripuno, I decided to visit Ilayaku Sardinas, a relatively "traditional" Kichwa community that relies heavily on ancestral agricultural practices, for comparison purposes. Although I could not get in touch with my original contact to organize a visit to the community, I visited the community on my own to see if they would accept my visit. After a short discussion with the community directive, they agreed to introduce me during their community meeting, following their *minga*, or community work day, and help me with my research.

Photo 1.2. Men and Women Working in a Group in Ilayaku Sardinas

Source: Author's photo.

Photo 1.3. Groups of Men and Groups of Women Working in Ilayaku Sardinas

Source: Author's photo.

The following day, at the community meeting, several groups of men and women worked on social mapping and the past, present and future drawings of their communities. While the groups were working on these activities, I was able to collect

information about the 24-routine for community members who chose not to participate in the activities. Following these activities, two (male) members of the community accompanied me to complete a community walk-through, while at the same time completing an informal, open interview about the community's history, beliefs, gender relations and agriculture.

During these same weeks, I was also conducting interviews in the regional offices of the Ministry of the Environment, the Ministry of Agriculture, the Ministry of Tourism, Rainforest Alliance and GIZ in Tena, the President of the parish of Misahuallí, as well as an informal interview resulting from a chance encounter with a talkative local who offered a lot of information regarding the region's history, changing Kichwa culture, and tourism and conservation in the region. I also had the opportunity to attend a diagnostic meeting in Misahuallí with the presidents of the local communities in preparation for updating the parish's Plan de Buen Vivir y Ordenamiento Territorial (Local Development and Territorial Management Plan).

The last four weeks of my fieldwork were dedicated to visiting colonist families in the town of Pununo. Although I was hoping to work with seven families, one was not interested and another, at the last minute, could not be contacted. In total, I visited five families of varying age groups (2 with women in their 20s, 2 with women in their 30s, and 1 with a woman in her 40s) and origins (4 with families from the Highlands and 1 with from the Coast) and economic activities (some with cattle, some with agriculture, one who was actually the caretaker of someone else's land).

Photo 1.4. Activities with Family Group

Source: Author's photo, Family #2.

I spent two days with each family, partially because of time restraints and also to not be a burden on each family's daily activities. The first day was spent participating in the woman's normal activities and learning about her family history, her family's economic activities, and her life in general. Later in the afternoon we generally completed the 24-hour routine, diagnosis of gender roles, and the seasonal calendar, followed by a discussion of the socioeconomic and demographic data of the household. The second day, I again participated in the normal activities and continued learning about the woman's family and her relationships with other women, with the indigenous communities, and with the environment. In the afternoon of the second day, hopefully with the participation of her husband and/or children as well, we completed the other activities, including map of the farm, diachronic drawings, dialogue with photos, timeline, prioritization of problems, map of actors, and the past, present and future drawings of the farm. I rotated between these activities so that each family unit would only have to complete two or three, but so that I still had at least two examples of each activity.

Although I originally had hoped to organize focus groups for the colonist families, some of the farms were located far from one another and the great responsibilities of many of the farms made it evident that it would be difficult and inconvenient to organize focus groups. Furthermore, although the women were open and welcoming, I had the impression that asking for more of their time and effort, such as a third day, would have been a bigger burden to them than help to me.

During my final weekend in Misahuallí, I made one more effort to organize the second part of the focus group with men and women in Shiripuno. Unfortunately, in the end, there was no formal invitation so there was not focus group. Nonetheless, I visited Shiripuno one last time and spoke individually with a man and a young woman, who agreed to complete the past, present and future drawings of the community and answer some open questions about their relationship with the environment and their views on deforestation in the region. These activities enabled me to compare a female and male perspective on the community and the environment. Because I did not have a group, the last focus group activity (the prioritization of problems) was not completed.

Overall, my fieldwork was successful and I was able to complete nearly everything I had initially planned, with the addition of several activities and the adaptation of others. The families and communities I visited were very open, welcoming, and supportive in working with me to complete my research.

## Chapter 2. Contextualization: A Growing Port City on the Amazon Frontier

In order to understand the problem of deforestation in the study area, it is important to analyze how the deforestation rates in the Northeast Ecuadorian Amazon are a problem that continues to grow at one of the fastest rates in the Amazon region. Furthermore, to understand the challenges that the region faces in combating deforestation and the obstacles that the local population faces in regards to resource management and socioeconomic alternatives, it is essential to first study the distinct economic, social and environmental characteristics of the region.

### 2.1. General Overview of the Ecuadorian Amazon and the Province of Napo: The New Extractive Frontier, Colonization and Socioeconomic Growth

Similar to most of the Amazon region in South America, prior to the 1960s the Ecuadorian Amazon was largely unpenetrated by the large majority of the national population. Before then, the region was home to a variety of vibrant indigenous communities, with primary groups being the Amazon Quichua, Cofán, Siona, Secoya, Huaorani and Záparo, who lived relatively isolated from the rest of the country's population up until around the middle of the nineteenth century (Whitten et al. 1989; Whitten 1976; Muratorio 1991). Whitten, et al. (1989) claim that the defining moment in the cultural history of this region was when the colonists (non-indigenous) people from the Western part of Ecuador began to move east into the tropical region. This moment of linguistic, ethnic and ideological convergence is what made the Ecuadorian Amazon what it is today: an area of conference unstably situated in the middle of the Andean and Amazonian ecologies, between a rigid stratified bureaucratic system and egalitarian social systems, between nationalist politics and indigenous ideologies (Whitten, et al. 1989). What is sure about this region is that these conflicting ideologies and cultures led to situations of violence, dependence and hostility between the Amazon's new and old populations who from then on were both fighting for the same resources and power (Whitten 1976; Whitten et al. 1989; Schmink and Wood 1992; Muratorio 1991).

There were two main factors that led to the "colonization" of the Ecuadorian Amazon by non-mestizos. The first was the discovery of commodities, in particular rubber, gold and oil. To facilitate extraction of these commodities, the government constructed roads into the Amazon, which simultaneously enabled inhabitants from the west to migrate east (Schmink and Wood 1992; Whitten et al. 1989). The second factor was growing problems with overpopulation in

the Andes and coastal regions of the country, which was leading to more severe problems of land scarcity. During this same period, Ecuador was transforming from an agrarian economy to a petroleum-based economy. Not only did this encourage the development of extractive activities in the Amazon, but it also meant that the government had more funds to be able to invest in new programs to resolve the country's population problems. Subsequently, the Ecuadorian government began to encourage "colonization" of the Amazon by selling land packages at extremely low prices so that landless farmers in overpopulated regions would migrate to the rainforest region (Evans et al. 2001; Perz 2002; Pichón and Bilsborrow 1999; Thapa et al. 1996; Schmink and Wood 1992; Whitten et al. 1989; Muratorio 1991).

As a result, the colonists were unfamiliar with common agriculture practices suitable for the Amazon region. As most were landless farmers, they had little money to invest in new technologies necessary to have a high enough crop yield, so many ended up living on plantations and becoming indebted to the plantation owners. For this reason, many of the colonists have been unable to leave the Amazon and have been trapped in a cycle of debt and poverty. The neighboring indigenous populations, meanwhile, were forced to adapt to the intrusions on their traditional lands and the imposition of a new way of life, new system of land and new power structure. During this period, the Ecuadorian government also began a campaign to promote nationalism, which included the "inclusion" of the indigenous populations of the Amazon into the nationalist project. This project, however, was actually a process of that forced the indigenous people into a culture, system and ideology that was not their own. The result, without question, has been decades of hostility between the colonists, the indigenous and the government. As Whitten (1976 cited in Whitten et al. 1989, 14) describes the situation:

> the demographic changes from the Sierra [Andes] to the lowlands led to a population driven by nationalizing zeal to confront the inhabitants of the tropical forest. This is a profoundly indigenous problem, […] when, recognizing their richness and adaptable character, the native cultures of the Orient [instead] contradicted the ideology driving the revolutionary force of nationalist consolidation (Whitten 1976 cited in Whitten et al. 1989, 14).[1]

[1] Translated by the author. Original source reads: "los cambios demográficos desde la Sierra a las tierras bajas, conducen a la población con afán nacionalizante a confrontarse con los habitantes de la floresta tropical. Este es un problemas profundamente indígena, […] cuando, reconociendo su riqueza y carácter adaptable, las culturas

The province of Napo, underwent a simultaneously similar yet distinct historical process in comparison with the rest of the Ecuadorian Amazon. The native culture of the region, the Napo Kichwa (also called "Quijos Quichua" [Whitten 1976] and "Napo Runa" [Uzendoski 2010]) were pushed from their ancestral lands following the arrival of missionaries, local government, and *mestizos* taking advantage of the extraction booms, particularly rubber, gold and oil, in Napo (Whitten 1976; Muratorio 1991). Tena-Archidona served as the Amazon capital for the Spanish crown, missionaries, and later the Ecuadorian government, thus there was a stronger presence of the crown and later the State in the region, establishing haciendas and *reducciones* to exploit, control and convert the native population, as well as greater contact with missionaries and Spaniards who brought numerous epidemics that diminished their population heavily. Furthermore, the Napo Kichwa were historically considered more resistant to being controlled than other indigenous groups. The most effective form of resistance, the Napo Kichwa found, was to slowly move their communities further into the rainforest, in territories recently abandoned by Huaorani indigenous groups similarly moved further in the Amazon to maintain their territory and autonomy (Whitten 1976; Muratorio 1991).

When the rubber and gold booms hit Napo in the late 1800s and early 1900s, the region had a different experience than other Amazon regions. First, Napo is farther from Peru, the primary transportation route for these goods, than many of the other provinces undergoing the extractive booms, such as Pastaza, so there were less competitors in Napo. Furthermore, the relatively stronger presence of the State during this period meant that there was less violence against indigenous laborers than in other regions, and the violence that was reported was often punished (Muratorio 1991). In addition, when the Shell Oil Company began to expand its exploration and exploitation activities into the Napo region, the company found that the Napo Kichwa proved to be essential to avoiding conflicts with the more violent Huaorani:

> [The Napo Kichwa] 'sold' their *strength* to carry loads, their deep *knowledge* of the forest, their hunting and fishing *skills*, their *courage* to travel through Huaorani lands, and particularly their *cunning* and *talent* in detecting Huaorani tactics, in order to avoid confrontation (Muratorio 1991, 170).

nativas del Oriente contradicen la ideología detrás de la fuerza revolucionaria de la consolidación nacionalista" (Whitten 1974, cited in Whitten et al. 1989, 14).

Subsequently, many Napo Kichwa worked for the Shell Oil Company, thus improving the "savage" image of the Napo Kichwa and introducing their communities to some of the material benefits of a capitalist, money-based economy as well as the idea of "rich" and "poor" families. For the Napo Kichwa, however, this exposure to the market economy did not necessarily result in the socioeconomic degradation and underdevelopment described by Escobar (1998) and other critics of capitalism. On the contrary, the Napo Kichwa saw the benefits of a free-market economy with wage labor, rather than indebted peonage that had long been the economic system in place in the Northern Amazon through haciendas. Consequently, many Napo Runa began to seek out money for labor and soon became a settled labor force in the latter part of the twentieth century that became conducive to agribusiness and industrial interests that soon began to expand in the region of Tena-Archidona (Muratorio 1991). The result was expanding cattle-raising and commercial crops in the region and thus a growing demand for greater regulation of land claims and titles, which ultimately resulting in the Napo Kichwa searching for new lands and thus pushing the agricultural and extractive fronteir further into the Amazon until it reached parish of Puerto Misahuallí.

### 2.1.1. Local Economy in the Province of Napo

Regarding the economic activities in the region, INEC (2010) reported the economically active population is calculated for people 10 years of age or older who are able to participate in economic activities. In Napo, the total population of women is 50,923, with a working-age population of 37,297 women. Of the total female population of working age, 16,657 women are economically active, while 20,640 women are economically inactive. About 8,000 of economically active women are self-employed; 3,250 work for the federal, provincial or local government; 1,800 are privately employed; and 1,000 participate in domestic work. Furthermore, economically active women most often work as agricultural and/or qualified workers and service workers (INEC 2010). Unfortunately, these numbers do not reflect the unpaid domestic work that women do in their homes and on their own agricultural lands.

The total male population of the province of Napo is 52,774, the working-age population is 38,700, and 24,700 men are economically active. Of the economically active men in the province, 10,375 are self-employed; 4,500 men work for the federal, provincial or local government; 4,300 are privately employed; and 2,500 work as day workers or farmworkers. The most common type of work for this economically active population is agricultural and skilled work (INEC 2010).

According to data collected by the Ministerio de Agricultura, Ganadería, Acuacultura y Pesca (Ministry of Agriculture, Livestock, Aquaculture and Fish, or MAGAP) for the Censo Agropecuario (Census of Agriculture/Livestock) of the province of Napo in 2012, the total number of workers is 13,741, 7,732 of which are men and 6,008 of which are women. Of these workers, 12,406 work on their own land, 371 of whom are paid (119 women and 252 men) and 12,035 of whom are unpaid (5,466 women and 6,569 men). Of the remaining workers, 749 work in agriculture on land owned by someone else (615 of whom are men and 134 of whom are women) and 1,413 work in the non-agricultural sector (856 of whom are men and 557 of whom are women) (MAGAP 2012).

In the canton of Tena, there are approximately 2,379 workers, 2,055 of whom are male and 324 are female, implying a drastic misrepresentation of female involvement in production and/or domestic activities. Most of these workers have only a primary education, and 1,916 of these workers indicate that their primary source of income is agriculture (MAGAP 2012). These numbers show that the vast majority of the people in Napo work in agriculture on their own lands, and that most of them are unpaid. The number of women working in each area is less than the number of men and the trends for women echo those for men; however, the domestic work that women do in their own home is not accounted for or paid, so the number of women unpaid and working on their own land should be significantly higher in this regard.

In addition, 70% of the credits and loans granted by the Banco Nacional de Fomento (the national bank of Ecuador) in this region were for agricultural purposes. Of this 70%, 55% of these credits and loans were for buying livestock, while 35% were for permanent crops, thereby implying an interest in expanding livestock and other agricultural activities in the region (Mejia and Pacheco 2013). These numbers also demonstrate the importance of agricultural activities in the region, and in particular the high dependence on agriculture in the canton of Tena.

The forestry sector in the Amazon region is most directly oriented towards the internal market of Ecuador, serving the market for furniture and other wood products in cities like Cuenca and Quito. This sector only contributes to 1% of the total GDP of Ecuador and only 1% of the country's total exports. The total GDP between 2007 and 2011 from agriculture, livestock and

forestry products was 9-9.5%, indicating that these products are generally for household or local consumption (Mejia and Pacheco 2013).

Furthermore, due to the limited productivity of the soil of the Amazon rainforest, the overall production of agriculture in Napo is relatively small. The most important permanent crops in the province include coffee, cacao and plantain, while the primary seasonal crops include rice, dried corn, and manioc. According to the 2012 Censo Agropecuario, approximately 1/3 of products representing local staples (banana, plantains, rice, and manioc) produced in the province were for household consumption while the remaining 2/3 were destined for the local or regional markets. Of the remaining crops (corn, cacao and coffee), common commercial crops in the region, at least 80% of these crops were destined for local and regional markets. The greatest source of income in the province, however, is livestock, resulting in constantly growing demand for land for pasture. In the province of Napo, there were 131,846 cows, 10,199 pigs, 3,370 sheep and 4,583 horses in 2012 (MAGAP 2012).

The total land dedicated to agriculture in Napo (an area of 174,506 hectares) is divided as follows: cultivated pastures cover 134,407 hectares, natural pastures cover 19,477 hectares, permanent crops cover 15,592 hectares, and seasonal crops cover 5,031 hectares (INEC 2013). In the canton of Tena, the total area of 98,530 hectares of land is dedicated to the following: 49,240 hectares is covered by vegetation and forests, 14,608 hectares to paramo areas, 14,253 hectares to cultivated pastures 8,791 hectares to permanent crops, 4,945 hectares to seasonal crops, 4,897 hectares to “resting” agricultural lands, and 1,204 hectares to natural pastures (MAGAP 2012). At both the provincial and cantonal levels, pastures are the primary form of productive land use.

### 2.1.2. Geographic and Sociodemographic Background of the Province of Napo

The main focus of this thesis is the parish of Puerto Misahuallí, in the canton of Tena. The canton of Tena is located in the Province of Napo along the Napo River, located in the northeast region of the Ecuadorian Amazon (see Figure 2.1).

Figure 2.1. Map of Ecuador (City of Tena indicated by arrow)


Source: Shiripuno, no date.

The canton of Tena includes the provincial capital city of Tena and 8 parishes, including Puerto Misahuallí. The three case studies involved in this research are located in the parish of Puerto Misahuallí, whose local government is located in the town of Puerto Misahuallí.

The province of Napo covers an area of 12,504 km$^2$, which is approximately 10.7% of Ecuador's Amazon region. The altitude of the province ranges from 400 to 5700 meters above sea level, and Napo covers a highly biodiverse region ranging from low tropical zones of the Amazon to the temperate cloud forest areas of the Eastern slopes of the Andes to the alto-Andean paramo regions. The diversity in altitudes, climates and geography has created a high degree of biological diversity in the province and unique "hotspots" with high levels of species diversity. There are also a number of natural resources of economic interest in Napo, including petroleum, precious minerals, and wood, which have led to territorial conflicts and environmental concerns related to the impacts of the extraction of these resources (Calles López 2008).

The Ecuadorian Amazon region is home to about 12,000 species of plants and countless animal species. In the province of Napo, there are 12 different plant formations, each representing a unique and distinct ecosystem from three different types of Paramo to the Lowland Evergreen Rainforests of the Amazon. The latter of these is the largest type of land cover in the province, covering 18.65% of the territory (Calles López 2008).

The fauna in the Amazon is equally diverse as a result of the varying geography, climate and ecosystems. Calles López (2008) reports that there are 934 animal species, which account for 26% of all animal species reported in Ecuador (3614 species total), including birds, mammals, amphibians, reptiles and fish. In addition, there are 587 species of birds (38% of all known bird species in Ecuador); 134 mammal species (36% of all known mammal species in Ecuador); 85 species of amphibians (62% of all known amphibian species in Ecuador); 48 species of reptiles (42% of all known reptile species in Ecuador); and 78 fish species (9.5% of all known freshwater fish species in Ecuador) (Calles López, 2008). Unfortunately, the great biodiversity of the flora and fauna of this region are under direct and indirect threats due to the destruction of the rainforest, unsustainable resource management strategies, anthropogenic pressure on aquatic ecosystems (such as untreated wastewater and pollution caused by mining and oil extraction), and the introduction and expansion of non-native species (Calles López 2008).

The province of Napo has a population of 103,697 (2010 Census) (Villacís and Carrillo 2010), while the canton of Tena has a total of approximately 60,000 inhabitants that make up a total of 16,343 households. According to INEC (2010), the majority of the population in both the province of Napo and the canton of Tena self-identify as indigenous. The INEC Census of 2010 reports that 56.8% of the population of the province of Napo self-identify as indigenous while 38.1% consider themselves *mestizo*, 2.7% identify as white, 1.6% as Afro-Ecuadorian, 0.6% as Montubio, and 0.2% as other. According Chisaguano (2006), the province of Napo has the highest proportion of indigenous people in Ecuador, with an indigenous population of 54.9% (based on the 2001 Census and *not* based on self-identification) of the province's total population. The 2001 Census reported a population of 121 Huaorani and 33,377 Kichwa people as well as smaller groups of other indigenous nationalities in Napo, totally nearly 43,500 indigenous people (Chisaguano 2006). In the canton of Tena, the indigenous population is even higher, with Kichwa representing 56% of

the canton's population, *mestizos* representing 38%, white representing 3% and 1% each for Afro-Ecuadorian, *mulatos*, and Montubios (Tena, no date).

In addition, the 2001 Census indicated that the majority of the indigenous population of the province of Napo lives in rural areas, with only 13.3% of the province's indigenous population living in urban areas and 86.7% living in rural areas. At the local level of the canton of Tena, the majority of the total population also lives in rural areas (about 61.7% of the canton's population) rather than urban areas (38% of the population) (Chisaguano 2006), classifying the majority of the province and canton as rural.

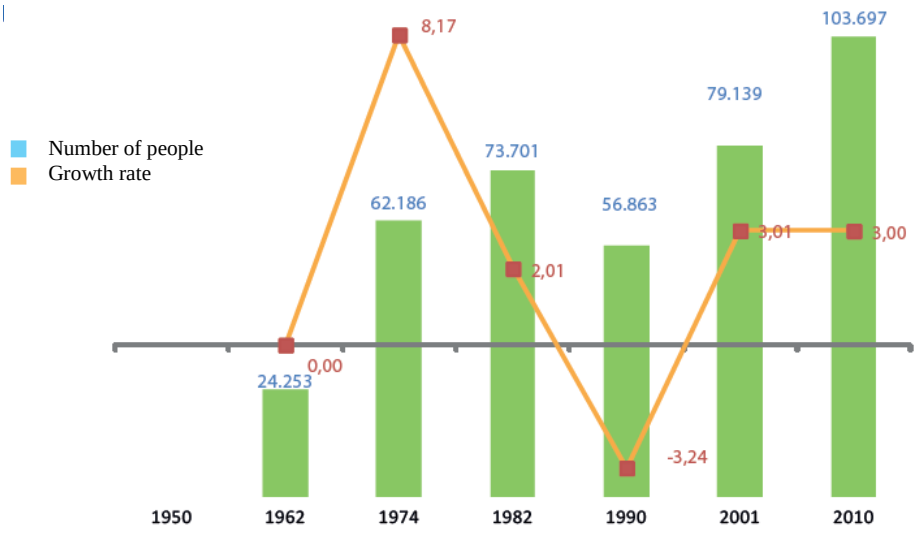
In the province of Napo, 50.9% of the population is male while the remaining 49.1% is female, making up a total of 28,976 households. The canton of Tena has a similar number of men and women, with about 30,943 men (50.8% of population) and about 29,937 women (49.2% of population). There are a total of 16,343 households in the canton of Tena. According to INEC (2010), the populations of Napo y Tena are young with an average age of 24 years old in the canton of Tena. About 50.1% of the total population of Napo is under the age of 19, according to the 2010 Census. This Census also found that there were 547.9 children under 5 years of age for every 1000 women of childbearing age, representing women from 15 to 49 years of age (INEC 2010).

According to the measurement of Unsatisfied Basic Necessities, the Amazon region has a high rate of poverty. In the province of Sucumbíos, 87.0% of the population cannot satisfy their basic needs, while this measurement of poverty is 85% of the population in the province of Orellana, and 78.6% in the province of Napo (Villacís and Carrillo, 2010). The province also has an illiteracy rate of 6.3%. Regarding education, the men in Napo attended an average of 9.6 years of school, while women only attended an average of 8.9 years, according to the 2010 Census. The urban population on average attended 11.2 years of school, while in rural areas the average was only 8.0 years (INEC, 2010).

Over the past decade, the Amazon region has seen growth rates nearly double that of other regions. Although this region's total population (739,814 in 2010) is relatively small compared to that of the Coast (7,236,822 in 2010) and the Sierra (6,449,355 in 2010), recent and projected growth rates indicate that this gap may be closing quickly. Between the period of 2001 and 2010, the growth rate of the population on the Coast was 1.90%, in the Sierra

1.84%, and in the Amazon 3.33%, according to the Censos de Población y Vivienda (Population and Housing Censuses) from 2001 and 2010. (Villacís and Carrillo 2010). The provinces in the northeast Amazon region, the subject of study also represent the highest growth rates in the country: the population growth rate from 2001 to 2010 in the province of Orellana was 5.06% (with a population of 136,396 in 2010), in the province of Sucumbíos was 3.38% (population of 176,472 in 2010), in the province of Pastaza was 3.41% (population of 83,933 in 2010), and in the province of Napo was 3.00% (population of 103,697 in 2010). The only other province in Ecuador with similar rates of population growth was the Galapagos, with a growth rate of 3.32% for this same period (Villacís and Carrillo 2010). Over the past several decades, the growth rate of the province of Napo has been growing quickly, with the exception of 1990, as can be seen in Figure 2.2 below. The jump in the growth rate of more than 8% in 1974 corresponds to the land reform act and to the government's efforts to encourage settlement in the Amazon. The growth rate since the turn of the century have remained steady at around 3.00%.

Figure 2.2. Population and Growth Rate in the Province of Napo from 1950 to 2010




Source: Instituto Nacional de Estadísticas y Censos (INEC 2010, 2).

The local population growth rates in the past as well as their projections in the future can be observed in Table 2.1 below. According to this table, the population of the parish of Puerto Misahuallí has increased from 3,579 in 1990 to 4,369 in 2001 to 5,127 in 2010, indicating an annual growth rate for this 20-year-period of 1.78%. Adding together the other parishes found in the canton, nearly all of which have had a significantly greater population growth rate than Puerto Misahuallí, the annual population growth rate for the canton of Tena between 1990 and

2010 was 21.26%. Based on this population growth rate, the projections of population growth for Puerto Misahuallí and the canton of Tena are shown in 3. According to these calculations, the population of the parish of Puerto Misahuallí is expected to reach 5,885 by 2020 and the population of the canton of Tena are expected to reach 76,491 that same year (Tena, no date).

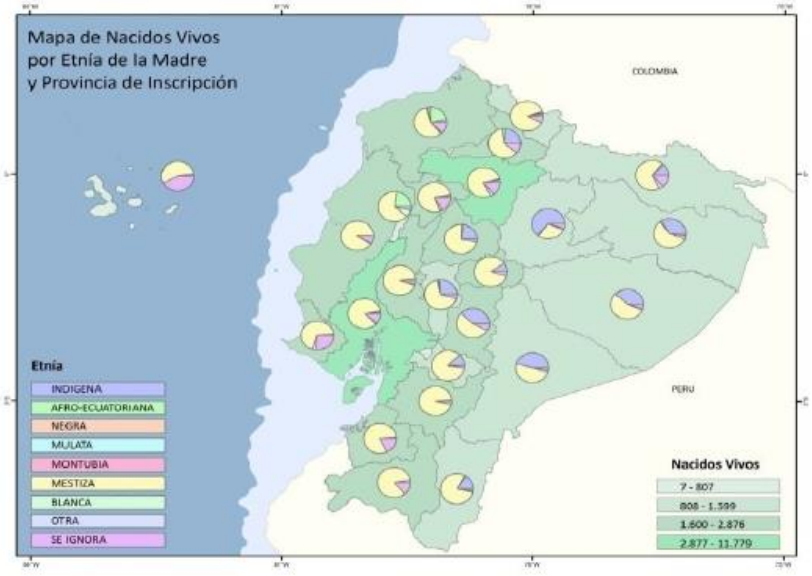
Table 2.1. Past and Future Project Population Growth in Parish of Puerto Misahuallí and Canton of Tena, Period 1990-2020

| ***Parish*** | ***Total Population 1990*** | ***Annual growth rate 1990-2001*** | ***Total Population 2001*** | ***Annual growth rate 2001-2010*** | ***Total Population 2010*** | ***Total Project Population 2016*** | ***Total Project Population 2020*** |
|---|---|---|---|---|---|---|---|
| Puerto Misahuallí | 3,579 | 71.82 (1.81%) | 4,369 | 84.22 (1.78%) | 5,127 | 5,548 | 5,885 |
| Total Canton of Tena | 33,967 | 1151.81 (0.29%) | 46,007 | 1652.56 (21.26%) | 60,880 | 69,880 | 76,491 |

Source: Adapted from Tena, no date.

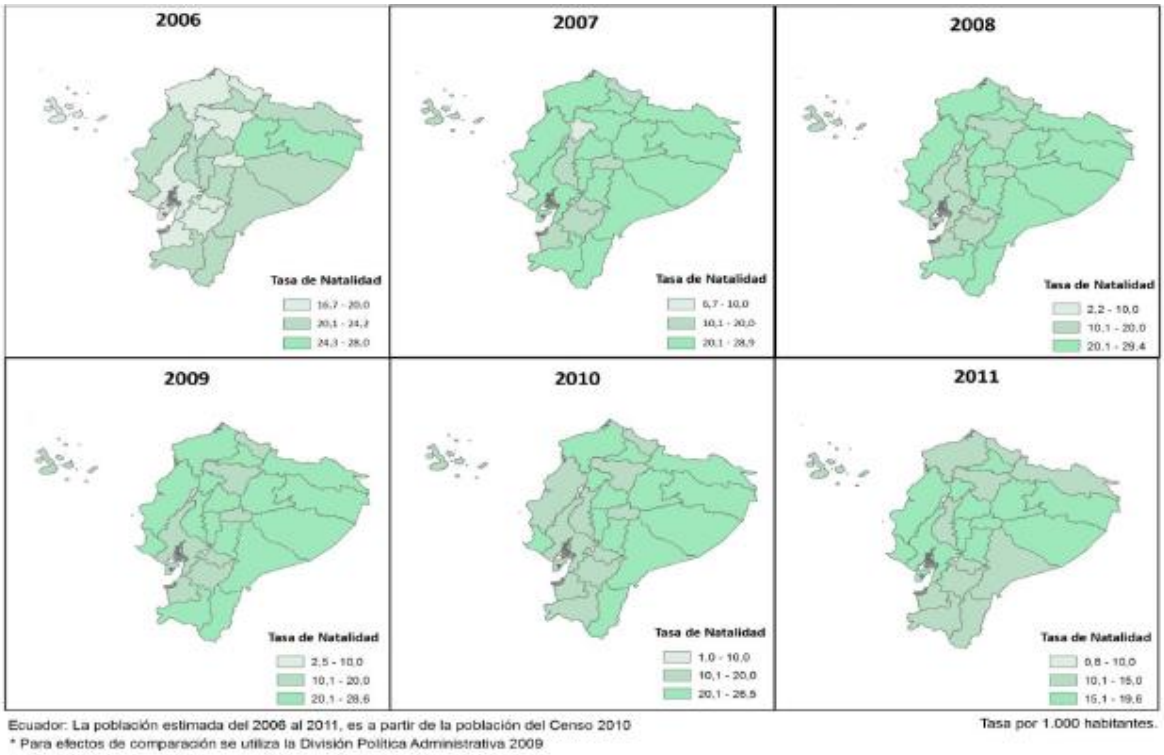
One important factor in the population growth rates in the province of Napo is the historically traditionally high birth rates in the region. Napo is one of the few provinces in Ecuador with the highest birth rates marked by the bright green color, representing a birth rate of 16.46-19.56 live births per 1,000 people in 2011. Figure 10 shows the birth rate in each province according to ethnicity, with births to indigenous mothers being represented in purple and to *mestiza* mothers represented in yellow. As shown in this map, Napo has a noticeably higher proportion of births to indigenous mothers than to *mestiza* mothers when compared to other provinces. However, it is not clear whether this is simply a result of the province's majority indigenous population, or if the indigenous populations in Napo have a higher fertility rate and more children than their *mestiza* counterparts. Finally, as shown in Figure 2.3, during the period 2006 to 2011, the provinces of Napo and Orellana are the only provinces in the country that have consistently had the highest birth rates in the country. Although the specific factors that have caused birth rates to remain high in Napo are up for discussion, the direct impact these high birth rates have had on the province's population growth is clear.

Figure 2.3. Map of Live Births According to Mother's Ethnicity and Province of Registration per Province, 2011




Source: INEC (2011, 517). Purple represents "indigenous", yellow is "*mestizo*," and magenta is "unknown"

Figure 2.4. Map of Changes in Birth Rates from 2006 to 2011, by Province




Source: INEC (2011, 519).

Considering the large rural population of Napo and Tena, the high population growth rates are not that rare as, according to Mejia and Pacheco (2013), the Amazon region has seen the greatest growth in the rural population. This has led to an increased population intensity and

density per unit of cultivated lands, thereby requiring greater agricultural production for subsistence (Mejia and Pacheco 2013).

### 2.1.3. Local Deforestation Trends

Over the past few decades, deforestation has been greatest on the Coast and in the Amazon Lowlands. However, as Table 2.2 shows, since 1990, all regions of Ecuador have significantly decreased their deforestation rates with the exception of the Eastern slopes of the Andes, which has experienced increasing deforestation rates that may soon surpass those of the Coast, thereby demonstrating the importance of analyzing the local socioeconomic situation in the research area involved in this thesis (Mejia and Pacheco 2013; Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012).

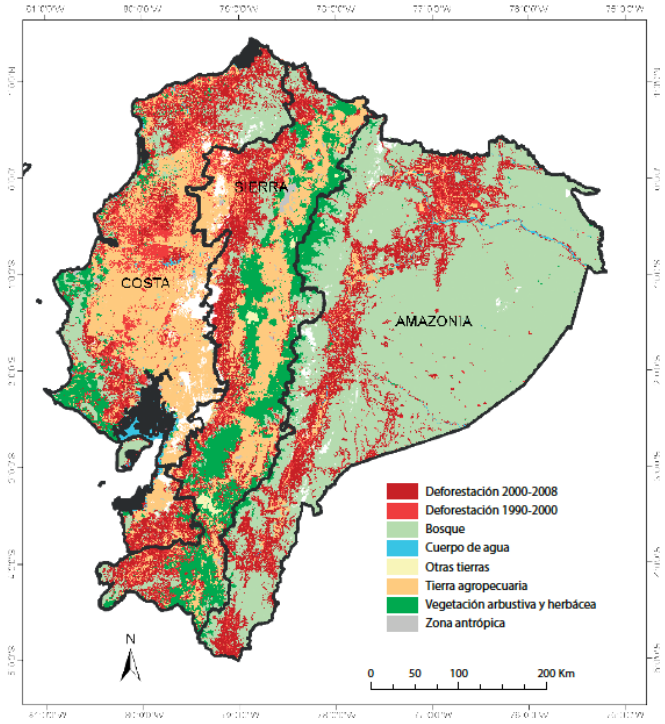
Table 2.2. Deforestation Rates for Six Sub-regions and Continental Ecuador, Periods 1990-2000 and 2000-2008*

| Region | Period 1990 – 2000 | | Period 2000 – 2008 | |
|---|---|---|---|---|
| | Annual rate of change (%) | Average annual deforestation (hectares/year) | Annual rate of change (%) | Average annual deforestation (hectares/year) |
| Amazon Lowlands | -0.30 | 19.768 | -0.26 | 16.430 |
| Eastern Slopes of the Andes | -0.47 | 13.009 | -0.83 | 21.501 |
| Western Slopes of the Andes | -1.12 | 11.068 | -1.02 | 9.027 |
| Inter-Andean Valleys | -0.68 | 1.895 | -0.02 | 50 |
| Coast | -2.49 | 37.967 | -2.19 | 25.481 |
| Southern Andes | -1.19 | 6.237 | -1.17 | 5.158 |
| Continental Ecuador (total) | -0.71 | 89.944 | -0.66 | 77.647 |

Source: Adapted from Ministerio del Ambiente del Ecuador and Programa Socio Bosque (2012, 24). *A negative figure for Annual Rate of Change (%) indicates an annual percentage loss of forest cover

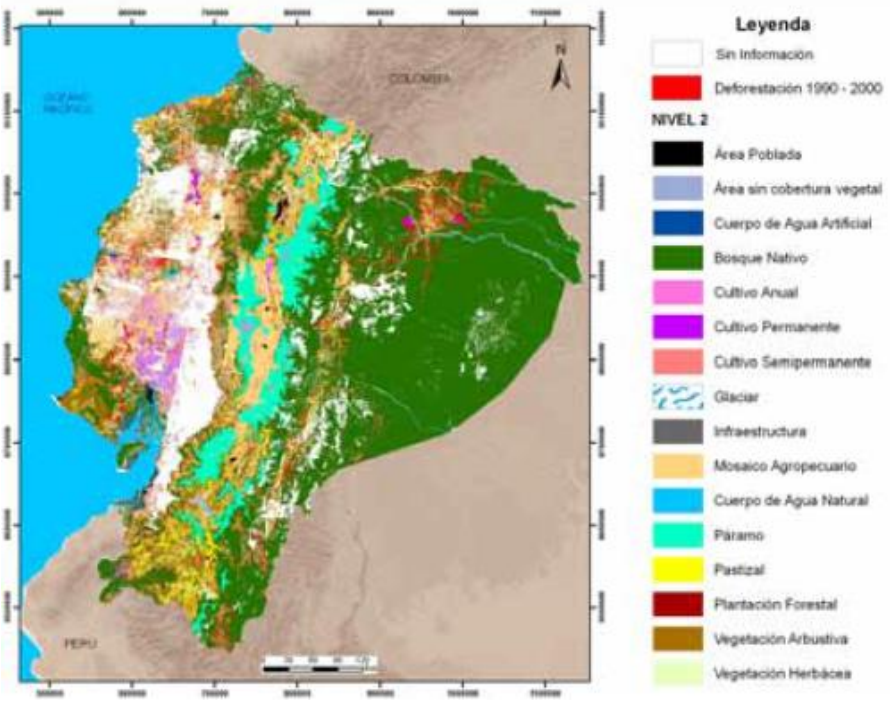
Similarly, Figure 2.6 below indicates that there has been dense growth of deforestation (dark red) and agricultural activities (beige) in the period from 2000 to 2008 along the eastern side of the Andes, which includes the area studied in this thesis. Furthermore, Figures 2.6 and 2.7 show the changes in land use, and especially the spread of agricultural activities, in the Northeast Amazon region of the country for 1990-2000 (Figure 2.6) and 2000-2008 (Figure 2.7), which demonstrates the changing land use and land cover that has accompanied the growing deforestation rates in this region.

Figure 2.5 Land Use and Land Cover in Continental Ecuador



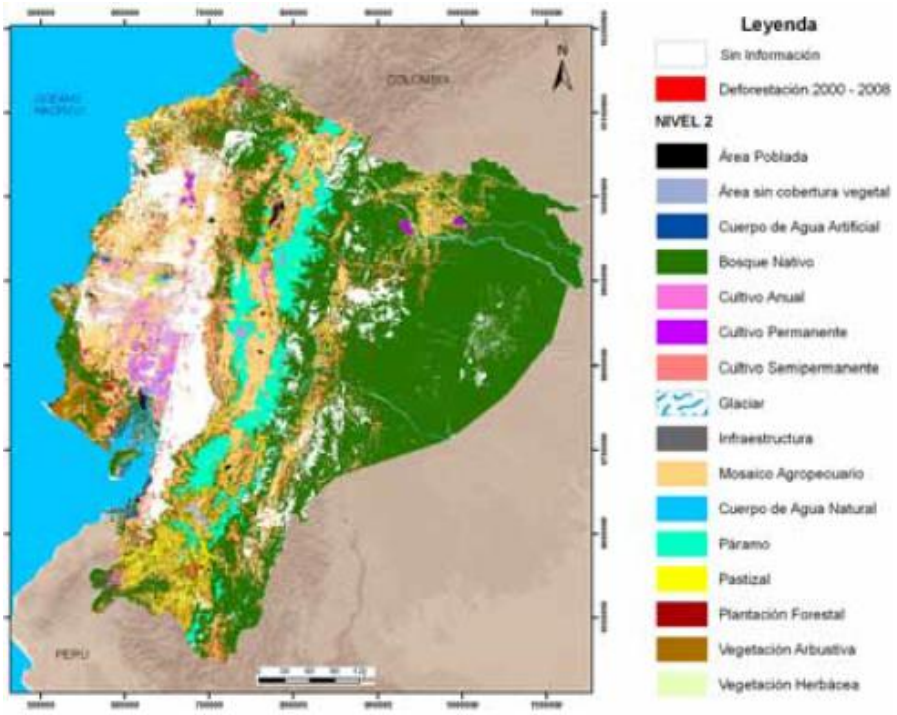

Source: Mejia and Pacheco (2013, 5).

Figure 2.6. Map of Deforestation in Continental Ecuador, Period 1990-2000




Source: Ministerio del Ambiente del Ecuador and Programa Socio Bosque (2012, 21).

Figure 2.7. Map of Deforestation in Continental Ecuador, Period 2000-2008




Source: Ministerio del Ambiente del Ecuador and Programa Socio Bosque (2012, 22).

In the Amazon region in general, including the province of Napo, a variety of problems including low productivity, limited economic diversification (reliance on agriculture), high vulnerability to natural disasters, inadequate quality control and irregular and corrupt land titling and registration processes have also led to increased reliance on agriculture and forest resources and the expansion of unsustainable agricultural and forest management practices. The result has been an estimated growth of approximately 100,000 hectares of forest lost each year due to expanding logging and agricultural expansion (USAID 2011).

Another level at which deforestation rates deserve to be analyzed is at the provincial level. The province where the study area for this thesis is located is Napo, located in the Northeast Ecuadorian Amazon on the Eastern Slope of the Andes. As mentioned in the previous section, this region saw a rate of deforestation that increased by an average of 0.36% between the periods 1990-2000 and 2000-2008. All provinces in Ecuador saw a decrease in deforestation rates during this same period. Those that saw increased deforestation include the provinces of Morona Santiago, Napo, Pastaza, Santa Elena and Zamora Chinchipe. These deforestation rates per province can be seen in the table below. Table 2.3 shows that the Province of Napo had a deforestation rate of -0.21% or 1,682 hectares per year for the period 1990-2000 and of

-0.35% or 2,735 hectares per year for the period 2000-2008 (Ministerio del Ambiente del Ecuador and Programa Socio Bosque 2012).

Table 2.3. Deforestation Rates per Province in the Ecuadorian Amazon, Periods 1990-2000 and 2000-2008*

| Province | Period 1990 – 2000 | | Period 2000 - 2008 | |
|---|---|---|---|---|
| | Annual rate of change (%) | Average annual deforestation (hectares/year) | Annual rate of change (%) | Average annual deforestation (hectares/year) |
| MORONA SANTIAGO | -0.30 | 4.915 | -0.61 | 9.460 |
| NAPO | -0.21 | 1.682 | -0.35 | 2.735 |
| ORELLANA | -0.35 | 6.955 | -0.26 | 4.991 |
| PASTAZA | -0.09 | 2.432 | -0.18 | 4.773 |
| SUCUMBÍOS | -0.71 | 10.332 | -0.31 | 4.149 |
| ZAMORA CHINCHIPE | -0.76 | 6.339 | -1.61 | 11.883 |

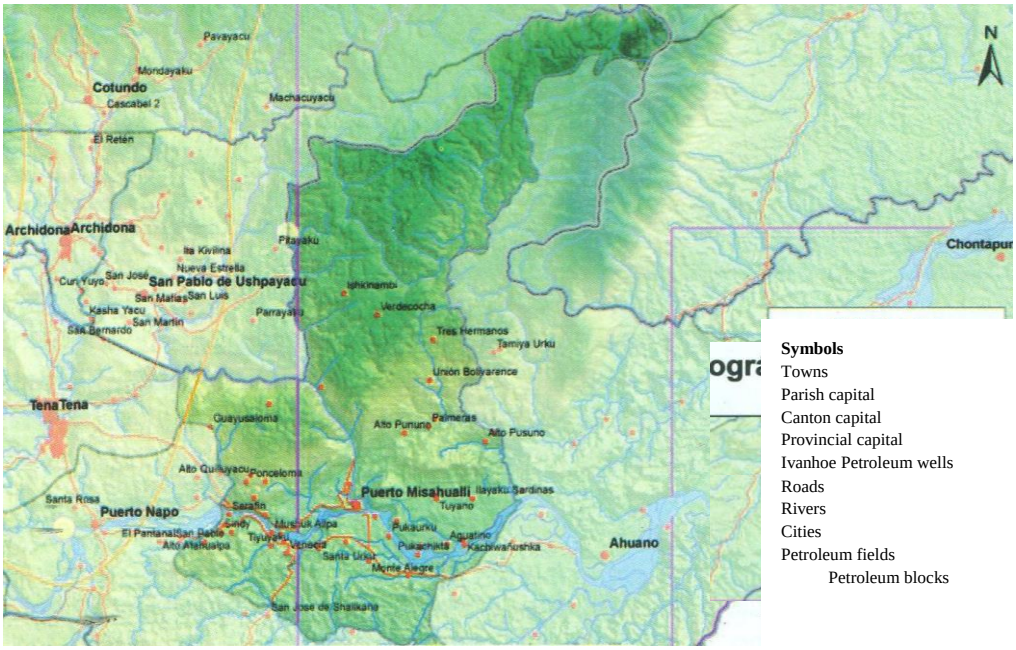
Source: Prepared by author, adapted from Ministerio del Ambiente del Ecuador and Programa Socio Bosque (2012, 26). *A negative figure for Annual Rate of Change (%) indicates an annual percentage loss of forest cover

## 2.2. Study Area: The Parish of Puerto Misahuallí, "*A Little Star of Tourism"*

The parish of Puerto Misahuallí, the main study area where the fieldwork was carried out, was initially part of the large territory belonging to the indigenous Huaoraní people of the Amazon. With the expansion of the non-indigenous population into the Amazon region during the nineteenth centuries, the Huaoraní began to go deeper into the rainforest to maintain avoid contact with outsiders. Around this same time, Napo Kichwa families from the Quijos region began to move into this area in search of new lands and to escape violence from the hacienda owners and missionaries (Muratorio 1991).

In the 1940s, the region began to see the arrival of non-indigenous families following the 1941 Ecuadorian-Peruvian War, many of whom received land in the area as reward for their military service. Guillermo Rivadeneyra was one of the town's first inhabitants, and in 1963 he donated some land in the area to soldiers from the war. At this time, Puerto Misahuallí had become a busy commercial port where the Napo and Misahuallí rivers meet. The Puerto Napo-Misahuallí road, built in 1966 to facilitate oil exploration in the Amazon, spurred the growth of the colonist and Kichwa populations in Puerto Misahuallí in search of new land for agriculture. The Parish of Puerto Misahuallí was established on April 30, 1969 (Gobierno Parroquial de Puerto Misahuallí 2011).

Figure 2.8. Map of Parish of Puerto Misahuallí

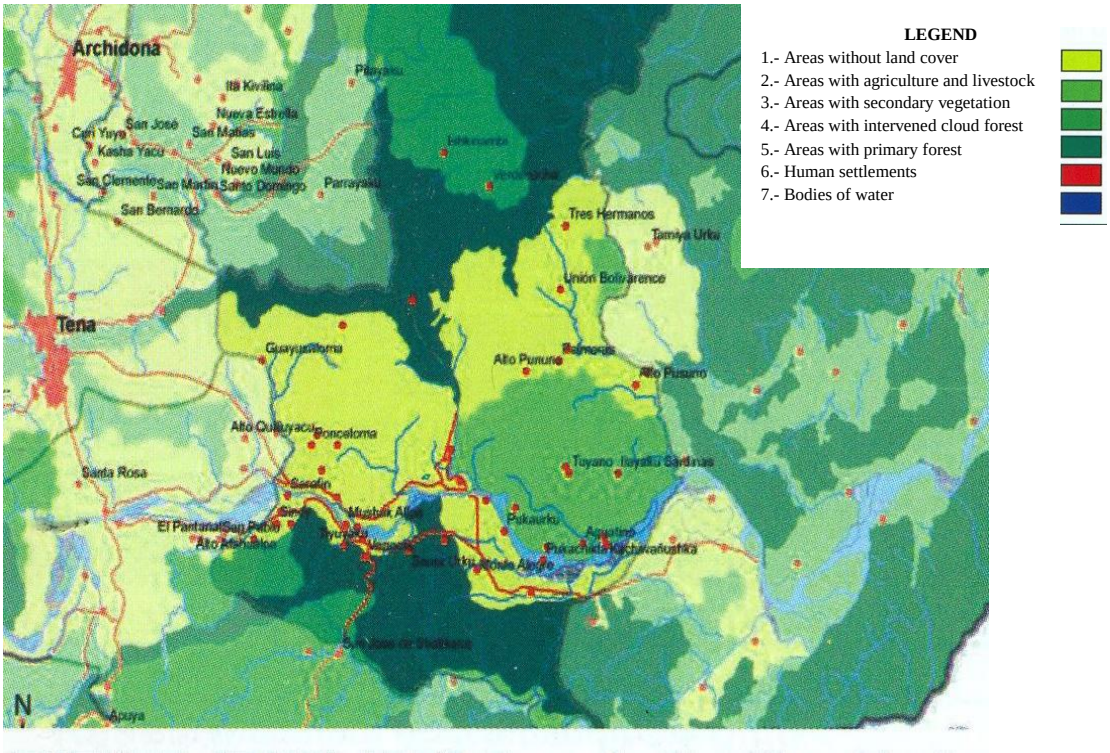



Source: Gobierno Parroquial de Puerto Misahuallí (2011, 1).

The population of the parish of Puerto Misahuallí was an estimated 6,215 in 2010, with a population density of 11.57 inhabitants per square kilometer. About 46% of the population lives in the area surrounding the town of Puerto Misahuallí, while the remaining inhabitants live in the parish's 40 rural communities. Men make up 51.4% of the population, while women make up 48.6%. Approximately 82.4% people in Puerto Misahuallí identify as Napo Runa (Kichwa), 13.8% as Colonists, and 2.2% as white (Gobierno Parroquial de Puerto Misahuallí 2011).

The altitude ranges from 395-470 meters above seal level, and the region is primarily covered in homogenous hills. 35% or 17,983 hectares of the parish's total territory is protected forest. The parish's primary land cover, as can be seen in Figure 2.9, is a mixture of secondary rainforest, pastureland, and agriculture (Gobierno Parroquial de Puerto Misahuallí 2011).

Figure 2.9. Land Cover in the Study Area, Parish of Puerto Misahuallí



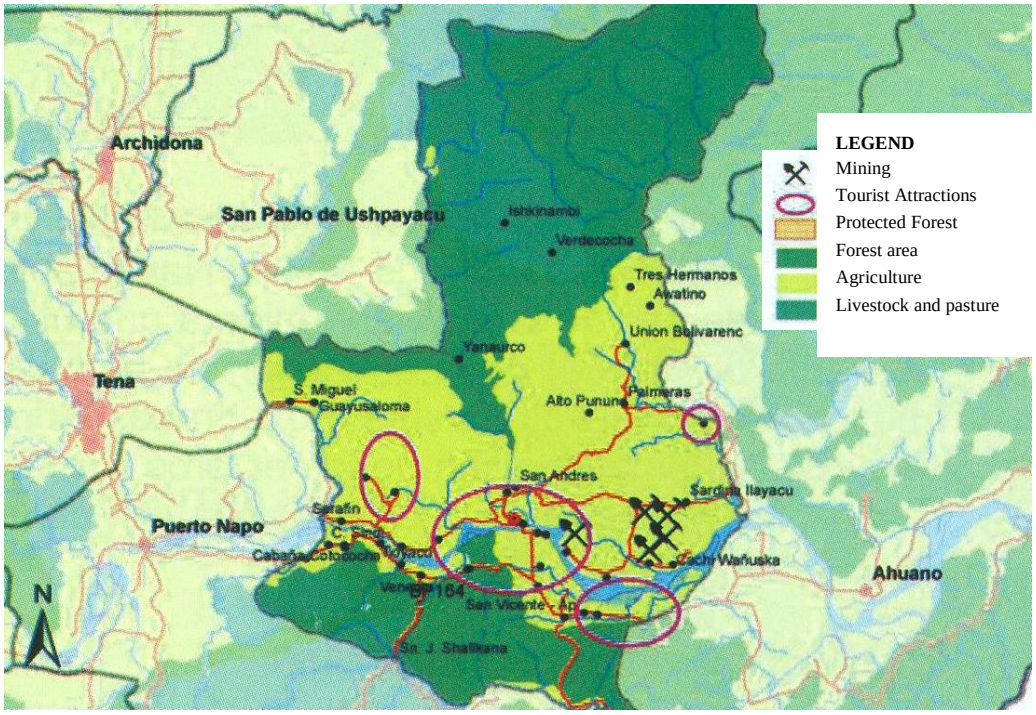

Source: Gobierno Parroquial de Puerto Misahuallí (2011, 5).

As shown in Figure 2.9, the parish's main economic activities include mining (gold and other minerals in the riverbeds), tourism, agriculture and livestock. (Gobierno Parroquial de Puerto Misahuallí 2011). In Puerto Misahuallí, 68% of the local population works in agriculture, hunting, livestock, and fishing; 9% works in mining and stone quarries; 7% in artisan crafts; 7% in commerce and tourism; and 9% in unspecified activities. A total of 4,744 hectares is dedicated to agriculture, 44.9% of which is pastureland and the remaining 55.1% to crops, especially plantain, cacao, coffee, manioc and corn. Of the land dedicated to pastureland, 14.2% is in the community of Alto Pununo, 14.2% in San Miguel de Palmeras, 12.1% in Miraflores and 12.1% in Pununo, all of which are mostly colonist communities (Gobierno Parroquial de Puerto Misahuallí 2011).

Within the parish, approximately 46,000 square meters of wood was exploited legally in 2008, 95% of which was sold in the Sierra or the Coast. Approximately 7,000 square meters of wood was exploited this same year, generally cut down by small-scale producers and typically sold in the city of Tena. Both legal and illegal logging in the area is generally traditional and small-scale, and illegal logging is generally sporadic to meet local families immediate economic needs. The local economy also depends directly (community tourism,

tour companies) and indirectly (transportation, hotels, restaurants) on tourism, with the arrival of about 77,000 national and 12,300 international tourists in 2010 (Gobierno Parroquial de Puerto Misahuallí 2011). Local officials and residents seek to foster the parish's tourism potential, calling Puerto Misahuallí "the little star of tourism" (field notes 2015).

Figure 2.10.Economic Activities in Study Area, Parish of Puerto Misahuallí

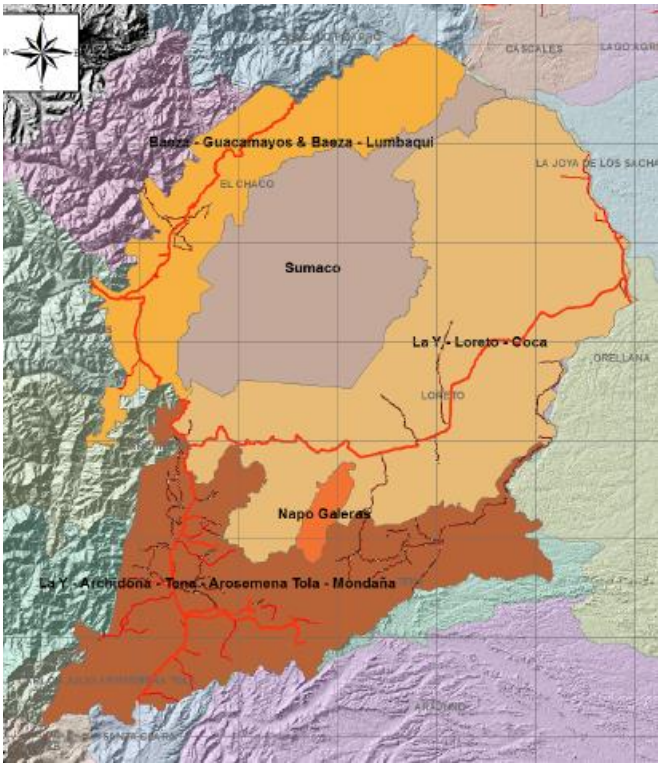



Source: Gobierno Parroquial de Puerto Misahuallí (2011, 8).

### 2.2.1. Deforestation in the Study Area

Although deforestation as local as the Parish of Puerto Misahuallí are relatively scarce, the overall deforestation trends of the general area can be estimated based on a study of land use and vegetation cover conducted in the Sumac Biosphere Reserve since the Canton of Tena lies in the Reserve's buffer zone, indicated in the southernmost, dark brown region in Figure 2.11 (called Zone 1).

Figure 2.11. Zones Studied in Land Use and Vegetation Cover in the Sumaco Biosphere Reserve



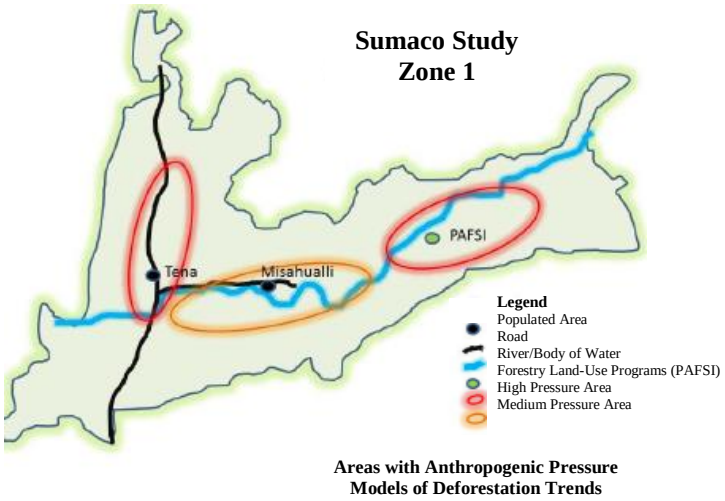

Source: MAE - GIZ GmbH (2013, 35).

As shown in this study, the deforestation for this period, the deforestation rate in this area has increased from 1.70% per year (or 3,693 hectares/year) for the period of 2002 to 2007 to 3.34% per year (or 7,615 hectares/year), matching the province of Napo's current deforestation rate of about 3% per year. Furthermore, Figure 2.12 indicates that the study projects continued deforestation in the region through 2023, with the primary forest cover from 2008 (119,405 hectares) decreasing by half by 2023 (57,902 hectares).

Figure 2.12. Primary Forest Cover in Zone 1 of the Sumaco Biosphere Reserve From 2008 with Projections to 2023


Source: MAE – GIZ GmbH (2013, 57).

Figure 2.13. Map Indicating Pressure of Current Deforestation Trends on Native Forests in Zone 1




Source: MAE - GIZ GmbH (2013, 57).

Finally, the results of this study, observed in Figure 2.13, demonstrate the urgent need to address these staggering deforestation rates in the study area and the surrounding region, where the pressures on primary forest caused by human activities are extremely high. For this reason, it is necessary to take immediate action to identify local solutions to improve resource management and promote sustainable local economies to reduce the pressure on the forests and decrease deforestation rates in the study area.

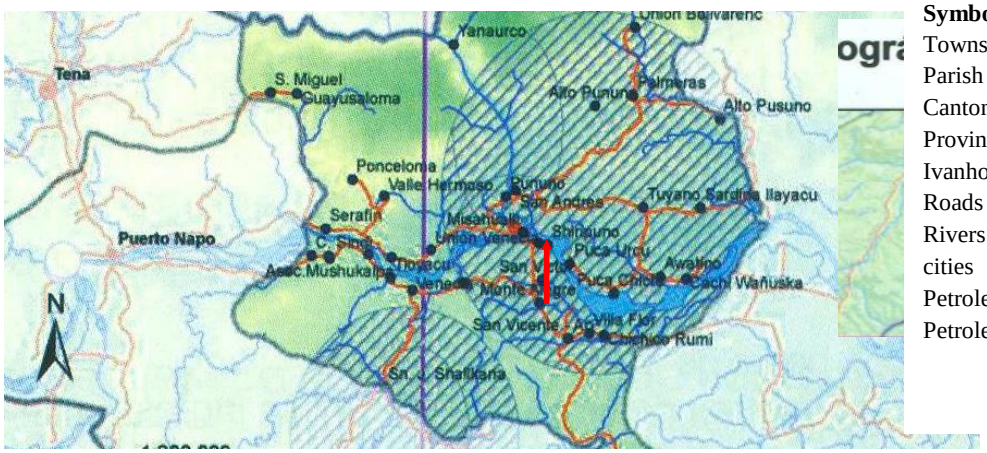
## Chapter 3. Two Cultures, One Land: The Idiosyncrasies Of Amazonian Culture

One of the most important findings from my fieldwork, on a personal level, is the extreme range of cultures that exist in Misahuallí. As a region that is proud and vocal about its Kichwa heritage, but with also a significant colonist population and vast influence of Western culture through tourism, the line between cultures becomes a blur. As Muratorio (1991) mentions in her telling of the life of Grandfather Alonso, recent experiences and history of the Napo Runa are not the story of their pre-Colombian culture and society, which is essentially unknown today. Instead, it is the story of idiosyncrasies, of cultural and social interactions, exchanges and adaptions, as described by structural anthropologists. In present-day Napo, colonist and Kichwa families and communities live a syncretized reality of cultural and socioeconomic structure. For this reason, establishing the context of each community or family being studied is essential to interpreting and analyzing the information collected during my field research.

### 3.1. The Kichwa of Shiripuno: "An independent people, an ecological community."

The territory of the Community of Shiripuno covers 45 hectares of land under a private land title under the names of Leonardo Rivadeneyra and María Grefa, the first couple to officially settle on this land and the parents and grandparents ("*los abuelos"*) of the community's growing population (fieldnotes, February 28, 2015). Located just across the Napo River from the town of Puerto Misahuallí and situated on the Napo's banks, Shiripuno is in a strategic location to take advantage of the town's growing tourism sector (see Figure 3.1).

Figure 3.1. Map of Puerto Misahuallí (Shiripuno indicated with red arrow)

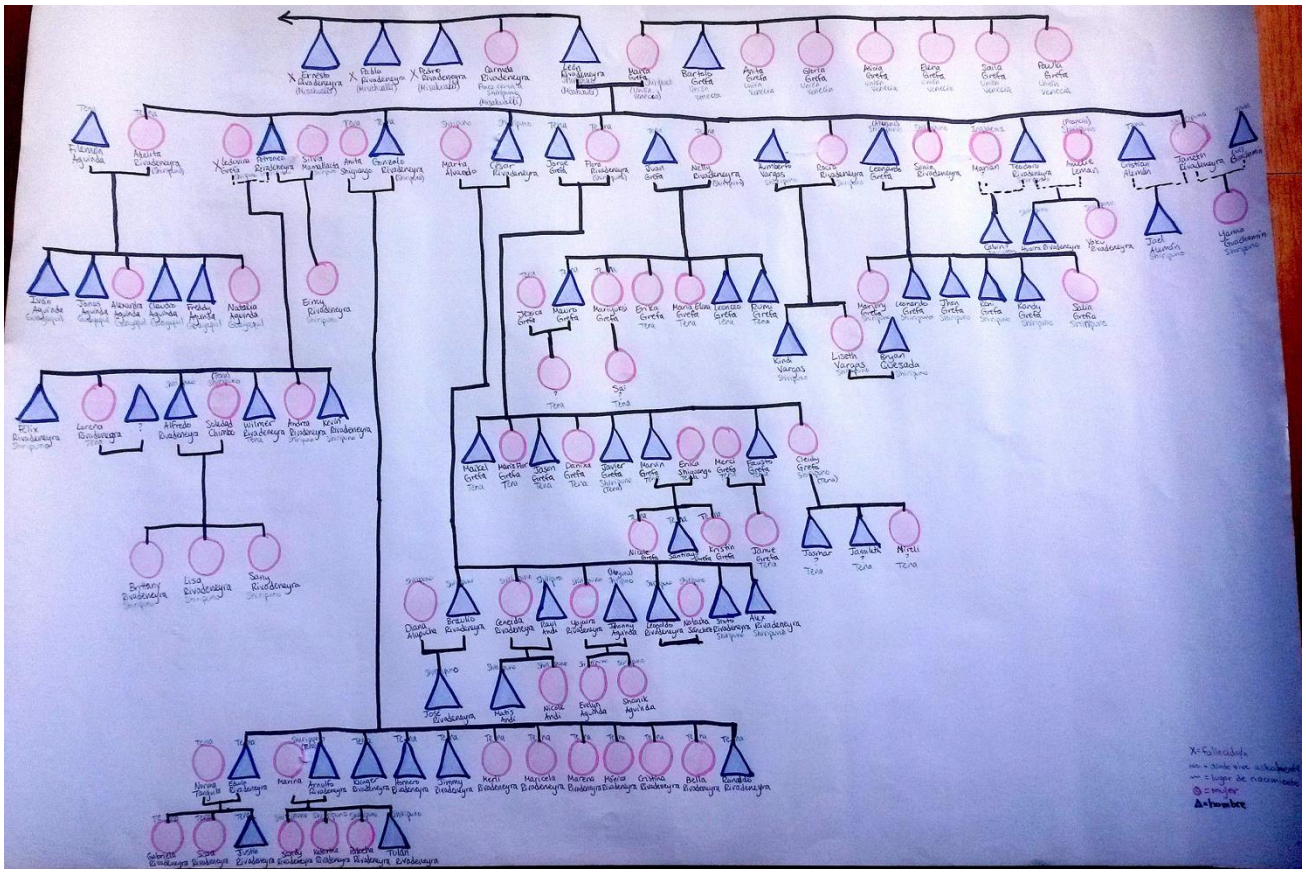



**Symbols**
Towns
Parish capital
Canton capital
Provincial capital
Ivanhoe Petroleum wells
Roads
Rivers
cities
Petroleum fields
Petroleum blocks

Source: Adapted from Gobierno Parroquial de Puerto Misahuallí (2011, 18).

The community's current population includes roughly 170 people living in 50 households, the vast majority of whom live in houses provided by the government's Ministerio de Desarrollo Urbano y Vivienda (Ministry of Urban Development and Housing, MIDUVI). The majority of the families currently living in Shiripuno are direct descendents (through great-grandchildren) of the founders, Leonardo Rivadeneyra and María Grefa, who also currently reside in the community. As a result, the majority of the households include a male or female head of household with the last name "Rivadeneyra." Other residents, most of whom have come to live in Shiripuno through marriage to a Rivadeneyra, are also generally from the surrounding area, in the canton of Tena, and thus have last names common to the area surrounding Tena, including Andi, Grefa and Aguinda (fieldnotes, February 28, 2015). The family tree in Photo 3.1 illustrates the descendents of the founders, the majority of whom still live in Shiripuno.

Photo 3.1. Family Tree of Leonardo Rivadeneyra and María Grefa, the Founding Family of Shiripuno



Source: Prepared by author.

Although the land in Shiripuno is officially under the official private land title signed by both Leonardo and María, each household has had to ask for permission to use a small lot of land for a house and, in some cases, a garden to grow food and/or raise animals for their family's subsistence. Because of Leonardo's age and difficulty talking and walking, María is currently in charge of giving these permissions. Her children are currently in the process of dividing the land between her children as an inheritance, at which time the land will be divided into smaller lots of private property in the name of each of the children (Janeth Rivadeneyra, interview by author, 2015, interview JR04172015; Soledad Chimbo, interview by author, 2015, interview SC04062015).

Within the community, the primary economic activity in the community is tourism and related activities. One of the María's children owns a tour agency in Puerto Misahuallí as well as motorized canoes, a common form of transport in the region, and he has hired

a number of relatives from Shiripuno as tour guides and canoe drivers. The community also has the AMUKISHMI Women's Association, which manages Shiripuno's community tourism project, which provides work not only for women in the community, but also children and teenagers looking to experience the Kichwa culture through traditional dance and dress and/or to gain experience in tourism and hospitality as well as the women's husbands who are often hired to assist with construction and maintenance. Thanks to the community's strong familial bond and the success of the Women's Association, Shiripuno has become "an independent people, an ecological community" (Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015).

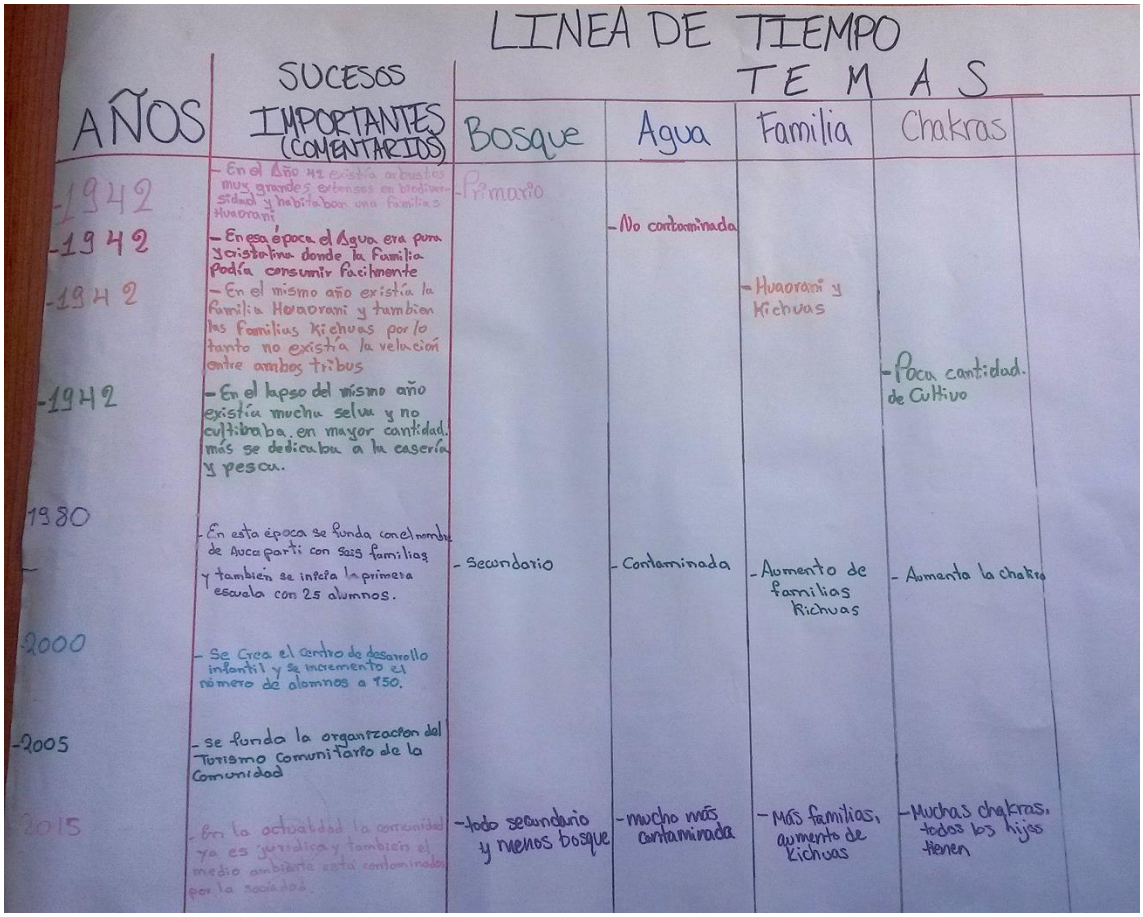
### 3.1.1. A Brief History of Shiripuno: The Story of *Los Abuelos*

During my month-long stay in Shiripuno, the local shaman told the story that before the community began, there was only forest where the Huaorani lived and hunted, and one Kichwa man who lived at the edge of the forest. The Huaorani heard that the people of the nearby town of Ahuano were going to kill a young girl from the community, so they helped her escape through the forest and across the river, where she was safe from those who were hunting for her, and there she found refuge with the man living at the edge of the forest. According to the shaman, the girl and the man were the first members of the community that was named Aucaparti ("territory of the Huaorani"), in honor of Huaorani, and which is the present-day Shiripuno.

Other stories, however, simply say that at the age of 13, the *Abuela* María Grefa, originally from the nearby town of Venecia, was set to marry the *Abuelo* Leo Rivadeneyra from Puerto Napo. Prior to this period, the Huaorani had indeed inhabited the thick forests of this area, but by the 1940s and 1950s they had began to push farther into the forest as Kichwa from Los Quijos and missionaries began to move into the region in search of land. When Leo and María married in the mid-1950s, they traveled farther down the river in search of new land to start their new family and they arrived at where Shiripuno's current tourist cabins are located. During this period, some of Leo's uncles also joined them in the community, all living together in a single-room house

called a *choza* (Petronio Rivadeneyra, interview by author, 2015, interview PR03312015).

Photo 3.2. Timeline of Shiripuno by Male and Female Community Members




Source: Author's photo.

As María's youngest daughter recalls her mother's stories about this period of her life:

> Before the government's assistance with housing, my mother had a big house with *paja toquilla*,[1] she used to tell us, […] when she had my brother and sister, Adela and Petronio, and […] she told them if they wanted to open a school, that she was going to give them an opportunity, a space for them to teach the children there because she was worried that my brother and sister were not going to school. So she said that they could receive classes there, in that house, and she gave them that space, and children began to come from other communities to receive classes in my mother's house, and there was a teacher that came from Tena.

[1] *Paja toquilla* is local plant fiber used to weave the straw roofs of *chozas*.

> And then, after that more children wanted to study, so they went to the authorities to ask them to open a school. My uncles at that time opened the first school here in Shiripuno, which they say was the first school, that there weren't any in other communities, only here. My mother says that the children used to come from communities like Pucachikta, from Puka Urku, from Muyuna (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

As described above, the growing interest in expanding the school inspired Leo's uncles going to the local authorities to request a school, and in 1980 the first school in the region was built. That same year the community was legally founded as the community of Aucaparti. Both of these events were fundamental in the history of the community, as illustrated in the community timeline in Photo 6. Soon after the foundation of the school and community, Leo's uncles left the community to return to Puerto Napo, and Leo and María were left in the community with their 10 children (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

Leo and María had a fairly normal life for Kichwa in the region. Leo often went hunting in the forest and both he and María would collect resources from the forest, such as firewood. They would also both work in the *chakras*, the traditional subsistence agricultural system common in Kichwa communities, and they soon decided to try their hand at cattle-raising. They cleared the forest from nearly all of their 45 hectares of land until they had around 30 heads of cattle and were well-known in the region for having the finest meat (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015). Unfortunately, as in many Kichwa families at the time, Leo had a drinking problem and was *machista*. He insisted that he always accompany María outside the house: "before, men always went out with their wives; the women couldn't go out alone. The men were jealous; they didn't trust the women" (fieldnotes, March 31, 2015). Whenever they were meant to be working together and supporting one another in the *chakra* and pasture, Leo was often in no condition to work, leaving María to complete the work on her own (fieldnotes, March 31, 2015). One day, while working on her own, María was attacked and nearly killed by one of the bulls, so the family had to sell the cattle and return to the traditional yuca, cacao and plantains in the *chakras*. On the bright side, the family

thought, they could let the forest grow back and hopefully the birds and animals would come back (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

In 2000, the Ecuadorian government constructed a new school in the community, with a total of 150 students. In 2002, the community wanted to change its name from "Aucaparti" to "Shiripuno". There are different stories as to the exact reason why, but basically "Aucaparte" was an offensive name, and the change in the community's name was a pivotal moment in Shiripuno's history. The community's former President describes the importance of the change in name:

> In '86, we had the first ministerial agreement, which called the community Aucaparte, which, translated into Kichwa from Huaoraní, meant "the women's vagina", the "aucaparte", the "vagina of the Huao woman". Or, translated from Kichwa into Spanish, Aucaparte also meant "the place inhabited by the Huaoraní." Two different phrases. But for the Huao culture, Aucaparte was a very difficult name, so we changed the name to Shiripuno, which means "the King is here" or "the joining of two cold waters." "Shiri Puno" has two different meanings […] From then on, the community has been changing in a very distinctive way, very unique in a number of ways. I think that now, in the present, since the new ministerial agreement in 2002, the community, with the name of Shiripuno, has seen another reality, another point of view. What the indigenous cosmovision really is, as well as indigenous well-being, *Alli Kawsay* ("the good life") between humans, animals and the forest, nature (Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015).

Sure enough, shortly after this event, the women of Shiripuno had had enough of the community's social and economic problems caused by husbands who were drinking too much and becoming abusive. One story describes the tipping point as the night when a group of drunk men accidently set fire to the museum of hunting traps, one of community's first tourist attractions (Soledad Chimbo, interview by author, 2015, interview SC04062015). The founding members, however, explain that the women were simply tired of all of the families' money being spent on alcohol and then not being able to buy food for their children, along with being fed up with the jealousy, control and abuse of their husbands' *machismo*. Thus, the women of Shiripuno, with the support

and resources offered through the French organization Planeta Corazón, founded the AMUKISHMI Women's Association in 2006. The purpose of the organization was to provide an economic alternative for the community's women to provide for their families, as well as a form of empowerment to show their husbands that women can work and earn money for their families too. The women of AMUKISHMI took over the community's fledgling community tourism project and it has since become the main project and focus of the AMUKISHMI ((Janeth Rivadeneyra, interview by author, 2015, interview JR04172015; Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

Today, AMUKISHMI continues to expand the community tourism project and have since incorporated several environmental initiatives, including a botanical garden where the women are reforesting native plant and tree species and using this space to teach visitors and their children about medicinal plants and the importance of forests.

### 3.1.2. "Living in Harmony": Territory, Nature, Animals, Humans

Although the relationship between the Kichwa of Shiripuno and the environment may not be as strong as it was in the past, there is a deep underlying connection between the people and their land. Some of María's children, now adults with their own children, are explicitly aware of this relationship. Her oldest son is the local shaman, and he describes his early encounters with the spirits and the devils of the forests. As a child, when he was initially finding out about his spiritual powers, the shaman walked into the forest one night and encountered a long-haired dwarf who approached him to steal his powers. The shaman, however, pushed the dwarf down first, instead stealing its power and energy for himself, and the dwarf told him that he was very powerful and that he was going to become a powerful shaman (Petronio Rivadeneyra, interview by author, 2015 interview PR03312015).

The shaman, along with the rest of the community, also have a special connection with the Sacred Rock. Although the rock was initially covered and unknown to the first inhabitants of Shiripuno, the discovery solidified the relationship of the family with the territory. After attempts to excavate the rock, it is now believed to be bottomless. The

overall shape of the rock is that of a tortoise, and a number of other wild animals and significant spiritual figures can be found in its crevices, including a puma, toucan, tapir, and even the Virgin Mary. In the middle of the rock there are also two hollow areas, which are believed to be the entrance and exit to the rock. For this reason, it is believed that the rock is the home of an ancient anaconda that, whenever it ate an animal, the spirit of that animal would be incorporate into the being of the rock and its shape would thus be manifested on the rock surface. For this reason, the shaman has had meaningful interactions with the spirits in the Sacred Rock and the anaconda within, and the community looks to the rock for stability and meaning (Petronio Rivadeneyra, interview by author, 2015, interview PR03312015; fieldnotes, March 23, 2015).

Photo 3.3. The Sacred Rock of Shiripuno

Source: Author's photo.

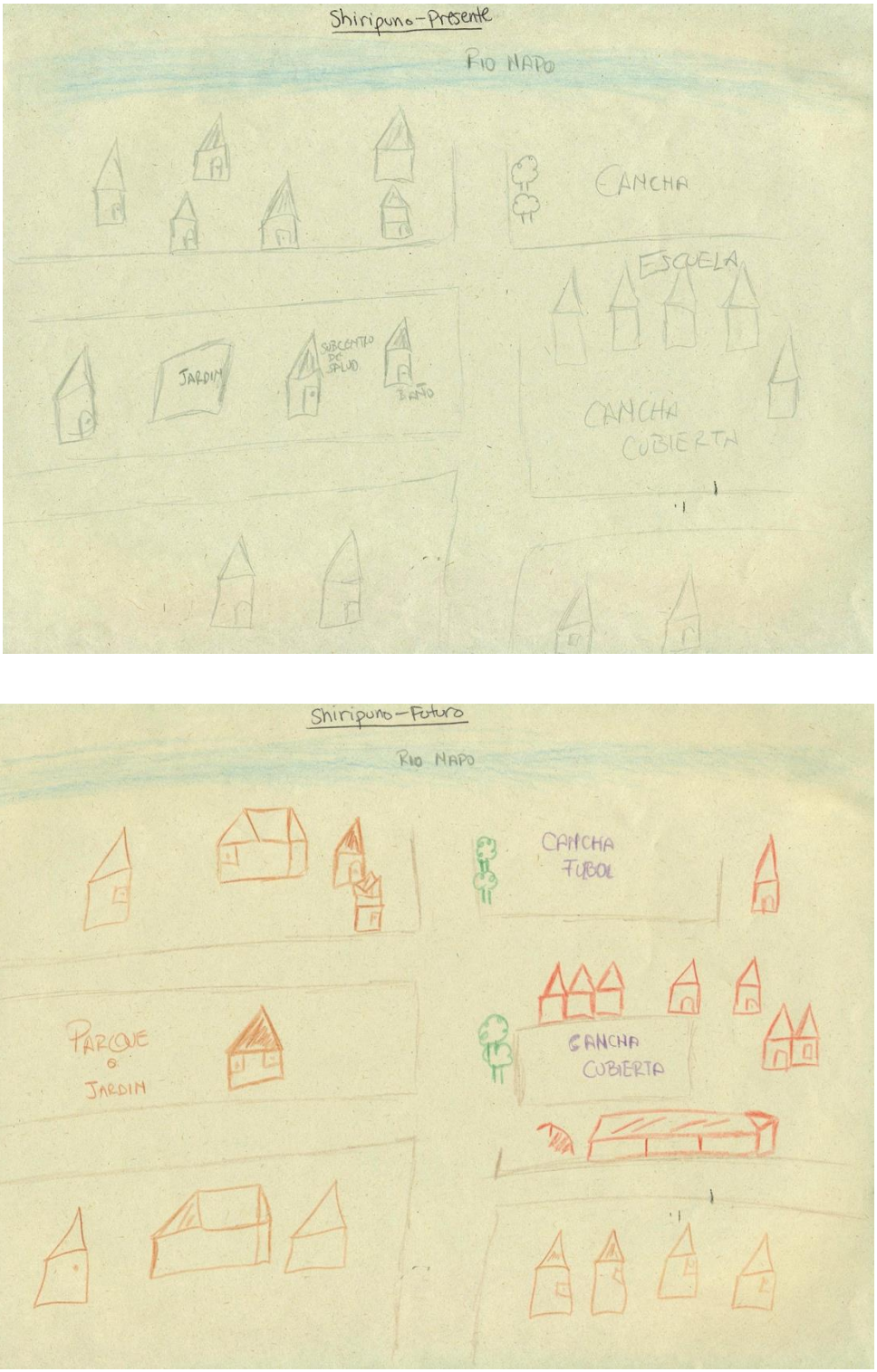
María's youngest son, who has long been vocal and active in the community, describes territory as "living in harmony, between humans, nature and animals" and the forests as "the vitality of every human being, the vitality of animals, the vitality of nature itself, [and] that is harmony, that is living in *Alli Kawsay* [good life]" (Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015). In the younger generation as well, these ideas still exist. One of María's granddaughters, currently 19 years old, describes the forest as a habitat, where the animals live together and where the community has access to resources and food that help them to live well and healthy. She similarly describes *buen vivir* ("living well") as "living in harmony, thanks to nature, with the

animals, without pollution, with healthy food, and healthy work" (Marjory Grefa, interview by author, 2015, interview MG06082015).

In some cases, however, some community members do not explicitly link territory and the forests to living well and living in harmony, but there is still a subtler link for them between territory and their everyday lives. For example, one of María's grandsons, currently 31, describes territory as "where all of the family lives together and near one another," saying that he wants to stay on his grandparents' land because "that is where his family is" (Alfredo Rivadeneyra, interview by author, 2015, interview AR06082015). The forest, he also explains, offers food and fruits to feed his family and trees to build houses for his family. Finally, he states that, for him, being able to live happy and secure with his children and wife are what *buen vivir* means (Alfredo Rivadeneyra, interview by author, 2015, interview AR06082015). Thus, it is clear that, whether directly or indirectly, the Kichwa of Shiripuno have a deep relationship with their territory and the forest, which play key roles to ensuring their *buen vivir*.

In Photo 3.4, the size and central positioning of the Napo River in the map of the community indicates the importance of the river for the young adult who drew the pictures. Furthermore, the inclusion and increased number of trees from the present to the future drawings demonstrate that this young woman values the presence of the forest and hopes that the forest will grow in the future. Moreover, the future drawing indicates only minimal growth of the community, possibly suggesting that the artist expects that the community will strive to live in greater harmony with the environment.

Photo 3.4. Present (top) and Future (bottom) Drawing of Shiripuno by Young Adult (19) Female Community Member




Source: Focus Group Follow-Up, Male and Female Community Members, Shiripuno.

It is also clear that the women of Shiripuno are painfully aware of the changes in different resources in their territory, as illustrated in the diachronic drawings in Photo 3.5. In both sets of drawings by two groups of women (with two women in each group, one in her 20s/30s and one older in her 40s +) during the focus group, it becomes clear that the natural resources are diminishing or being converted into commercialized items, such as housing and commercial agriculture. In addition, the presentations accompanying these drawings added to the feelings of loss in response to these changes. The group describing the drawing on the left explained:

> With the new generation, maybe […] they say that things are already changing, maybe in the end there won't be much be much [agricultural] production here any longer. That's why we made [the *chakra*] less. Here, fore example, before the pollution, there was a lot of water. Now, it is drying up…there are moments when it is dried up, that's probably because of the change, and I think that if we continue like this, then it's going to get worse, to the point where there isn't even going to be water. The same with the forest resources. Everything used to be available; people could just collect them and it wasn't necessary to buy them with money, people could make produce things themselves and people ate well. Now it's rare, they can't be found, and it gets worse over time (Soledad Chimbo, Mercedes Aguinda, Blanca Grefa, Cleidy Grefa, focus group by author, may 6 2015, interview FG05072015).

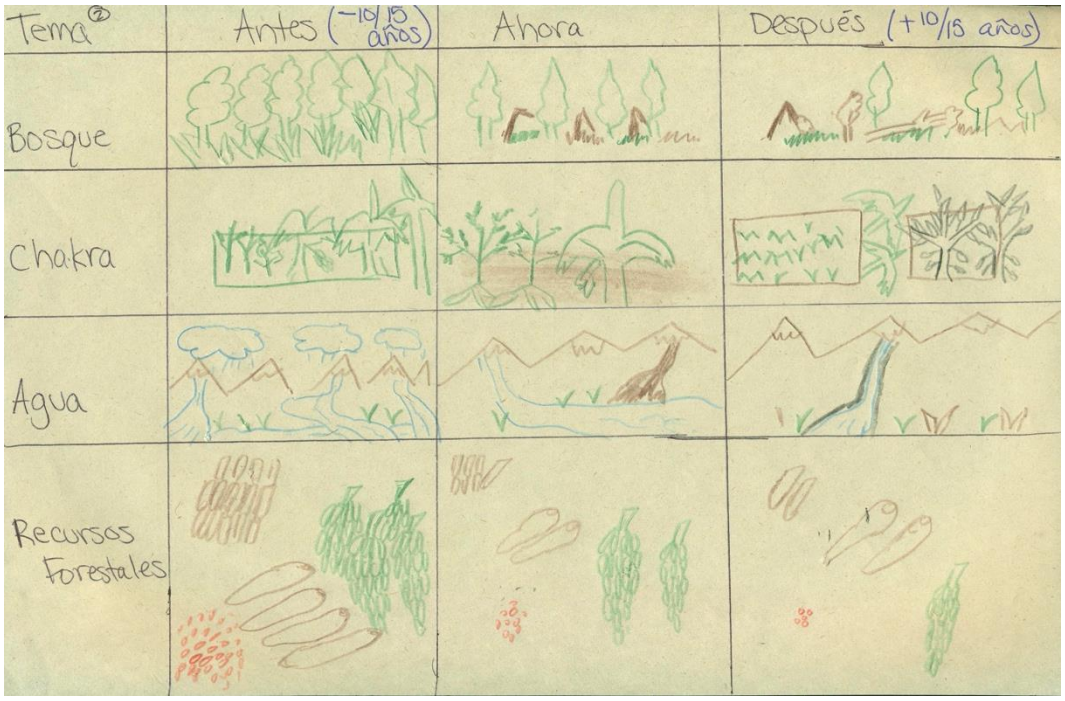
Regarding the drawing on the left:

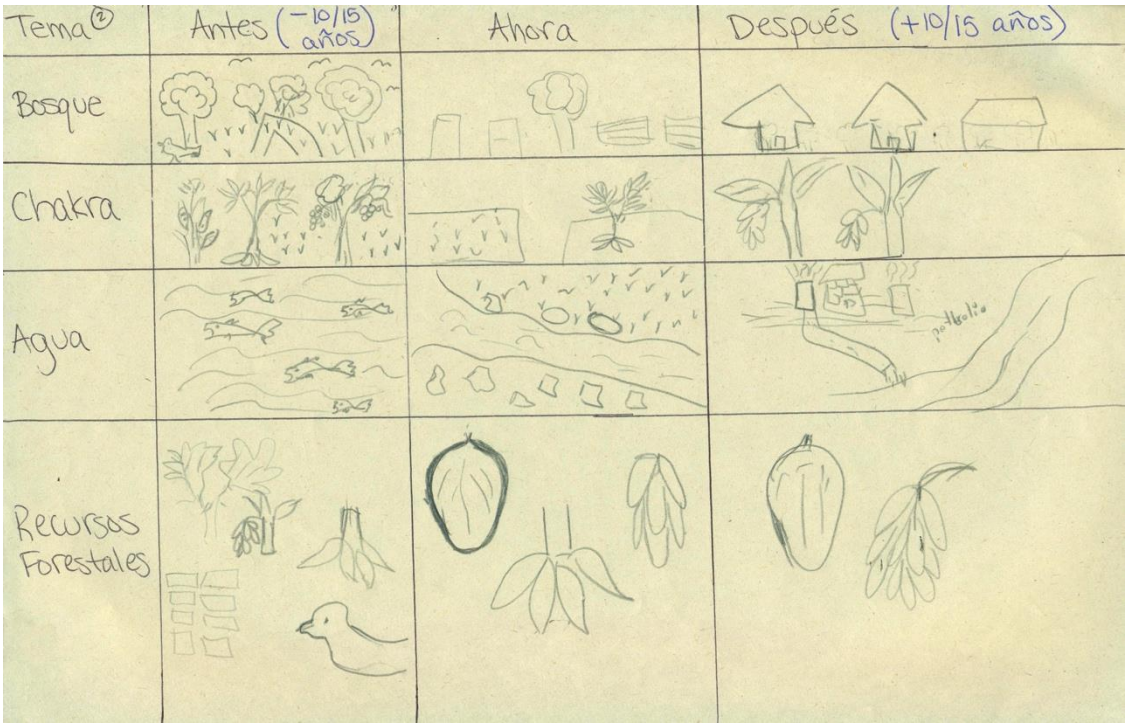
> Regarding the forest, before there was a lot of forest, where there were birds, animals, mountains, plants, and trees. Before we could hunt animals, everything was free. Now, trees are cut down a lot, there are fewer trees and the wood is sold. And later, they will make houses with the wood. In the *chakra*, there was a lot of agriculture, like manioc, plantain, grapes, *chonta*.[2] Now, there is less manioc and little agriculture. And after, there may only be the easiest crops, like plantain […] In the water, there used to be a lot of fish that we could eat. Now, there is a lot of trash [in the water], and there are no longer any fish. The river is smaller and every day it gets smaller. Later, there will be petroleum companies that will send its pollution to the river, and there won't be any more fish. And the forest resources, for example, the *paja toquilla,* manioc, *chonta,*

[2] *Chonta* is a type of palm tree native to the study area.

wood and also animals. Now, I put the *paja toquilla* and, what there is most of [is] cacao, banana and manioc. And after, there may only be cacao and banana (Soledad Chimbo, Mercedes Aguinda, Blanca Grefa, Cleidy Grefa, focus group by author, may 6 2015, interview FG05072015).

Photo 3.5. Diachronic Drawings of Past, Present and Future of Key Elements Completed by Two Separate Groups of Women of AMUKISHMI






Source: Focus Group, AMUKISHMI Women's Association, Shiripuno.

Photo 3.6. Drawings of Community, Male (left) and Female (right)


Source: Primary School Students, "Thank You" Cards for English Classes.

In addition, Photo 3.6 demonstrates that the importance of the environment and a certain degree of awareness of their surroundings is something young children, both boys and girls, are familiar with. The drawing on the left, by a young boy in primary school, clearly indicates the school's location in relation to the (deserted) tilapia ponds in and

the path to the tourist project, as well as the curve of the river and the community's position in relation to the river. The drawing on the right indicates an active ecosystem, including fish and frogs and the rocks and plants along the rivershore necessary to keep the shore intact. Both drawings also illustrate the centrality of the river and vegetation in the children's ideas of their community. Thus, it becomes clear that the people of Shiripuno are aware of their relationship with the environment from an early age.

### 3.1.3. Local Economy: Las Chakramamas and the Native Chakra System

María Grefa, now 75 years old, was always a hard worker, always dedicated to the *chakra* and the cacao she grows there. Her daughters always look up to her as a strong role model, a hard-working, independent and persistent woman. Her husband Leo was an alcoholic, jealous and abusive husband. Although the two left to work together in the *chakras*, she was often the one working the hardest and worrying about whether their children would have enough food in their stomachs. Today, Leo, two years her younger, is bedridden, while María continues leaving the house at the break of dawn every day to work in her *chakras*. Even though she is a member of the Women's Association, she says she prefers to work in the land. It is what she knows, and she laments how the women of Shiripuno today no longer maintain their *chakras*.

Photo 3.7. Chakras of Shiripuno with manioc (left) and plantain (right)

Source: Author's photos.

María's relationship with the *chakra* is not uncommon in Kichwa culture. The *chakra* is an ancestral agroforestry system that guarantees a family's food provision, which often involves short-, medium- and long-term harvesting of crops in a sustainable way that ensures the harmony between nature, animal and human (Teodoro Rivadeneyra,

interview by author, 2015, interview TR06082015). The *chakras* involve a number of essential crops, including manioc (manioc), plantain, and coffee, which are the basic food staples of many Kichwa families, planted alongside the forest and other plants, all in one small area. The *chakras* are areas where Kichwa women work and thus women are the ones with ancestral special knowledge and rituals, such as dances, songs and prayers, to ensure that the *chakras* produce a lot of food for their families (Aníbal Gómez, interview by author, 2015, interview AG05122015).

This relationship between Kichwa women and the *chakras*, however, is about more than just food. Guzmán Gallegos (1997) describes this relationship perfectly. In Kichwa communities, men's gender identity is formed based on their skill and success as a hunter, while women's gender identity is the result of their success in the *chakra*. A woman who is able to produce large manioc in her *chakra* is considered a strong woman, able to provide for her family, and this thereby gives her status within her community and makes her a desirable partner. On the other hand, women who do not work in the *chakra* or produce large manioc, are considered lazy or weak, unable to support a family, and thus an undesirable partner or mother. Consequently, Kichwa women tend to dedicate themselves to their *chakra* and often complete a variety of rituals, including a symbolic "bleeding" (using a natural red dye) on the manioc before planting in order to link their womanhood to the manioc and the soil, giving the *chakra* her strength to ensure the production of plentiful, large manioc. As a result, the *chakra* is intricately tied to a Kichwa woman's womanhood, her gender roles, her pride and her being (Guzmán Gallegos 1997; Whitten 1976).

For this reason, despite the fact that her children are all adults with their own families, María cannot stop working in the *chakra*. It is more than an economic activity, it is what defines her as a woman and being able to produce a lot in her *chakra* is what gives her meaning and pride. This is likely also why she laments the fact that the younger women in Shiripuno no longer work in the *chakras*, especially when their families may not have a consistent source of food (María Grefa, interview by author, 2015, interview MG03312015).

In Shiripuno, the majority of households do not have a stable source of economic income. One out of the six households for which socioeconomic data was collected in Shiripuno had a fixed income, and in that household only one member had a fixed income. Furthermore, three of the six households had at least one child over the age of 18, meaning that in those three households, there were at least three adults without stable jobs. The most common jobs in Shiripuno were tour guides, canoe motorists, and day laborers – jobs that are almost exclusively for men because of the physical force required or dangers involved and that are most often paid for days worked rather than fixed salaries. For the women of the households for which socioeconomic data was collected, they were most commonly involved in the Women's Association, but only noting incomes of between $0-20 per week, depending on the volume of tourists. In two of these households, the family was also had a community store in their homes. Although the stores helped to ensure food security for the family, in both cases they only bring in an average profit of $100 per month, while simultaneously saddling the families with loan payments of well over $100 per month for the investments needed to start the store.

According to socioeconomic data collected for these households, the households do not receive any other regular source of income, other than, in some cases, government support or pensions. As a result of the growing involvement of women in the Women's Association and men's growing dedication to work outside of the community, the families in Shiripuno are dedicating less and less time to the *chakras* and relying more and more on store-bought food (5 of the 6 households indicated buying 80% or more of their food from stores), the family's unstable economic situation puts their food security at a continuously higher risk. With limited time left to be dedicated to the *chakras*, many women ultimately focus on the faster and less labor-intensive products, such as manioc and plantain, meaning that many families rely on meats, vegetables and rice bought from the store. Even tilapia, a once abundant and common food in the region, is often bought from stores in Tena because of the limited time to fish and reduced tilapia availability as a consequence of overfishing. Furthermore, the introduction of "easy-to-prepare" foods like canned tuna and bread as well as "non-native" foods such as pasta has changed the overall food preferences for some families, resulting in greater

dependence on store-bought goods and less incentive to continue working in the *chakras* (observations; fieldnotes; María Grefa, interview by author, 2015, interview MG03312015).

Finally, it can be noted that the *chakra* also create a deep connection between young children and the land, not necessarily only women, and plant the seed of a relationship between all Kichwas and their territory. Grandfather Alonso in Muratorio's (1991) lifestyle recalls his boyhood work in the *chakra*:

> Since we were very young we were already taught to throw the weeds to one side; my mother would tear out those weeds by hand, when clearing the *chagras* [*chakras*] and like that, little by little, we were made to love the land (Muratorio 1991, 55).

This early connection to the land and territory through the *chakra* shows that in Kichwa culture, respect and appreciation of the environment is an integral part of the culture and everyday activities.

In Shiripuno, the gender roles and importance of the *chakra* in defining a woman's strength described by Uzendoski, Muratorio and Guzmán Gallegos does not hold true in many young Kichwa families. Given the fairly traditional roles and disdain for the current activities of some women in Shiripuno exhibited by *Abuela* María, it is clear that these roles were once very much in force in previous generations. With the expansion of the community tourism project and increasing equality between men and women in the community, however, the centrality of the *chakra* in the life of the women is slowly being lost (fieldnotes).

### 3.1.4. "An Independent People": Relationship with External Actors

Overall, Shiripuno has a relatively active relationship with external actors. It works with a number of regional, national and international tour agencies as well as universities and non-governmental organizations through its community tourism project. It has received workshops and occasional support from the Ministry of Tourism, the Ministry of Urban Development and Housing as well as the provincial and parish governments. In comparison with Ilayaku Sardinas and Pununo, Shiripuno has successfully established a

number of meaningful relationships with external actors. The community does not receive support, however, from regional or national indigenous organizations. As many in Napo have noted, the regional indigenous organizations are perceived by many local people as corrupt, while the national indigenous organizations have rarely reached out to the Kichwa of Napo. In consequence, there is an especially weak presence of these organizations in the area.

Most importantly, Shiripuno has developed these relationships on a basis of equality, not dependency. Shiripuno can negotiate on equal grounds with tour agencies as well as solicit support from the government when the community decides to complete a certain project. Thus, Shiripuno is "an independent community", one that does not rely on anyone else to survive, and yet one that has built up an impressive reputation and network of opportunities for itself beyond its own territory.

Photo 3.8. Map of Actors, Product of Focus Group with Women of AMUKISHMI Women's Association

Source: Author's photo.

It is important to identify the implications of being an "independent" community. As shown in Photo 3.8, Shiripuno has different types of relationships with a number of

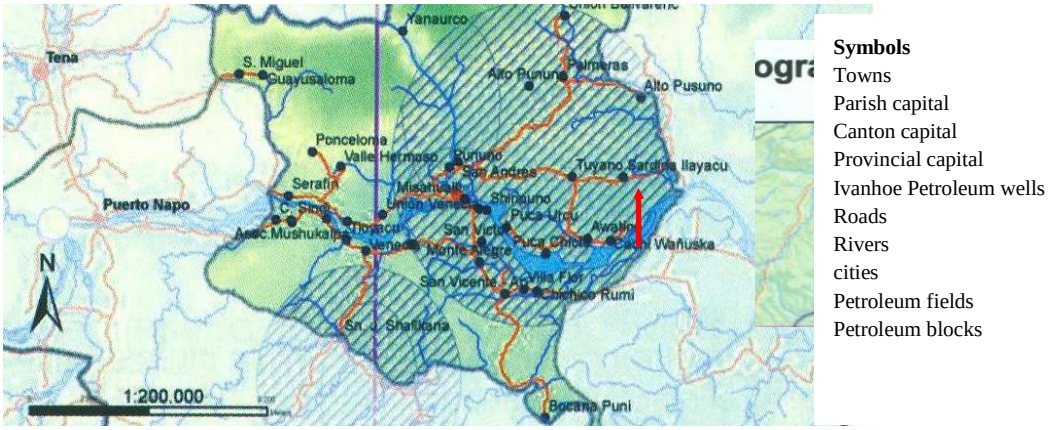
private organizations and local and regional government agencies and has received different forms of assistance from a numerous entities over the years. However, these relationships are not dependent and Shiripuno has obtained autonomy over decisions in regards to what assistance to accept, from whom, and under what conditions. While the community may benefit from some of the relationships illustrated in Photo 3.8, Shiripuno could also succeed on its own, without external help, as a result of its organization and community tourism project that enables the community economic alternatives and a mechanism for asserting their autonomy and cultural identity.

### 3.2. The Kichwa of Ilayaku Sardinas:

Unfortunately, the limited time available to conduct the research in the community of Ilayaku Sardinas made it difficult to obtain the detail and context desired to compare this community with Shiripuno and Pununo. In addition, the day spent in Ilayaku Sardinas was insufficient to gain the confidence of the local men and women to record interviews and ask personal questions, or to be able to observe more subtle interactions within the community. Nonetheless, the information gathered is described in this section and is able to provide some level of comparison with the other communities.

Ilayaku Sardinas is a community of approximately 160 Kichwa people. Similar to Shiripuno, the majority of households include a direct descendent of the community's founding family, the Huatatocas. The community's socioeconomic and cultural structures are relatively more "traditional" than in Shiripuno as the community is significantly farther away not only from the growth of tourism in Misahuallí, but also the parish government, stores, and the other benefits of a municipal center (see location in Figure 3.2). Households must, therefore, produce first and foremost for their family's subsistence and only excess products are sold and only a few, necessary food items are bought from stores (fieldnotes).

Figure 3.2. Map of Puerto Misahuallí (Ilayaku Sardinas indicated with red arrow)




Source: Adapted from Gobierno Parroquial de Puerto Misahuallí (2011: 18).

Based on my observation, the region surrounding Ilayaku Sardinas – also occupied by Kichwa communities – includes deforested areas, pastures and commercial agriculture, though on a much smaller scale than surrounding Shiripuno. Within the territory of Ilayaku Sardinas itself, however, the majority of territory is covered by forest, the community center, or the *chakras* belonging to each household.

Photo 3.9. Agriculture along Road Leading to Ilayaku Sardinas

Source: Author's photo.

Photo 3.10. Cattle and Land Cleared for Pastures along Road to Ilayaku Sardinas

Source: Author's photos.

### 3.2.1 A Brief History

The community of Ilayaku Sardinas began with Pedro Huatatoca and three of his brothers who came to the region from Archidona and Los Quijos in search of better land. They found work on the hacienda of a colonist where the community is now, and in the late 1970s, bought the land from the owner. The community currently holds a communal land title ("título global") over 342 hectares of land, 3 hectares of which are dedicated to the school and communal area. The community's first school was built in 1979, while a new Millennium School was built by the government in 2000. The oldest buildings in the communal area of the community include several of the community's first houses which are now more than thirty years old, built in the traditional *choza* style, as well as the community church, built around the time when the community was founded, as can be seen in Photo 15, depicting the Ilayaku Sardinas in the past. The current population of the community is 70 adults and 90 children, with some families having up to ten children. The youngest children of the community are now the fourth generation to live in community.

Photo 3.11. Past Drawings of Community By a Group of 5 Women


Source: Group Activities in Ilayaku Sardinas.

### 3.2.2. Relationship with the Territory and Forests

Although my short time in Ilayaku Sardinas did not enable me a lot of time to explore the community's relationship with the environment in depth, the social mapping exercise revealed a lot about the community's relationship with their territory. The maps indicate a strong focus on the communal area of the community, around which most of the houses are located. The *chakras* were also an integral part of the territory, as were the roads from Misahuallí, as they were included in nearly all of the maps. In some maps, such as the map on the left shown in Photo 18, mining in the northern part of the territory as well as the Jungle Lodge Suchipakari were also included in their territory. What is interesting to note is that the forested areas of the territory were not included in any clear way in the maps, despite the fact that an estimated 75% of the territory is primary forest.

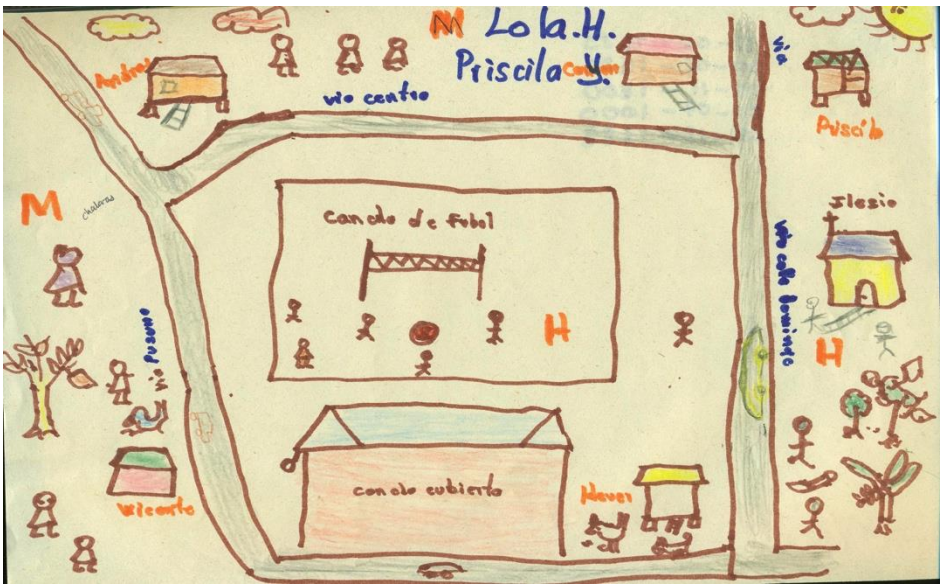
### 3.2.3. Local Economy

The local economy is based primarily on subsistence. Each family has their *chakra* where they general have manioc, plantain and oranges for the family's consumption. Many families also have an area where they grow cacao and corn, which are normally sold in Misahuallí or Tena. The women were those who primarily worked in the planting and harvesting of the family's *chakra*, providing for the family's wellbeing, while the men normally worked in the areas with the crops to be sold outside of the

community. In some cases, the men also worked as day-laborers on nearby farms, though this was most often only occasional work. These roles can be seen the maps in Photo 3.12, 3.13 and 3.14, where the "M" ("Mujer") often marks where the women work in the *chakras* and the "H" ("Hombre") is often found alongside corn and cacao or next to the road leading out of the community. Given the location of the community and brief interaction with the community, this seems to be the most common division of labor and sources of income for the majority of households in Ilayaku Sardinas.

Furthermore, the maps drawn by women in Photos 3.12 and 3.13 are slightly distinct from those drawn by men in Photo 18. First, the maps drawn by women tend to include more detailed drawings and positioning of the agricultural activities within the communities, and often include animals, while the maps by the men are more simplified in portraying these types of activities. In addition, the women's drawings are more focused on the communal area of the community, while one of the drawings by men (as well as others not pictured) included a more universal drawing of the territory in relation to other communities. This is likely because the women in Ilayaku Sardinas are more focused and spend more of their time in the community, while it is more often the men who leave the community to work and to go to the store/sell products (fieldnotes).

Photo 3.12. Social Mapping Completed by Two Separate Groups of 5 Women

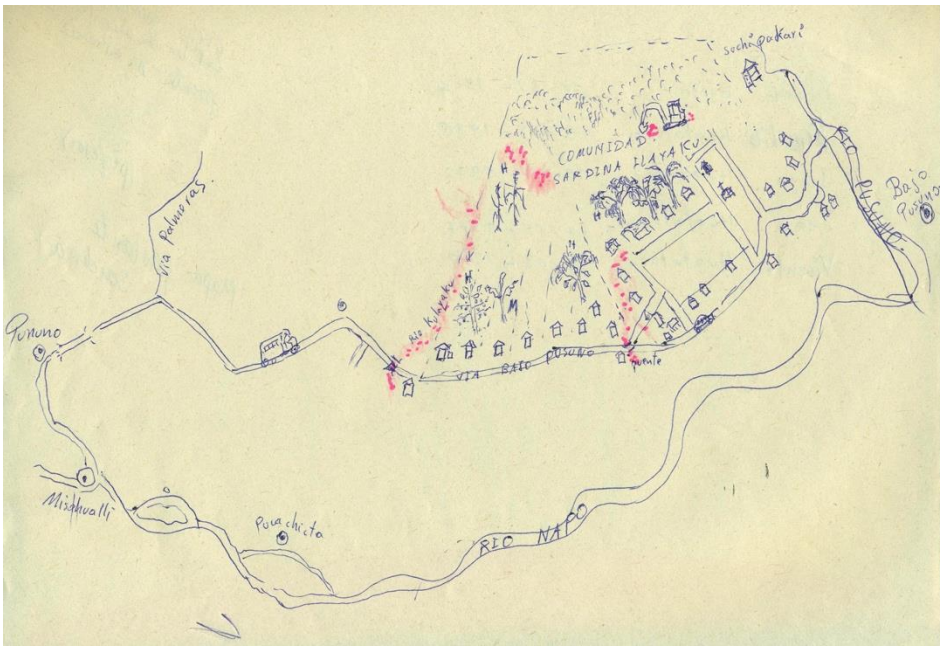


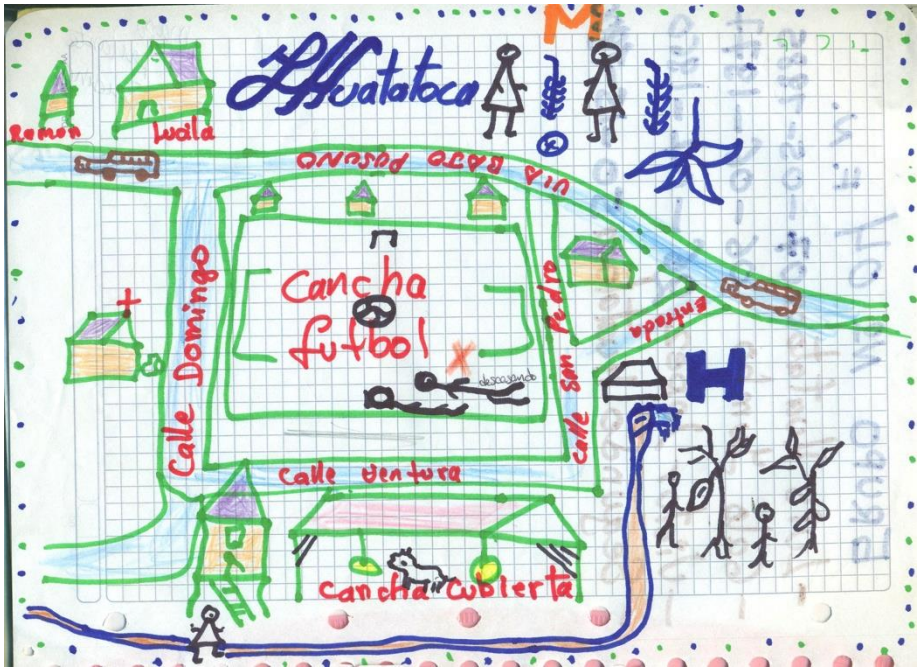

Source: Group Activities in Ilayaku Sardinas.

Photo 3.13. Social Mapping Completed by a Group of 5 Women


Source: Group Activities in Ilayaku Sardinas.

Photo 3.14. Social Mapping Completed by Two Separate Groups of 5 Men (first map) and 4 Men (second map)




Source: Group Activities in Ilayaku Sardinas.

Although the social mapping did not indicate a significant presence or importance of forest in the community and there was no indication of programs or initiatives focused on the conservation of the forests, the importance of the *chakra* in the community and the limited alternative forms of agriculture (such as cattle) indicates a relatively

sustainable use of the land and resources that indirectly and subconsciously promotes the conservation of the forests.

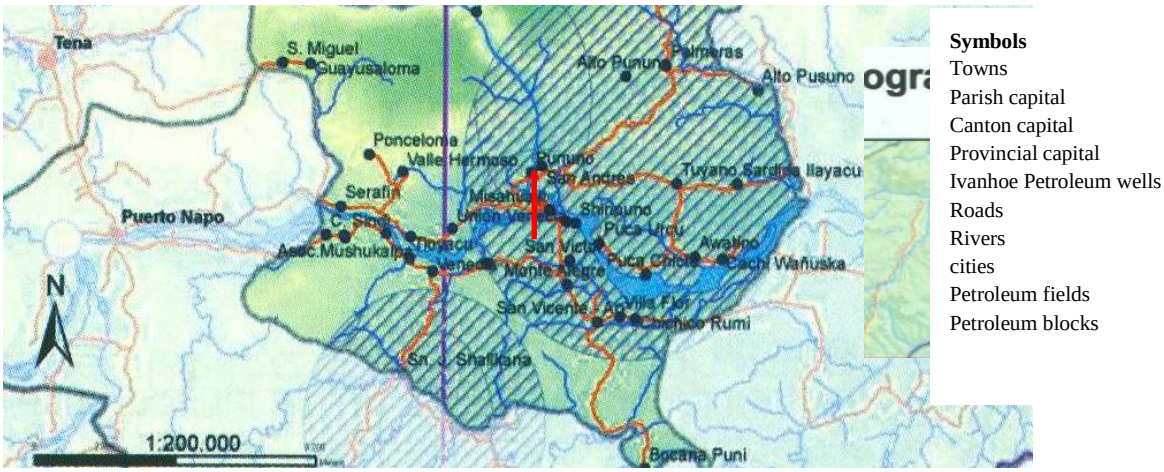
### 3.2.4. From Mining to Toilets: Relationship with External Actors

Despite Ilayaku Sardinas's relative geographic isolation, it has received significant support from external actors, including the Catholic church (with a nun who visits the community each week for catechism); certain non-government organizations, such as *Ayuda en Acción* that helped construct public restrooms in the community; the nearby Jungle Lodge Suchipakari, which occasional visits with volunteers; and, to some extent, the Government, which built the community's school, community meeting hall and covered soccer field. In addition, the community has an economic relationship with artisanal miners whom the community has granted permission to mine in the northern area of their territory in exchange for a small payment, and who rent the community's meeting hall (which the community did not use) to store their equipment. Surprisingly, the mining did not come up in the short discussions about the environmental impacts in the community. Other than the mining and the church, it seems that the rest of the community's relationships with external actors are distant and only once in a while.

## 3.3. The Colonists of Pununo

Overall, the history of Pununo is quite unclear and varying. The community is relatively new and emerged in response to the need for a central populated area to justify the installation of a local school and other public services. However, the majority of "residents" have their farms long distances from the center and the central population is of a sporadic nature. During the school year and school week, more families live in the town center, while vacations and weekends are generally spent on the families' farms. The population is also relatively divided, with families having migrated from different regions and cultures and thus making trust and a feeling of community rare among families in Pununo (fieldnotes; observations). As a consequence of this division, Pununo is not a legally recognized town, despite having a population of approximately 300 people, making it one of the largest colonist communities in the parish (Gobierno Parroquial de Puerto Misahuallí 2011).

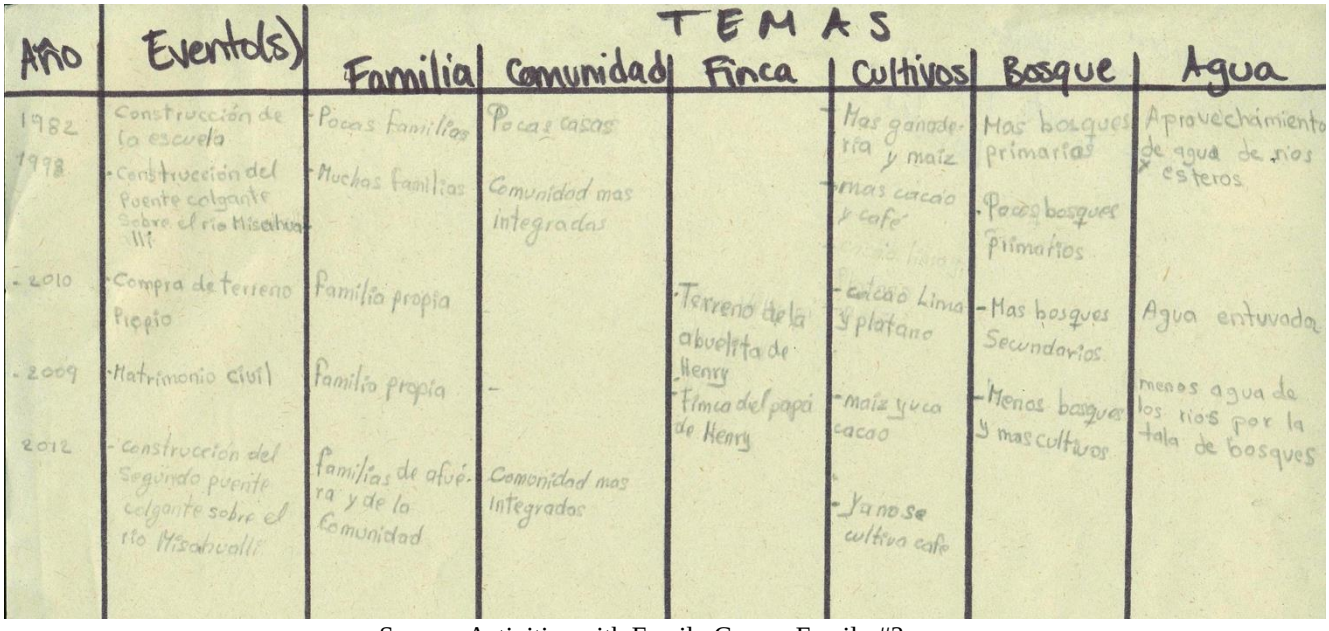
Figure 3.3. Map of Puerto Misahuallí (Pununo indicated with red arrow)




Source: Adapted from Gobierno Parroquial de Puerto Misahuallí (2011: 18).

As can be seen in Photo 3.15, the timeline of the Pununo involves fairly recent activities (the first being in 1982) and the events defined by this family group center primarily around the family itself, indicating the household-centered focus prevalent in Pununo.

Photo 3.15. Community Timeline Completed by Male and Female Heads of Household




Source: Activities with Family Group, Family #3.

The colonist families of Pununo are distinct in socioeconomic and political structure than Shiripuno and Ilayaku Sardinas, yet their cultural structures are becoming more and more

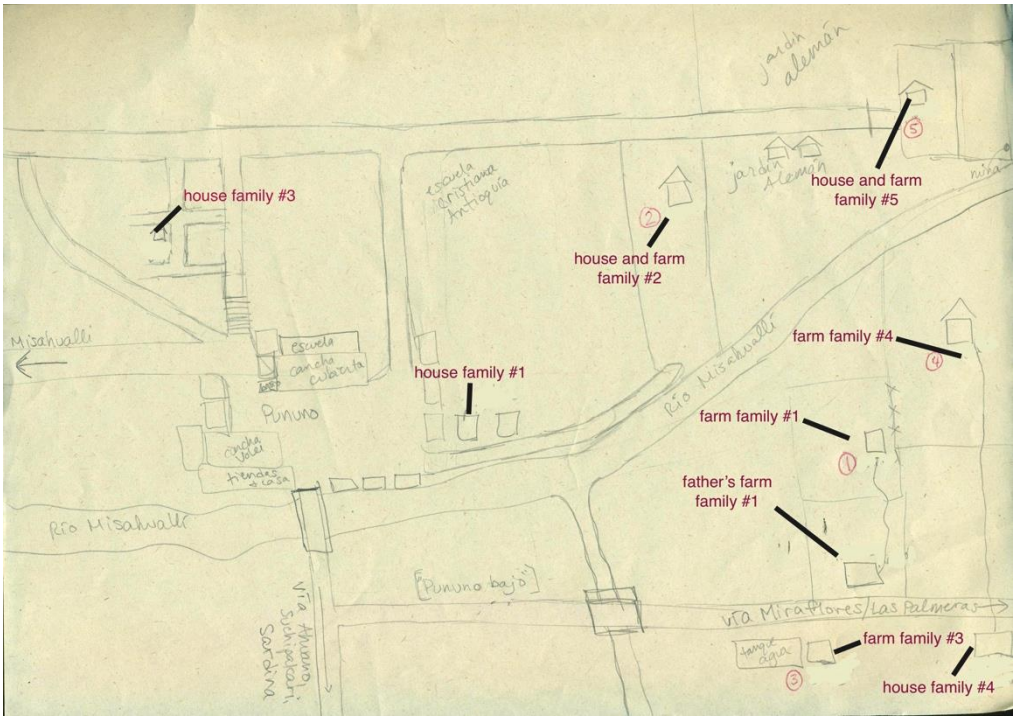
alike. For ease of reference and comparison, Table 3.1 compares the characteristics of the five colonist families visited during my fieldwork. In addition, Figure 3.4 is a map hand-drawn by the author, showing the approximate (though not to scale) location of each of the families relative to the center of Pununo.

Table 3.1. Overview of the Five Colonist Families of Pununo

| **General Information: Colonist Families** | | | | | |
|---|---|---|---|---|---|
| | **Family 1** | **Family 2** | **Family 3** | **Family 4** | **Family 5** |
| **Age of Heads of Household** | F: 32; M: 24* | F: 32; M: 34 | F: 25; M: 32 | F: 27; M: 33 | F: 44; M: 54 |
| **Origin/ Generation in Pununo (Female Head of House)** | 2nd Generation (Ambato, Tungurahua Province) | 1st Generation (Chone, Manabí Province) | 2nd Generation (Ambato, Tungurahua Province) | 1st Generation (Ambato, Tungurahua Province) | 1st Generation (Echeandía, Bolívar Province) |
| **Marital Status (Female Head of House)** | Civil union (2nd) | Civil union (1st) | Married (1st) | Married (1st) | Civil union (3rd) |
| **Education** | Both incomplete primary school | Both complete secondary school | Both complete secondary school | F: incomplete secondary school; M: incomplete college | Both complete primary school |
| **Number/Age of Children** | 3 (previous marriage - 12-year-old girl; 10- & 7-year-old boys); 1 (2-year-old girl) | 2 (13- & 12-year-old boys) | 2 (6-year-old girl and 2-year-old boy) | 2 (10- & 8-year-old boys) | 4 adult children from previous marriage (16 + years old); 2 children from husband's previous marriage, ages 15 and 17 |
| **Land and Deforestation** | Private (joint) - 25 hectares - Around 75% deforested (by previous owners) | Hired as caretakers (private) - 9 hectares - Around 80% deforested (by previous owners) | Private (joint) - 10 hectares - Around 90% deforested (by previous owners) | Private (joint) - 25 hectares - Around 60% deforested (by previous and current owners) | Private (husband only) - Approximately 60 hectares - 90%+ deforested |
| **Economic Activities** | Cattle (9), chickens, pigs, fruit, wage labor (husband - agriculture) | Fixed income (caretakers); constructing infrastructure for tourism; cacao | Cacao, corn, fruits, pigs, chickens, cattle (6), fixed salary (husband with Municipality) | Cheese, Milk, Cattle (36), Cacao, wage labor (husband - agriculture), Pigs, Chickens, Fruit | Cacao, fruit, wage work (husband - agriculture); wage work (F - cooking/cleaning at hotels) |
| **Bank loan/credit?** | Yes ($300/month) | No | No | Yes ($2100/year) | Yes ($120/month) |

Source: Prepared by author, based on informal interviews and socioeconomic and demographic data collected from each household. * "F" indicates female head of household; "M" indicates male head of household.

Figure 3.4. Map of Relative Locations of Colonist Families' Homes and Farms




Source: Drawing by author. (Note: not drawn to scale. Family #4's farm is a considerable distance farther down the road towards Miraflores/Las Palmeras from family #1's farm)

The history of the colonists varies greatly with each family. For the most part, the current colonist population of Pununo is the second or third generation in the region, and their parents or grandparents mostly likely came to the region in the 1970s from the central or southern provinces of the Andes, including Bolívar, Azuay and Tungurahua. Most settled in the area of Pununo or further up the same road in other colonist towns such as Palmeras, Tres Hermanos, Miraflores or Unión Bolivariense, where there was more land available at that time. Historically, the farms and communities in this region were spread out, with small or nonexistent city centers, implying a strong independence and relative isolation of colonist families.

Of the colonist towns in this area, Pununo is now one of the biggest, with approximately 300 people, though it is not a legally recognized town. Over the last few years, there has been a steady growth of the population in Pununo because of access to the schools. Although many of these colonist towns used to have their own schools, nearly all of these schools shut down because there were not enough students. Within the last few

years, the school in Pununo also closed down. The nearest school is currently in Puerto Misahuallí, which can be more than an hour's distance from some farms, and, as a result, many colonist families were forced to rent a lot in Pununo, which is about ten minutes from Puerto Misahuallí. Other families who had farms far from the main road (a total of 2 hours from Puerto Misahuallí) had to rent houses or live with relatives with land on the main road so that their children can catch one of the two early morning buses that can take them directly to Puerto Misahuallí. In these cases, the families either temporarily abandon their land until the summer months or until their children are older, or they make the trip up to farm every day to tend to the animals and crops, a journey of around one hour each way in some cases.

The lack of legal status of Pununo has led to a number of problems in the face of rapid, uncontrolled growth, with the area of the town nearly doubling over the past five or ten years and many homes poorly constructed and some lacking basic services such as running water. The community was thrown together haphazardly, and the colonist families, who are used to independent and isolated family units and do not trust other families, have shown no interest in coming together and organizing as a community.

The families visited during my fieldwork included one woman whose father had come to Pununo from Tungurahua and who had to rent a lot in Pununo for her children to be able to go to school because her farm is about 1.5 hours from the town; two young women (sisters) whose parents came to the area of Miraflores (a sector neighboring Pununo) from Ambato, one of whom has a house in Pununo and the other of whom has had to rent a house on the main road, one hour from Pununo, because her farm is another hour from the main road; one woman whose family is from the province of Manabí on the coast and who are the caretakers of land in Pununo owned by a man from Quito; and a woman who is from the province of Bolívar and whose farm is located about 45 minutes from Pununo.

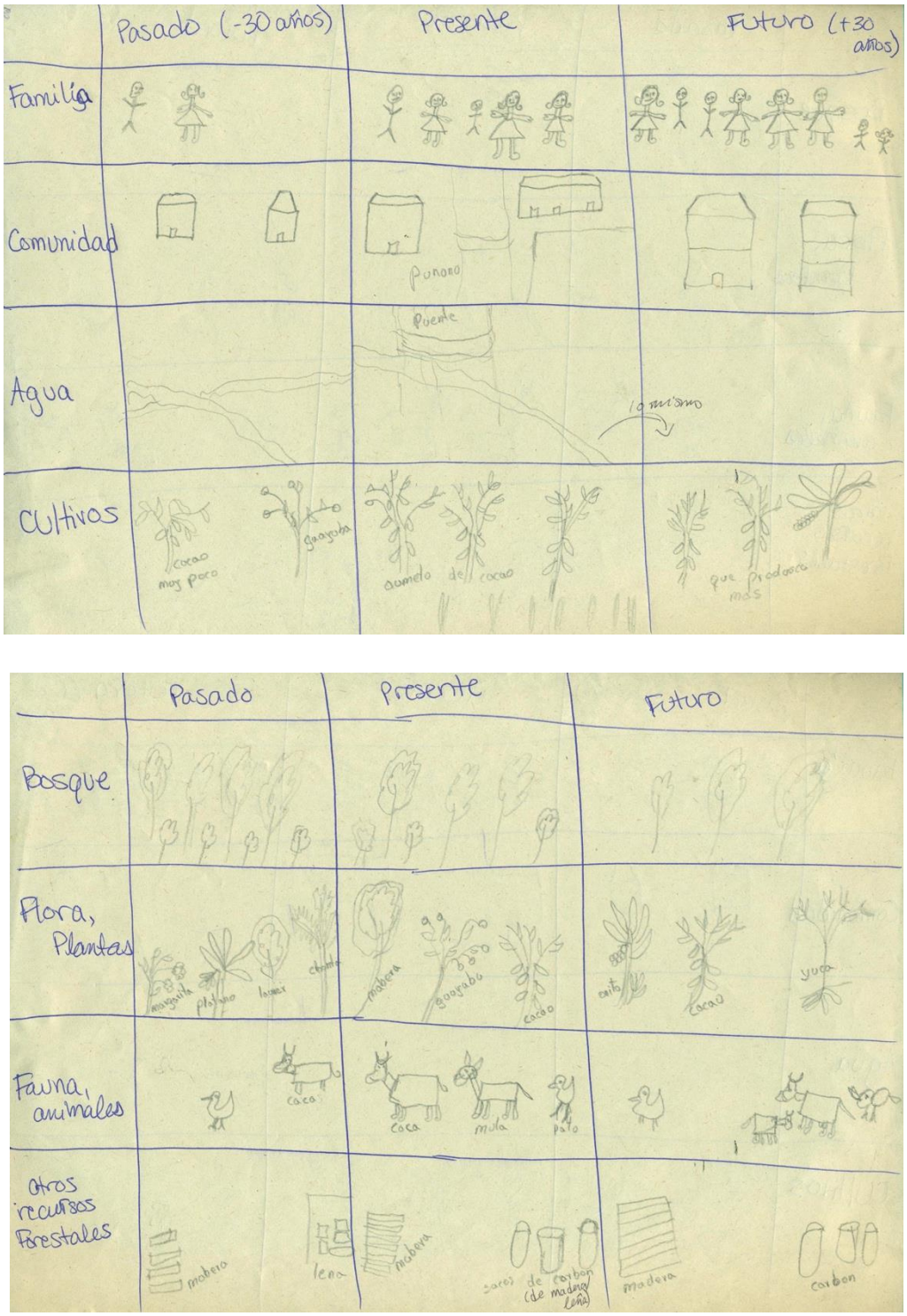
### 3.3.1. Relationship with Territory and Forest

The colonist families have a notably distinct perception of territory and forest than the Kichwa of Shiripuno and Ilayaku Sardinas. To begin with, their relationship with their

territory is purely economic, as indicated in nearly all of the maps drawn by the families. The farms in the maps drawn were often divided into squares based on land use – specific crops, pastureland, forest, and etcetera. Three of the five families visited had bought their current farmland within the last ten years or less, also indicating that they have little to no historical relationship with the territory, and at least two mentioned wanting to buy more land in the future. This indicates that changing possession of land is normal for many colonist families, unlike the situation in Shiripuno, where some families want to stay on their family's territory specifically *because of* their family history on the land.

Furthermore, the comments made by many of the colonist families in regards to natural resources and forests, particularly in Dialogue with Photos and the Diachronic Drawings, the forest resources, plants and animals were nearly always represented by firewood and timber, crops and domesticated farm animals (chicken and cattle), respectively. In the Kichwa communities, forest resources often included seeds and medicinal plants while plants and animals more often implied wild flora and fauna. In addition, during the Dialogue with Photos done with two colonist families, they were able to identify the specific breeds of cattle and type of pasture and grass in the photos, but they had very little to say regarding the pictures of the rainforest and river. Finally, when asked if they were planning to cut the remaining forest on their land to make room for more pastureland, the wife said "no" because that create flooding from the stream at the edge of the property, while the husband said "no" because removing more forest from the land would decrease the land's value when they decide to sell it in the future. These commercial-oriented perceptions and rationales related to territory, forests and nature in general demonstrate that the colonist families in Pununo have an almost wholly economic perception of the forest and forest resources.

Photo 3.16. Diachronic Drawings of Past, Present and Future of Key Elements (Family, Community, Water, Crops, Forest, Flora/plants, Fauna/animals, Other Forest Resources) Completed by Female Head of Household

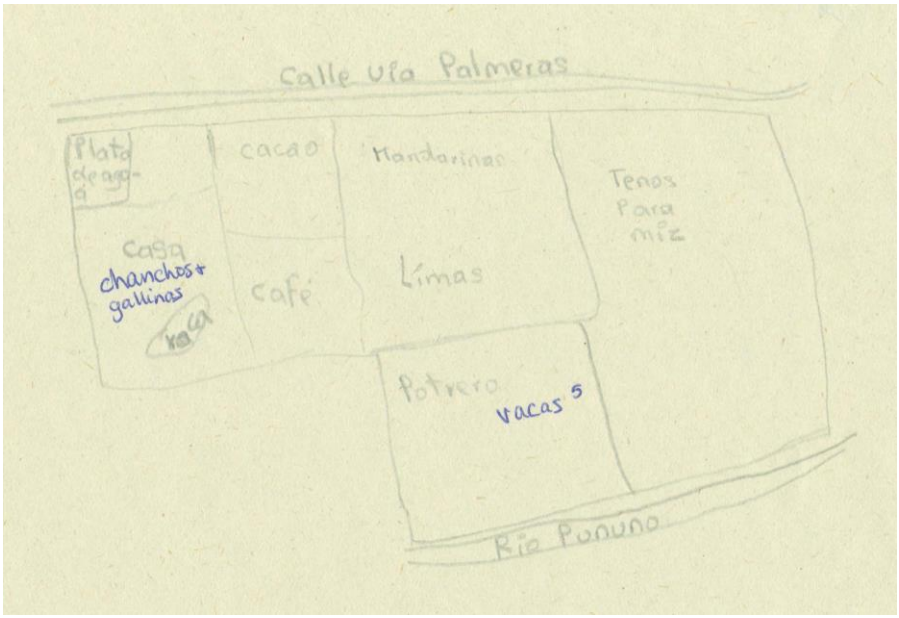



Source: Activities with Family Group, Family #1.

In the diachronic drawings completed with Colonist Family #1 in Photo 3.16, it is clear that the perspective of the woman who completed these drawings is more focused on production than the environment itself. For example, water is in reference to the existence of the bridge or not, not the quality of the water or size fo the river. The flora and fauna are farm animals and crops rather than wild animals or plants native to region, and the other forest resources include wood and coal, which have a solely commercial use, compared to the seeds and *paja toquilla* identified by women in Shiripuno. This detachment from natural resources beyond those for commercial use provides an explanation for why colonists are less conscious or concerned about the environmental impacts of their economic activities

Furthermore, the farm map shown in Photo 3.17 demonstrates how nearly all of the colonist families have a view of their farm in terms of production, not of resources or other elements indicating a deeper relationship with their surroundings.

Photo 3.17. Map of Farm Completed by Male Head of Household




Source: Activities with Family Group, Family #3.

### 3.3.2. Family Economy and Economic Diversity

The colonist families I visited during my fieldwork showed significantly more economic diversity in general than Ilayaku Sardinas and Shiripuno. All five families had a variety of farm animals (two had less than 10 heads of cattle, one had 36 heads of

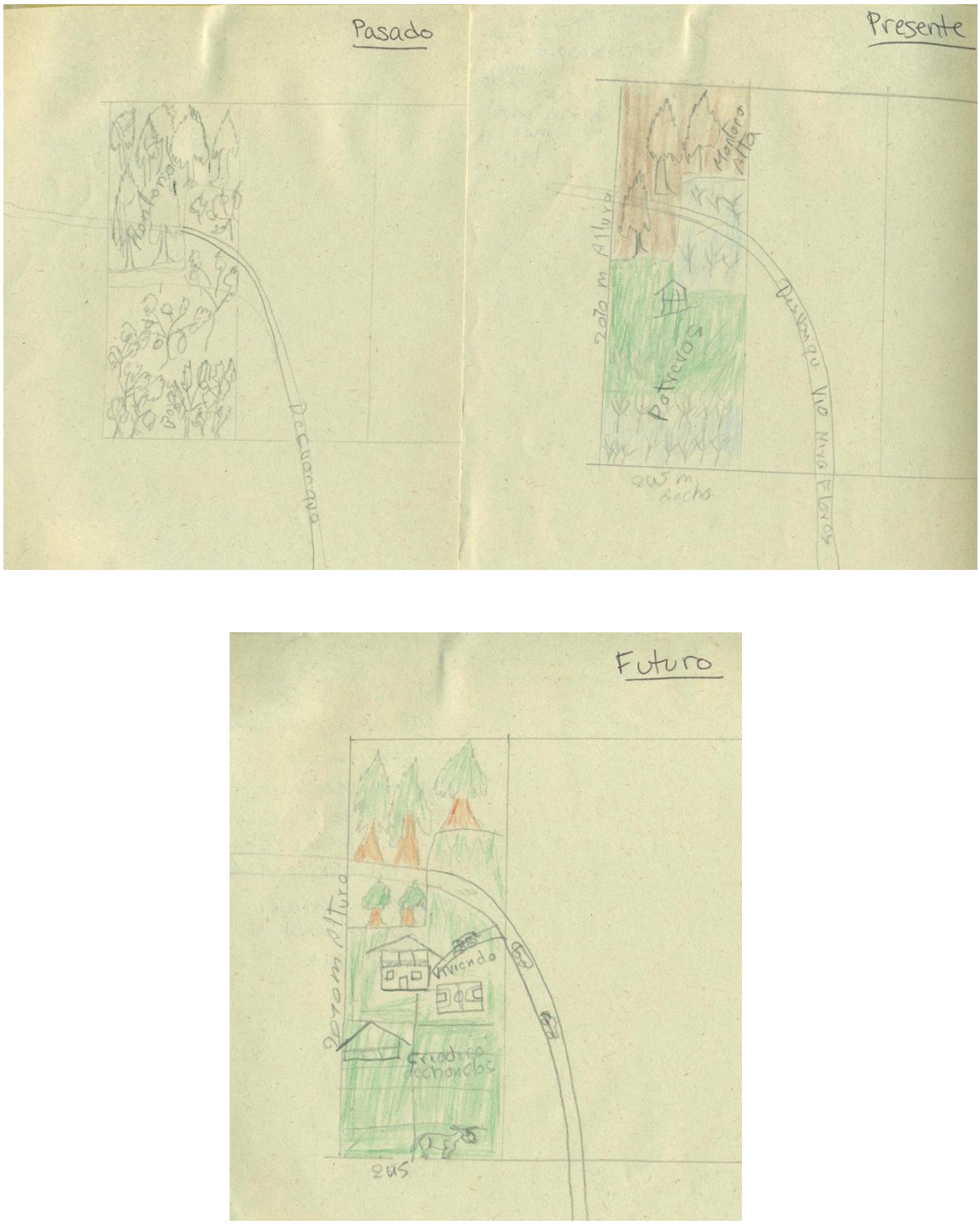
cattle, and a fourth used to have around 50 heads of cattle, but not anymore; all had pigs and chickens; one had ducks; and another had goats) and all had or had had commercial crops, including cacao, corn, coffee, oranges and other fruit trees, at least 90% of which was to be sold. Four of the five families described having significantly changed their primary agricultural activities in the recent past, such as decreasing cacao (required too much time), coffee (market price is too low), or corn (used up the soil nutrients too quickly) production, and four of the five families also described in detail different ideas for future activities (such as large-scale raising of pigs and a greenhouse to grow vegetables that normally cannot be grown in the region), most often citing these activities as being more profitable. As can be seen in Photo 3.18, the maps of the farm from the past to the present to the future become progressively more complex, with constantly changing economic activities in each period.

One of the colonist women also produced cheese that she sold locally, and her parents were one of the only families in the region to make sugar cane and cane honey. Furthermore, though none of the families were involved in cutting timber at the time, most knew people who were, had done it in the past, or were planning to do it in the future. During my visit to the first family, we encountered her husband and brother bringing timber down from the deeper area of her father's land to the main road, where it was to be picked up by an intermediary buyer later that week (see Photo 3.19). The 233 trees approved to be cut by the Ministry of the Environment, she estimated, would be cut and sold within three months.

Photo 3.18. Timber Ready to Be Picked-Up by Intermediary Buyer

Source: Author's photo, Family #1.

Photo 3.19. Past/Present/Future Drawing of Land Completed by Male Head of Household



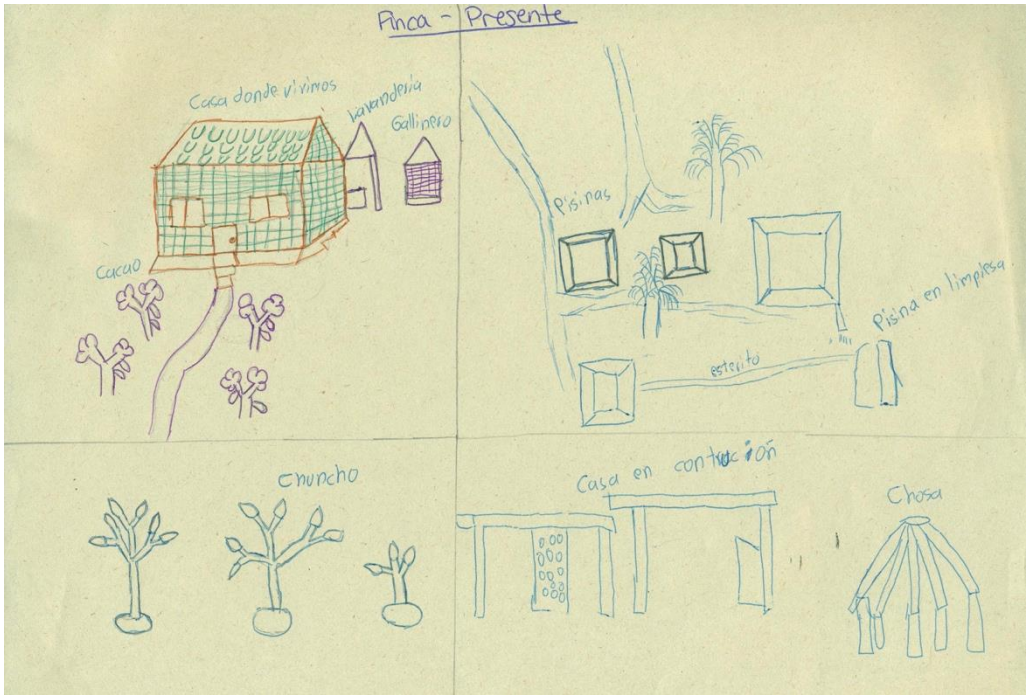

Source: Activities with Family Group, Family #4.

Photo 3.20. Female Head of Household Milking Cows to Make Cheese

Source: Author's photo, Family #4.

As shown in the socioeconomic data collected for the households of the colonist families, the variety of agricultural and other economic activities done by these families resulted in more sources of income that protects these families from the same lack of food security experienced in Shiripuno. For example, Photo 3.21 illustrates the current activities on the family's farm and had to be divided into sections to be able to fully show the variety of projects going on.

Photo 3.21. Present Drawing of Farm




Source: Activities with Family Group, Family #2.

Of the five colonist families, 2 had a source of fixed income, one being the family serving as caretakers, who received a monthly salary from the landowner, and in the other case, the husband received a fixed monthly contract to work at the municipal water plant in exchange for lending part of their land to the municipality for the water plant. In the other three colonist families, the husbands also work as day-laborers (generally at $15 per day for agricultural work). In addition, these three families also have invested in buying chainsaws and/or weed cutters, which increases the payment as a day-laborer ($15 per day for the work plus $15 per day for the use of the machine).

Four of the families (excluding the caretakers, as the money made from crops went to the landowner) made at least $60 per month from different fruits, corn, plantains and other assorted crops, between $90-200 per month from cacao and about $40 per week from cheese. Furthermore, one pig (when it is 1 year old) can sell for $300, a cow for $600 (at 2 years old), and a bull for $800 or more (at 2 years old). Although it can be an expensive investment to buy feed, vaccinations and other things for the farm animals, in the long run it pays off. The family with 36 cattle is able to sell at least four or five bulls every year (with a yearly profit of $5000-$8000 just from the bulls), while keeping the new cows to expand the number of cattle they have as well as the reproduction rate of their cattle.

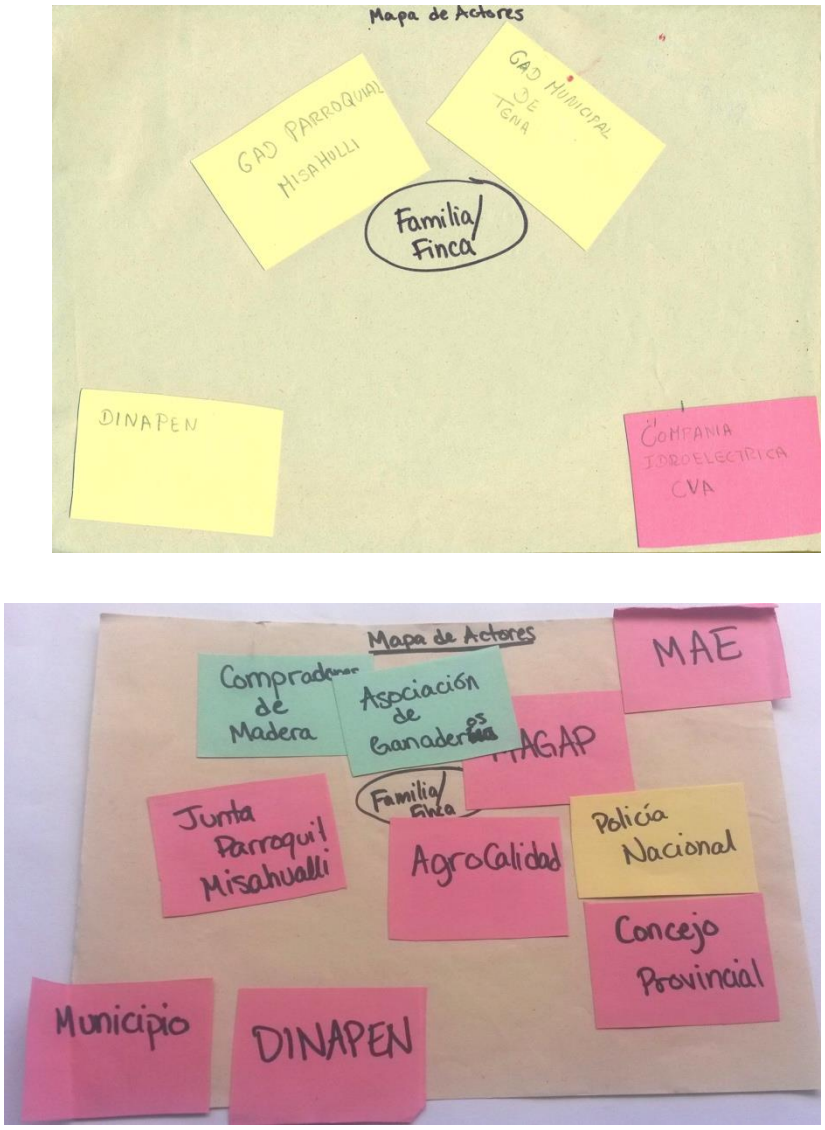
As a result, although the colonist families tend to have higher monthly expenses for their agricultural activities, the long-term profit makes the investment worth it. The household data collected also revealed that three of the families have at least one loan likely used to make that investment.

### 3.3.3 Relative Independence of Colonist Families

Despite the fact that the colonist families were generally more knowledgeable about the regulations, requirements and services offered by different institutions and ministries, they were generally relatively independent from external actors when compared to Ilayaku Sardinas and Shiripuno. The Ministry of the Environment is only involved when there is a request for a license to cut timber; the Ministry of Agriculture is only

present every three months or so to provide vaccinations for cattle; the Ministry of Urban Development and Housing only provides housing for the elderly or disabled in Pununo (unlike in Shiripuno where all families could apply for a house); and most of the farms do not receive electricity or running water. They do not receive help from non-governmental organizations or international organizations as Shiripuno and Ilayaku Sardinas do for funding or volunteer projects.

Photo 3.22. Maps of Actors Completed by Female Head of Household, Family # 3 (top) and Male Head of Household, Family #4 (bottom)




Source: Activities with Family Group, Family #3 and #4.

As can be seen in the Maps of Actors in Photo 3.22, there are considerably fewer actors involved in the colonist farms than in Shiripuno, and many of those actors listed have limited to no real impact on the colonist farms.

Furthermore, as Pununo is not a legally recognized town, they do not have political representation, and thus town cannot ask for basic services such as running water. Although there is a Cattle-Farmers' Association in Pununo, may local residents believe that it is corrupt and untrustworthy, so none of the colonist families I visited were members. Moreover, as discussed above, the colonist families lack any type of political or social community structure. Therefore, most colonist families are completely independent and must rely on their own family units to put all of their effort into guaranteeing their families' economic and food security, with dangerous implications for women in these families.

### 3.4. Interfamiliar and Intercommunity Conflicts, Attitudes and Relationships

The majority of conflicts in the Napo region occurred as early as the 1940s and through the 1970s during different waves of colonization in the region (Guzmán Gallegos 1997; Muratorio 1991; Schmink and Wood 1992; Whitten et al. 1989), as discussed in Chapter III. Since then, as all of the interviews conducted during my fieldwork in which this topic came up concur, nearly all of the land in the area of Misahuallí now has an owner and conflicts over land are essentially non-existent. What these same sources do note, however, is that intrafamiliar conflict over land is quite common, as children fight over lands they are to inherit from their parents (Vicente Andi, interview by author, 2015, interview VA05112015; Christian Velaso and Aníbal Paspuel, interview by author, 2015, interview CVB05192015; Patricio Guevara, interview by author, 2015, PG05112015; Laura Izurieta, interview by author, 2015, interview LI08062015). The case of Shiripuno is no exception. At the time of my fieldwork, María Grefa's children were in the midst of heated arguments over their land inheritance, which supposedly was not divided equally among all of the children (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015; Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015). As one of the younger children, who received a smaller inheritance than her older siblings, argues:

> Now, since my father was able to obtain 45 hectares of land, […] we are in the middle of conflicts between siblings because the land was not divided equally. The older siblings have more land than the younger siblings, and we [the younger siblings] barely have anything […] [It's because our parents] thought they weren't going to have more children, so [the older siblings] took more land, which is a problem. So now we are claiming an equal inheritance because were are all children, we all have the right to receive an equal part. If it's 4 hectares, all of us receive an equal part, 4 hectares. If it's two, then two hectares. That's the conflict we are in the middle of (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

In the case of Shiripuno, the conflict over the land inheritance could have serious implications for the community. The community tourism project is currently on land on "loan" by *Abuela* María. If that land is part of the inheritance of one of the siblings not involved in the project, then he or she will have the right to get rid of the project and tourism infrastructure, which could mean the end of the Women's Association and community tourism project as a whole (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

The lack of land conflicts between Kichwa and colonist families in the region, however, does not mean that the relationship between the cultural groups is amicable. In some cases, the Kichwa blamed extreme environmental destruction on the colonists because they do not value the environment and the forests in the same way, and they do not understand the balance in the harmony between humans, animals and nature. For this reason, Shiripuno's former President argues:

> [The colonists] are the worst destroyers that have arrived in the Amazon because they do not love harmony. They do not have the harmony between nature and humans. For them, it's large-scale farming or large-scale farming […] in the colonist areas, there is always deforestation. They are the destroyers of the forest (Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015).

The colonists are criticized for only thinking about their personal economic benefit without considering the larger social and environmental consequences of their actions.

The colonists, on the other hand, have their own attitudes toward the Kichwa. Some of the colonist women I visited described their personal experiences with Kichwa women in the region, who ended up backstabbing her and breaking her trust. The Kichwa, thus cannot be trusted, and they gossip about everyone and everything. Another colonist woman explained how alcoholism was a huge problem in many Kichwa communities, for both men and women, which means that they do not work hard in agriculture, and they do not take responsibility as caretakers and role models for their children. For this reason, she says, she sees a lot of troubled youth in the community and does not allow her children to hang out with them. Furthermore, during a Dialogue with Photos activity with a family unit, the family responded to a photo of a Huaorani family in their traditional home made of branches and leaves with a dirt floor, declaring, "the comfort of the natives", indicating that the photo shows how the indigenous do not have an interest in "improving their lives". These attitudes between colonists and Kichwa in Misahuallí demonstrate the complex differences in mentality and values between the two groups and how they represent and influence one another.

However, as several subjects I interviewed have pointed out, the cultures are visibly mixing, both literally (through marriage) and figuratively. In many cases, colonists have adopted agricultural techniques and products often used by the Kichwa, such as plantains and manioc, which they find to be more appropriate for the region than their own techniques used previously in the Highlands (Aníbal Gómez, interview by author, 2015, interview AG05122015; Patricio Guevara, interview by author, 2015, interview PG05112015; Christian Velasco and Aníbal Paspuel, interview by author, 2015, interview CVB05192015; Laura Izurieta, interview by author, 2015, interview LI08062015). The rationale for implementing these techniques is the distinct rationale and relationship the colonists have with the environment: "the colonists have a much more productive attitude. So they see the forest as an element that disturbs their agriculture, so they cut it down" (Aníbal Gómez, interview by author, 2015, interview AG05122015). Christian Velasco of Rainforest Alliance further explains:

> The colonists have a vision brought from their own lands. Colonists generally, as their name indicates, have come here to "colonize" sites. As I said, from Loja, from different

> places, so they bring their own cultural practices and they implement them here. And this means commercial crops, it means cattle, it means cacao, it means different types of land use, with a greater vision of commercial crops […] Kichwa, on the other hand, have a greater relationship with their surroundings (Christian Velasco and Aníbal Paspuel, interview by autor, 2015, interview CVB05192015).

It has also been noted that a number of Kichwa families or communities have tried to adopt cattle-farming, though must unsuccessfully, as their colonist neighbors have (Christian Velasco and Aníbal Paspuel, interview by autor, 2015, interview CVB05192015). Moreover, the cultural influences were extremely evident during my fieldwork. In three of the colonist families I visited, the family had an area around or near its house in which grew manioc, plantains, *ají* peppers, and other local products for their family's consumption, somewhat reminiscent of a *chakra*. The colonist women also described how their children were accustomed to drinking *chicha* and eating *maito,* a traditional drink and dish, respectively, of the Kichwa. Four of the five colonist women also demonstrated knowing how to find, prepare and use a number of local medicinal plants.

Photo 3.23. Home Garden with plantain, manioc, *ají*

Source: Author's photo, Family #3.

Similarly, it has been noted to varying degrees how many Kichwa families are eager to have cement houses (such as the government-provided housing in Shiripuno) along with televisions and cell phones. Nearly all younger generations of Kichwa now speak

Spanish, and unfortunately many also refuse to speak Kichwa and opt for “Western” culture over their native Kichwa culture (fieldnotes, March 31, 2015).

As a result of these cultural exchanges and idiosyncrasies unique to each community, it is critical to note that not all Kichwa communities or colonist families are the same and that their unique situations create distinct degrees of priorities, interests, resources, skills, etcetera, all of which impact the role of women in the home and in the community in different ways. In the next chapter, the differing roles of women in the three communities studied are examined at different levels of analysis.

## Chapter 4. Women in Misahuallí

The analysis completed in this chapter examines the roles of women at different levels, including within the family unit, the household economy and the community as well as in the household and community resource management and decision-making structure. The examination is completed based on the 24-hour routines, the diagnosis of gender roles, direct and indirect interview questions regarding decision-making, and overall observation of the interaction between family and community members, all of which was information collected during my fieldwork in the Kichwa communities of Shiripuno and Ilayaku Sardinas and the colonist families of the town of Pununo. This analysis is important in analyzing the critical factors that affect participation of women and how that participation, or lack thereof, influence activities that directly or indirectly impact local deforestation trends.

### 4.1. The Role of the Woman in the Family Unit

The role of Kichwa women in a family unit is fundamental. Because of her connection with the *chakra* and responsibility to provide her family with abundant, large *manioc*, her ability to guarantee her family's food security defines her as a woman, as a *Chakramama* (Guzmán Gallegos 1997). According to the information regarding gender roles within the family collected in Ilayaku Sardinas, Shiripuno and Pununo, all three evidenced a strong role of women in relation to housework, cooking and taking care of children. Similarly, it was observed that older children, especially older daughters, were also involved in these same activities, especially in housework and caring for their younger siblings.

One primary difference can be found in the women's involvement in productive activities at the family level. In families from both Ilayaku Sardinas and Pununo, women were also heavily involved in agriculture, either through the *chakras* or on their farms. However, in Shiripuno, most women were only lightly involved in the *chakras* and more involved with the community tourism project. Those who were not, however, involved with the AMUKISHMI Women's Association dedicated themselves primarily to housework and taking care of their children.

Another difference found in the three communities was regarding the involvement of men in household responsibilities and childcare. While in Shiripuno about 75% of the women interviewed said their husbands regularly get involved with housework, cooking and taking care of the children, my observations of family interactions suggest a more realistic estimate of how many families do the men regularly get involved with housework and childcare would be in 50% of the families. In Ilayaku Sardinas, the women generally said they were the only ones responsible for housework and childcare. For the colonist families of Pununo, four of the women said that their husbands occasionally participated to some degree in housework. However, based on my observations, I only saw this happen in one family, though multiple times. Moreover, in the case of colonist women with young children, the women often had to carry the young children with them while they went to their farm and completed their farm work. In the Kichwa communities, however, the *chakras* were often close and there was normally a neighbor or relative around to look after the young children while the mother went to work, whether it be working in the *chakra* or leading a group of tourists.

In Kichwa communities, each household generally had one *chakra* within walking distance from their home (in Ilayaku Sardinas they were generally right next to their homes while in Shiripuno most of the *chakras* were surrounding the community tourism project). The *Abuela* María, however, seemed to play a supporting role in Shiripuno, not only for caring for and transmitting knowledge and language to their grandchildren, but also in providing for their children's families' food provisions, if necessary. For example, if one of her daughters did not have any produce from her *chakra*, she would offer extra plantain or manioc if she could. While also taking care of her bed-ridden husband, she would assist in taking care of her grandchildren if necessary while their mothers worked in the *chakras* or in the community tourism project (fieldnotes; observations).

The division of these activities can be see in the 24-hour routines, compared for adult men and adult women in all three communities in Table 6, where the extra care and production activities taken on by women in all three communities are compared to the varying activities completed by men. Similarly, the Gender Roles for Men and Women

based on age group are summarized in Appendix 3 for Shiripuno and Pununo (as there was not time to collect this information in Ilayaku Sardinas). In all three case studies, it becomes clear that the responsibilities of the women cover roles involving care, reproduction, and production, among others. While in some cases men also participated in care, their primary emphasis was on productive roles and would assist in other responsibilities "if necessary" or "occasionally".

### 4.2. The Role of the Woman in the Household Economy

As mentioned previously, women in both Kichwa and colonist families have a strong role in the household economy. As Guzmán Gallegos (1997), Muratorio (1991), and Uzendoski (2010) explain, the Kichwa family unit is a union of complementary productive abilities to ensure the food security for the family. The man hunts for meat outside to bring home for his family, while the woman works in the *chakra* to produce *manioc* and other products needed to ensure the family's well-being. Together, they provide the sustenance for the family. Similar complementarity between couples in colonist families can also be seen, but the dynamics in the colonist situation are distinct from that of the Kichwa.

The seasonal calendars shown in Table 4.1 illustrate the seasonal changes involved in the agricultural work for Shiripuno and Pununo. In this table, it is easier to see that the crops (manioc, plantain, cacao) often produced in Shiripuno are relatively less labor-intensive and time-sensitive than those crops common in colonist families (corn, coffee, fruits). This demonstrates the rigid and busy seasonal crop schedule that many colonist women face year round, compared to a relatively ebb and flow schedule in the *chakras* in Shiripuno.

Photo 4.1. Female Head of Household Unloading Timber, Youngest Child in Tow

Source: Author's photo, Family #1.

In Ilayaku Sardinas, men often work outside the house in the commercial crops, including cacao and corn, or as day-laborers to bring home money to buy food for the family. On average, day-laborers earn about $15 per day for their labor, plus an additional $15 per day if he also rents out a machine, like a chainsaw or weed cutter. Women work in the *chakras* to provide the family's basic food staples. In Shiripuno, men similar work outside of the home as day-laborers, tour guides or canoe motorists to make money to buy food, while women (previously) worked in the *chakras*. Only recently, over the past decade, the women are transitioning to working with AMUKISHMI in the community tourism project. In theory, the women are still completing their role in the household economy, playing their part by working to provide for their family; however, in practice, the economic compensation for the tourism project is not enough to replace the loss of food production from the *chakras*. For this reason, some women of Shiripuno are not able to complete their part in the household economy of ensuring the family's food, putting her family's livelihood at risk and possibly risking being seen as a week mother, unable to provide for her family, within the community.

Table 4.1: Summary of 24-Hour Routine Across Three Case Studies, Comparing the Daily Activities of Adult Men and Women

| | 3 am | 4 am | 5 am | 6 am | 7 am | 8 am | 9 am | 10 am | 11 am | 12 am | 1 pm | 2 pm | 3 pm | 4 pm | 5 pm | 6 pm | 7 pm | 8 pm | 9 pm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Woman Shiripuno | | | | Wake up, bathing | Breakfast, get children ready | Community Tourism Project – cleaning, collecting firewood, guiding tourists, working in chakra, making artisan crafts, project/meetings with Women's Association | | | | | | | | | | Home – Cleaning, cooking, washing clothes, dinner | | | Rest/ Sleep |
| Man Shiripuno | | | | Wake up, bathing | Breakfast, get children ready | Working outside of home (salaried work) – construction, agricultural laborer, canoe driver, tour guide | | | | | | | | | | Home – relax, sports, music, tv, help with housework/children's schoolwork | | Dinner | Rest/ Sleep |
| Woman Sardinas | Wake up – cook, make guayusa, clean | | | Breakfast, get children ready | Work in chakras | | | | | Cook lunch, clean | | Lunch | Work in chakras | | Wash clothes, clean house, bathe, tv | | | | Sleep |
| Man Sardinas | | Wake up | | Breakfast | Work outside of home (salaried work) – agricultural laborer – or work in local agriculture (chakras or commercial crops) | | | | | Rest | | Lunch | Rest/ sports | | Return home, bathe | | Sleep | | |
| Woman Pununo | | Wake up, breakfast, get children ready | | Go up to farm | Work on farm – feed animals, milk cows, change pastureland, make cheese | | | | Cook lunch | Lunch | Clear pastureland, prepare hay, feed animals, collect fruits and manioc to sell or for home consumption | | | | Return home | Wash clothes, bathe | Cook dinner, Dinner, Clean | Sleep | |
| Man Pununo | | | Wake up, breakfast | Go up to farm | Work on farm – feed animals, milk cows, change pastureland, cut/prepare hay, clear land for pasture | | | | | Lunch | Clear pastureland, prepare hay, feed animals | | | | Return home | Wash clothes, bathe | Dinner, Clean house | Sleep | |

Source: Prepared by author.

Table 4.2. Consolidated Seasonal Calendars Dictated by Women of Shiripuno and Pununo

| **Seasonal Calendar - Kichwa of Shiripuno** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Manioc | [plant and harvest year round, about 3-6 months from planting to harvest] | | | | | | | | | | | |
| Cacao (lasts about 20 years) | [harvest year round, every 1 to 3 months] | | | | | | | | | | | |
| Tourism | Low | Low | Low | Normal | Normal | High | High | High | Normal | Low | Low | High |
| Plantain | [planted/harvest year round, about 11-12 months from planting to harvest] | | | | | | | | | | | |
| Wild cotton (from *Ceibo* tree) | x | X | x | x | x | x | x | x | In blossom - Collect | In blossom - Collect | x | x |
| Gourd (for traditional bowls for *chicha*) | Collect newly blossomed gourds | Gourd drying out | Gourd drying out | Collect newly blossomed gourds | Gourd drying out | Gourd drying out | Collect newly blossomed gourds | Gourd drying out | Gourd drying out | Collect newly blossomed gourds | Gourd drying out | Gourd drying out |

| **Seasonal Calendar - Colonists of Pununo** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Corn I | x | X | Plant | Weed | Weed | Weed | Weed | Weed | Harvest | x | x | x |
| Corn II (different area than Corn I) | Weed | Harvest | x | x | x | x | x | Plant | Weed | Weed | Weed | Weed |
| Manioc | [plant and harvest year round, 8 months from planting to harvest] | | | | | | | | | | | |
| Sugar cane | [plant and harvest year round, 6 months from planting to harvest ] | | | | | | | | | | | |
| Cacao (lasts about 20 years) | Clean/ Light harvest | Clean/ Light harvest | Clean/ Light harvest | Clean/ Light harvest | Big harvest | Clean/ Light harvest | Clean/ Light harvest | Clean/ Light harvest | Clean/ Light harvest | Clean/ Light harvest | Big harvest | Clean/ Light harvest |
| Coffee | | | | | Harvest | Harvest | | | | | | |
| Plantain | [planted/harvest year round, 12 months from planting to harvest] | | | | | | | | | | | |
| Lemon | Big harvest | Big harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Normal harvest | Clean/ Light harvest | Clean/ Light harvest |
| Orito (lasts about 8 years) | [planted/harvest year round, 12 months from planting to harvest] | | | | | | | | | | | |
| Oranges | [planted/harvest year round, every 6 months; fumigate throughout year] | | | | | | | | | | | |

Source: Prepared by author.

In the colonist communities of Pununo, women and men have overlapping roles in the household economy, with the majority of the burden falling on the women. For the most part, both men and women work together on their land, with the men doing the heavier and more dangerous work, such as carrying large bags and cutting timber with chainsaws. In many cases, the two complement one another, the other doing the extra work if the other cannot. For example, if the woman cannot make it out to the farm to move the cattle to new pasture, which is normally what the responsibility of the woman, the man will do it instead. The problem comes when men begin to work as day-laborers or as salaried workers, spending around twenty days or more working outside of the farm on larger farms in the region. In these cases, all of the farmwork, the vast majority of which is for sale, not for subsistence, previously divided between two people, becomes the sole responsibility of the woman for the majority of the month. With growing participation of men as day-laborers in Pununo, this places enormous pressure on the women who are expected to keep the agriculture and cattle in their husband's absence.

The key factor that differentiates the role of colonist women in the household economy from that of Kichwa women is the fact that the Kichwa are not farmers, or if they are, they do it on a smaller scale (as in the case of the commercial crops of Ilayaku Sardinas), whereas the colonists are farmers who tend to farm on a larger and more intensive scale (Christian Velasco and Aníbal Paspuel, interview by autor, 2015, interview CVB05192015). Although this statement should not be taken as an absolute as research has shown that some indigenous communities also participate in high levels of agricultural production comparable to colonists, these same studies note a lower degree of market-oriented production in Kichwa communities than in colonists communities across the board (Lu et al. 2010; Lu et al. 2012; Bedoya 1995; Rudel et al. 2002). Thus, in addition to what was observed during field research, it can be concluded that Kichwa women generally produce on a relatively small scale, for the subsistence of their family and occasional production for the market, work according to what can be managed by one person. As observed in Pununo, however, colonist families tend to plan commercial farming on the basis of the labor of both the man and woman, and sometimes the woman is left to complete that same amount of work when the man

receives work elsewhere. While both Kichwa and colonist women are fundamental to the household economy, the colonist women may have an overwhelming amount of responsibility and pressure to complete her the work necessary for the household economy, to the extent that all of her daily time and energy are occupied.

### 4.3. The Role of the Woman in the Community

There is a stark difference between the community roles of colonist and Kichwa women observed during my fieldwork. The Kichwa culture has a strong sense of community, with the community often focusing around a communal area, as was illustrated in mapping activities in both Ilayaku Sardinas. The close relationships between women were evident in both Ilayaku Sardinas and Shiripuno. In the former community, the women who worked together did so in a more equal way, with all of the women contributing to the drawings simultaneously. The groups of men, however, either designated one person to draw while the rest gave suggestions and observed, or they divided the work and each man worked on a different drawing (for example, past, present, and future). The women were more inclined to work together, supporting and contributing equally. This was also observed in Shiripuno, first by the mere existence of the Women's Association, designed for women to have support from other women, and also in everyday interactions, when one woman would look after the other women's children while the worked.

No such bond or relationship between women was noted in Pununo. Because families were accustomed to living independently on their farms and, maybe, because of each family has its own history, not a shared history as in the case of the Kichwa communities, families had a hard time trusting one another. This also limited friendships between women to something more formal and rare. One colonist woman described how she proposed the idea of starting a Woman's Association with other women in Pununo, but no one was interested. The other women did not like the idea of giving their money to an Association, that in the end, they did not feel would benefit them. They preferred to keep that money for their own family.

Another important factor is time, energy and distance, directly related to the colonist woman's responsibilities in the household economy. For a woman working hard on the farm all day by herself, who then needs to come home, cook, clean and take care of her children, making the extra effort to walk down to the community (or even to a neighbor) and then participate and interact with other women may be impossible in terms of time and energy. For this reason, I noted very limited relationships and networks between colonist women in Pununo. Unfortunately, this has a profound negative impact on colonist women because they do not have a support system outside of their family, and they have no opportunity or space to participate in any degree outside of their family and farm.

### 4.4. The Impact of AMUKISHMI and Community Tourism

> The main objective with which this Association began was to improve […] the quality of life […] [The women] needed economic stability, and that is what they were aiming for… Before, there was a lot of domestic violence, meaning the women could only stay in the house. This is what the women were fighting against. They wanted to show the men that women could [support their family] too. And that's how it started, that was the main idea my aunts and my mother had and that's why they started the Association. Since then, little by little, the Association has continued growing (Soledad Chimbo, Mercedes Aguinda, Blanca Grefa, Cleidy Grefa, focus group by author, 2015, interview FG05072015).

The AMUKISHMI Women's Association began as an initiative between María's daughters, with the support of her youngest son, Teodoro, and other women in the community. Tourism in the community began in the mid-1990s through homestays with the families of Shiripuno as a form of cultural exchange, and the seed of community tourism was planted. With the foundation of AMUKISHMI in 2006, the community tourism project was the perfect opportunity to empower the women of the Association and ensure a sustainable management of community tourism. To date, AMUKISHMI has succeeded in building cabins for tourists, a large dining area, a building for artisan crafts, a small store, dance presentations and chocolate preparation. The project offers a wide variety of activities for tourists: a dance presentation; demonstration for making

the traditional drink of *chicha*, chocolate, and the traditional fish dish of *maito*; walks through the rainforest; visit to the "plantations" (the *chakras*); lessons for making handicrafts, panning for gold, and shooting blowdarts; presentation of the symbolism and meaning behind the Sacred Rock; and an interpretative walk through medicinal plants and traditional medicine.

Photo 4.2. Community Tourism Project of Shiripuno

Source: Author's photo.

The Association currently has 31 members of all ages, from 18 years to 75 years old. The Association also includes the participation of young girls and boys as a way to incorporate the community and encourage interest in cultural activities and tourism in their children, though not as full members. The membership of the Association has changed over the years as new women join the community, teenage girls turn 18 years old and become adults, and due to conflicts between members. Initially, a number of women found that their husbands did not "approve" of their participation in AMUKISHMI. In some cases, these women left the Association because of disagreements and "gossip" with other members, while in other cases, their husbands gradually changed their mind and began to support their wives. Internal conflicts, in particular the ongoing problem of gossiping among the women, has led to tensions between some women and, as a result, has made negotiation, open discussion and trust within the Association impossible.

On the other hand, AMUKISHMI has succeeded in its goals of empowering women, though less so in the economic aspect originally expected. Many of the women of Shiripuno expressed that they were happy just to have something to do instead of being at home all day, while others were glad to have a place where they could work alongside and get support from other women in the community. In a number of cases, it was also clear that the self-esteem and self-confidence of the women had increased as a result of the meaningful work they contribute to the Association, to the community, and to their families. Unfortunately, the project's dependence on the unstable tourist sector has meant that there is limited profit resulting from the project. Women in the Association can earn money in one of three ways: for the artisan crafts they make and sell, for being a guide for groups of tourists, and for participating in the dance presentation. Unfortunately, only a small group of women (less than one-third of its 31 members) have volunteered to be guides, and the money made from the dance presentation is roughly one or two dollars per day for each participant. The remaining profit made from tourist groups goes into the Association's fund to be used for further improvement of the tourism project. Thus, in reality, most women in the Association make only a small amount of money ($0-20 per week) from their participation in the project, not making it a viable economic alternative thus far for most families in Shiripuno.

Nonetheless, the social and cultural implications of the Association, which encourages the community to value its Kichwa culture, language, dance and dress, has led to challenging gender inequality and improving gender relations within the community, as well as providing strong female role models for their children. Furthermore, as a fundamental part of valuing the Kichwa culture and role of women in the community, AMUKISHMI has recent begun to incorporate environmental components into the community tourism project. In order to recover and conserve medicinal plants and local flora and fauna, and to ensure the long-term sustainability of the project, as the women understand that tourists come to visit the rainforest and to see the birds and animals in it, AMUKISHMI began a botanical garden. In this botanical garden, the women have planted native trees and plants with three purposes: to reforest the territory of Shiripuno to restore the ecosystems that have been lost and reverse the negative environmental

impacts in the community; to regenerate the forest so the animals and birds will return so that the tourists will get the chance to see them in Shiripuno; and to ensure that their children are educated about and familiar with the native plants and trees of the region as well as the ancestral knowledge about the forests. The Association's former President describes the botanical as follows:

> We have a small area in the botanical garden that is like a forest […] it was forest previously cleared by my parents, so now they are young trees, and it is no longer primary forest. It's secondary forest, but we want it to be like primary […] [The purpose is] to regenerate, to have a forest, so that the animals will come back and so the children will also be able to benefit. We have planted plants and timber wood trees, fruit trees, ornamental trees in the back of the garden because we talk about a community tourism project and we want everyone to benefit from [the botanical garden] – the school, the children, women, men (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

Photo 4.3. Botanical Garden of the AMUKISHMI Women's Association

Source: Author's photo.

Most importantly, the community tourism project has spurred a change in the mentality of many of the women, as evidenced in the initiative and goals behind the botanical gardens. It has created a new way to value the environment and natural resources. While the women of Shiripuno are depending less and less on the land for their family's food, the growing influence of the community tourism project requires the protection of the

natural resources, forests and cultural elements that depend on forest resources that are essential for the sustainability of the project. The Association's former President notes that she has noticed these changes in values within the community:

> I believe that yes, now we value [the forest and forest resources] more […] Before, my mother exploited the forest, cut down and cleared the trees, she is accustomed to that. We, on the other hand, with the workshops that we have received, we know that we cannot do this because we benefit from tourism, now more from tourism, and the tourist comes to see the forest and the birds and animals. When there is more forest, you can see the animals, you can see monkeys that come for the fruits, the birds also come for the fruits and flowers. If we cut down the trees, we are not going to have animals and it is our children who are going to suffer in the future […] If the trees are cut down, what is the tourist going to do here? He isn't going to do anything. The things he sees in his city and then to come and see the same things here – that's pointless (Janeth Rivadeneyra, interview by author, 2015, interview JR05122015).

Thus, through AMUKISHMI and the community tourism project, Shiripuno is moving towards its goal of becoming "an ecological community" (Teodoro Rivadeneyra, interview by author, 2015, interview TR06082015).

### 4.5. The Role of the Woman in Resource Management and Decision-Making

The role of women in decision-making and resource management was difficult to analyze in many situations during my fieldwork. In Shiripuno, the community was fortunate to have a number of strong female figures participating in the Women's Association, community meetings and as heads or co-heads of their households. In the households of these women, who were generally under 40 years of age, there was a clear transparency between couples who combined their income and discussed how to spend those resources for the benefit of the family. These women were also most often those actively giving their opinion in community meetings, holding committee positions in the community directive and in the Women's Association, and confidently leading and giving presentations to tourist groups.

In some cases, these women were also single-parent households. In Shiripuno, there were three households with women who had separated from their husbands for various

reasons, and in the community they were holding positions of high regard and responsibility in regards to resource management and decision-making at the household and community levels. This demonstrates that in Shiripuno, is acceptable for a woman to be independent and that a woman does not have to depend on a man to have a voice or be represented in the community. In particular, it is interesting to observe that the AMUKISHMI Woman's Association managed all of their decisions and resources within the Association, whose members were only women, thereby offering women in Shiripuno an ideal space and mechanism to participate.

It is also important to note, however, that in some of the households in Shiripuno, where the heads of the household were older (over 40), a stronger male presence was noted, although in interviews these women stated the opposite. In one particular case, the woman was not sure how much her husband or sons made, as each one managed their own money separately. Her husband bought the food for the household and paid for the other household expenses. Although she was responsible for the household decisions, in practice she only had control over the execution of household activities. Nonetheless, she responded that she believed that decisions were made and resources were distributed equally within her household. Despite these instances, however, the changes seen in the younger households and generations shows promising opportunities for women to participate more effectively and often in resource management and decision-making.

In the situations of colonist women in Pununo, though, the extra burdens, pressures and limitations placed on colonist women successfully stifles such opportunities to participate in resource management and decision-making at the household or community level (though this is, again, currently non-existent in Pununo). First, the extra burden of the agricultural activities and her inability to work as a day-laborer (because farms generally need day-laborers for heavy, more dangerous work) means that a colonist women will find it difficult to be independent as a single-parent household. Of the colonist women I visited, one was with her second husband, while another was with her third. The only single mother I encountered, the cousin of one of the colonist women I visited, was living on her cousin's farm for her children to be closer to school. She relied heavily on her oldest son to help with a lot of the farmwork,

and this farm was significantly smaller than others in the area, so it would be unlikely that she, without her son, would be able to manage all of the agricultural activities on her own.

Within the family units of the colonists I visited during my fieldwork, a very different dynamic observed than in Shiripuno. With me, the women slowly opened up, and after a few hours were talking relatively comfortably with me. However, when their husbands, fathers, brothers, or other men came home for lunch or from working, the women generally had a completely different character. For example, on my first day with one woman, her mother joined us and we were all talking over lunch and she was very talkative. On the second day, however, her husband was working on the farm and had lunch with us. While she was cooking, she barely spoke and then she ate alone in the kitchen, leaving me to eat and speak alone with her husband. Similar changes were noted in two other families when the women were in the presence of their husbands or other men in their family. In the other two families, one was a family from the coast, where the husband and wife openly discussed and gave opinions about everything, although in the end it was the husband who eventually made the final decision with the input of the wife.

Moreover, although many of the women referred to decisions made regarding agricultural activities as “we decided” or “we want”, after discussing these same ideas with the men in the family, it became evident that these were decisions and activities the “he decided” or “he wanted”. As I spent such a short time with each colonist family, it is hard to fully understand the dynamics and process behind the resource management decisions made in each household, but it is clear that in the majority of cases, the men dominate and the women subordinated and “go along with” those decisions, regardless of whether or not they agree. This may be the result of the combination of burdens and limitations placed on colonist women, as they have little support outside of their family, may feel too tired to assert themselves in their homes, and, by not having any space or mechanism through which to participate, may have lost their voice due to low self-esteem.

As analyzed in this chapter, it is evident how the roles of women and spaces of participation and support for women can directly and indirectly impact a women's ability to participate in resource management and decision-making at both the household and community levels. Furthermore, as discussed in the next chapter, there is a significant probability that women, whose most important role in the family is to ensure food security, will prioritize sustainable agriculture oriented towards subsistence if given the opportunity to participate effectively in resource management and decision-making.

## Conclusion

The results of the research and fieldwork carried out in this study are summarized in the following subsections analyzing the role of women at different levels (in the family unit, the household economy, and the community), their participation in resource management and the decision-making structure in their respective homes and communities, and how these different roles impact the family economy and surrounding environment.

### 1. The Demanding, Dynamic Roles of Women in Misahuallí

The role of Kichwa women within the family unit is fundamental because her connection with the *chakra* (a "traditional" type of sustainable home garden) and responsibility to provide her family with abundant *manioc* as well as her ability to guarantee her family's food security defines her as a strong woman, a *Chakramama* (Guzmán Gallegos 1997). Based on the gender roles of women within the families observed in Ilayaku Sardinas, Shiripuno and Pununo, all three cases evidenced a strong dependence on women in relation to housework, cooking and taking care of children. Similarly, it was observed that older children, especially older daughters, were also involved in these same activities, especially in housework and caring for their younger siblings.

However, several differences were also noted in families in these different communities. For one, in families from Ilayaku Sardinas and Pununo, women were heavily involved in agriculture, either through the *chakras* or on their farms, and depended a lot on agriculture for subsistence or income. Whereas the women in Shiripuno were generally only involved part-time or not at all in the *chakras* and, instead, were more involved with the community tourism project. However, many of the women, especially the younger women who were not involved in the AMUKISHMI Women's Association primarily dedicated their time to housework and taking care of their children, indicating a more general cultural change and decrease in agricultural activities within the community, demonstrating greater dependence on alternative incomes such as tourism for subsistence.

At the level of the household economy, women in both Kichwa and colonist families again play a very strong role. As Guzmán Gallegos (1997) and Uzendoski (2010) illustrate in their descriptions of Kichwa culture, the Kichwa family unit signifies a union of complementary productive abilities to ensure the food security of the family (which can also be applied to colonist families, based on observations from my fieldwork). Traditionally, the man hunted for meat to bring home for the family, while the woman worked in the *chakra* to produce *manioc* and other food staples. Together, they provide the sustenance for the family.

In more "modern" terms, similar productive roles can be observed in Misahuallí. In all three communities, men often worked outside the home, either as farmworkers on larger farms in the area, as tour guides or canoe drivers, or as day-laborers renting out their services with chainsaws or other machines in order to bring home money to buy food for the family. In Ilayaku Sardinas, the majority of women continued working in the *chakras* to provide the family's basic food staples. In Shiripuno, many of the women worked with AMUKISHMI in the community tourism project every day, sometimes dedicating one or two days per week to their *chakra*. In theory, the women are still completing their role in the household economy, playing their part by working to provide for their family; however, in practice, the economic compensation for the tourism project is not enough to replace the loss of food production from the *chakras*. Thus, some women of Shiripuno are not able to ensure their family's food security and some families may only have one meal per day or less.

In the colonist communities of Pununo, women and men have overlapping roles in the household economy, with the majority of the burden ultimately falling on the women. For the most part, both men and women work together on their land, with the men doing the heavier and more dangerous work, such as carrying large bags and cutting timber with chainsaws. In many cases, the two complement one another, the other doing the extra work if the other cannot. For example, if the woman cannot make it out to move the cattle to new pasture, which is normally what the responsibility of the woman, the man will do it instead. The problem starts when men begin to work as day laborers or as salaried workers, spending around twenty days or more working on neighboring farms.

In these cases, all of the farm work, the vast majority of which is to be sold, not for subsistence, which was previously divided between two people, then becomes the sole responsibility of the woman for the majority of the month. With growing participation of men as day-laborers in Pununo, this places enormous pressure on the women who are expected to continue the same level of agricultural and farm work in their husband's absence.

The key difference that differentiates the role of colonist women in the household economy from that of Kichwa women is the fact that the Kichwa are not farmers, or if they are, they do it on a smaller scale (as in the case of some families in Ilayaku Sardinas, who sell a few sacks of commercial crops like corn or fruit each week), whereas the colonists are farmers and they tend to farm on a larger scale (Christian Velasco and Aníbal Paspuel, interview by author, , 2015, interview CVB05192015). Kichwa women produce on a very small scale, for the subsistence of their family, work that is manageable for one person. Colonist families plan commercial farming on the basis of the labor of both the man and woman. If the man receives off-farm work, then the woman is left with the pressure to single-handedly complete the work meant for two for the household economy, to the extent that all of her time and energy are occupied.

A stark difference was also noted in the community roles of colonist and Kichwa women observed during my fieldwork. Kichwa culture has a strong sense of community, with the community often centered around a communal area and community members often supporting and helping one another whenever possible. The close relationships between women were evident in both Ilayaku Sardinas and Shiripuno in the activities done with groups of men and women. In both communities, the women often worked together in an equal way, with all of the women contributing to the drawings simultaneously. The groups of men, however, either designated one person to draw while the rest gave suggestions and observed, or they divided the work and each man worked separately on a different part of the activity. The women were more inclined to work together, supporting one another and contributing equally. However, this type of bond was not observed between the colonist women in Pununo. The creation and strengthening of this type of network among Kichwa women is

facilitated by the proximity of the houses, family relations and a shared history between most of the women in these communities. In Pununo, on the other hand, colonist women did not build support networks to help one another, probably because of the distance between farms, the lack of community organization, the inability to trust other women and families, and the limited time and energy the women have to dedicate to activities outside of their farm, all of which simultaneously contribute to the relative isolation and independence of each family unit.

Another important factor making it difficult to form networks between colonist women is time, energy and distance, directly related to the their responsibilities in the household economy. For a woman who works hard on the farm all day by herself to make up for her absent husband, and who then needs to come home, cook, clean and take care of her children without much support from her husband, making the extra effort to walk down to the community (or even to a neighbor) and then participate and interact with other women may be impossible in terms of time and energy. For this reason, very limited relationships and networks were observed between colonist women in Pununo. Unfortunately, this has had a profound negative impact on colonist women as they do not have a support system outside of their family to help with work on the farm or at home, nor do they have the opportunity or space to participate outside of their family and farm.

### 2. Female Participation in Resource Management and Decision-Making Structures

The role of women in decision-making and resource management was difficult to analyze as the reality observed was often extremely different from how the women described the decision-making processes through informal and formal interviews. In Shiripuno, the community was fortunate to have a number of strong female figures participating in the Women's Association, community meetings and as heads or co-heads of their households. In the households of these women, who were generally under 40 years of age, there was clear transparency between couples that combined their income and discussed how to spend those resources for the benefit of the family. These women were also most often those actively giving their opinion in community meetings,

holding committee positions in the community directive and in the Women's Association, and confidently leading and giving presentations to tourist groups.

In some cases, the more outspoken women were also single-parent households. In Shiripuno, there were several households with women who had separated from their husbands for various reasons, and in the community they were holding positions of high regard and responsibility in regards to resource management and decision-making at the household and community levels. This demonstrates that in Shiripuno, it is acceptable for a woman to be independent and for a woman to not have to depend on a man to have a voice or be represented in the community. In particular, it is interesting to observe that the AMUKISHMI Woman's Association managed all of their decisions and resources within the Association, whose members were only women, thereby offering women in Shiripuno an ideal space and mechanism to participate. However, during the meetings of the members of AMUKISHMI, when the women could not come to a unanimous decision, they often turned to a male community member for his opinion, and his opinion had notable influence in the final decision. For this reason, although many women in Shiripuno have the space to participate and make decisions at the community level, this does not necessarily mean that men's and women's voices carry the same weight. The quality of participation, in this case, needs to be improved, whether internally so that the women learn to uphold and defend their opinions and decisions or externally so that women's voices earn equal ground as men's.

It is also important to note that, in Shiripuno, according to the questions related to household socioeconomic decisions, a stronger male dominance was observed in decision-making and resource management in households with the heads of the household over 40 years old, while younger households showed significantly stronger female control over resources and equal and transparent decision-making processes between men and women.

In the situations of colonist women in Pununo, though, the extra burdens, pressures and limitations placed on colonist women successfully stifles such opportunities to participate in resource management and decision-making at the household or

community level (though the community structure is currently non-existent in Pununo). First, the extra burden of the agricultural activities and her inability to work as a day-laborer (because farms generally need day-laborers for heavy, more dangerous work) means that a colonist women will find it difficult to be independent as a single-parent household. Many women in Pununo have remarried multiple times, and finding women as heads of single-parent households is rare. Considering the strenuous labor involved in the agricultural activities taken on by colonists in Pununo, having a complete family unit is essential for survival.

Within the family units of the colonist families, a dynamic distinct from that observed in Shiripuno emerged. The women slowly opened up to me after a few hours, when they were relatively comfortable talking with me. Once their husbands, fathers, brothers, or other men came home for lunch or from working, however, the women often took on a completely different character. For example, on my first day with one woman, her mother joined us and they were both very talkative over lunch. On the second day, her husband was working with us on the farm and she barely spoke the entire day, choosing to eat alone in the kitchen while we ate in the dining area. Similar changes in behavior were noted in two of the other four families when the women were in the presence of their husbands or other men in their family.

Moreover, although many of the women referred to decisions made regarding agricultural activities as “we decided” or “we want”, after discussing these same ideas with the men in the family, it became evident that these were decisions and activities that *he* decided or *he* wanted. As I spent such a short time with each colonist family, it is hard to fully understand the dynamics and processes behind the resource management decisions made in each household. Nonetheless, it quickly became clear that in the majority of cases, the men dominate, women voices are ignored, and many women have to “go along with” what the men decide in regards to land and resource management, regardless of whether or not they agree. This may be the result of the combination of burdens and limitations placed on colonist women, as they have little support outside of their nuclear family, may not have the energy or respect to assert themselves in their

homes, and, by not having any voice or space through which to participate, may have lost their voice due to low self-esteem.

### 3. The Implications of Female Participation on Family Economy and Environment

Through interviews, activities and observation during my fieldwork, it quickly became evident that Kichwa communities have a stronger, closer relationship with their territory and the forest than the colonist families do. This close relationship is the result of the fact that often a Kichwa person's entire family lives in the same territory, so they feel a deep, ancestral connection to the territory. The forest is often where the community has access to all of the basic resources it needs to build its houses, materials it needs for clothes, crafts and medicines, and food it needs to feed its families, demonstrating the vast importance of the forest for diverse resources for the Kichwa's daily life and culture.

The colonist families, however, do not have the same type of cultural relationship with territory or forests. For many colonists, territory is not fixed and they often buy and sell land multiple times throughout their life. In consequence, territory and land have a purely economic purpose for them, as they rarely form any type of cultural or ancestral relationship with the land. In colonist families, generally only one nuclear familiar will live in a territory, in contrast to Kichwa communities, where extended families and multiple generations often live in neighboring houses in the central area of one territory.

In many cases, this economic perception of the colonist families in relation to the forest and territory is the result of their priority to improve their economic situation and maximize their profit. Thus, many colonist families have a market-oriented household economy that maximizes the profit from their labor and resources. The Kichwa, on the other hand, often value living in harmony with the environment, the *Alli Kawsay*, which prioritizes a sustainable, environmentally friendly household economy based on subsistence.

These different priorities, perceptions and relationships with the environment and, in particular, forests translate into distinct economic rationales and behaviors in each type of family or community. Colonist families are more willing and interested in experimenting with a variety of economic activities in order to find what results in the greatest economic profit with the least amount of labor and/or resources. When compared with the potential economic benefits, the possible environmental side effects are not the family's main concern. However, since many Kichwa communities' economy and community are based "traditional" economic activities, such as *chakras* for subsistence and community tourism that promotes recovering and valuing "traditional" food, houses, medicinal plants and artisan crafts, all of which depend on valuable forest resources, conserving the forests and their natural ecosystems becomes of high priority for the communities. As a result of these economic rationales, the Kichwa communities tend to not participate in activities that result in the degradation of the forests (though of course there are exceptions), while colonist families may participate in such activities if the economic gain makes it worth it.

The community and participatory structure of the Kichwa communities, along with the support network constructed between women in these communities, means that Kichwa women are able to participate more in decision-making and resource management within their family units and communities. Kichwa women also have alternatives to agricultural activities, such as community tourism, that enable them to act and empower themselves independently of men. In addition, community tourism as an economic alternative means that women do not have to depend on men economically, and it also gives women the opportunity to incorporate other activities, such as conservation and reforestation into the project. The subsistence-oriented economic structure of the Kichwa families means that Kichwa women do not have to put excessive time and resources into agricultural activities in order to produce a surplus for the market, thus allowing them greater flexibility of time and resources to organize conservation and reforestation initiatives alongside other women in the community.

The situation described above is precisely what has happened in the community Shiripuno through the AMUKISHMI Women's Association, who have been able to

plan and implement a botanical garden as part of their community tourism project, where they are planting medicinal plants and native tree species for reforestation and also an education opportunity for tourists and their own children. Although these types of activities have not be implemented in the Kichwa community of Ilayaku Sardinas, this could be because the women have not yet been able organize themselves formally and because the community continues to suffer from problems with domestic abuse and alcoholism, which limit the resources and ability of women to influence resource management and to dedicate time to execute these types of programs.

Similarly, the limited spaces and mechanisms for colonist women to participate outside of their family, as a consequence of the lack of a support network and general community participation mechanisms, forces them to depend solely on their husbands. The fact that they do not have alternative economic opportunities, such as community or cultural tourism, means that there best alternative is the development and use of their land, and, thus, they have limited time and resources to dedicate to other activities such as conservation and reforestation. Moreover, the distrust between families and intrafamiliar dependence of colonist women limits the development of mechanisms for participation of women at the community level, and so colonist families make their decisions almost entirely at the household level, where the female voice is often ignored.

Women in Kichwa and colonist communities have central but extremely difficult roles in their families, as their families depend primarily on them for their reproductive as well as productive contributions to the household dynamics. In the Kichwa communities visited in this research, subsistence, rather than economic profit, was the primary focus of the families. Most important was producing and working primarily to guarantee the food security of their families, whether it be through *chakras*, community tourism, or work outside of the community. In the colonist communities of Pununo, however, the family mentality and structure of the household economy was focused on constantly "improving themselves" and maximizing their profit, which most often resulted in large-scale, market-oriented agriculture and/or cattle-farming. For the colonist families, this generally meant that the women had to dedicate nearly all of their time, energy and

resources in the agriculture on the family's farm, as the men often left them to complete the bulk of the work while they worked as day laborers on neighboring farms.
The socioeconomic structures of colonist communities in the parish of Misahuallí limits the opportunities and alternatives of colonist women to participate in decision-making related to resource management, thereby forcing them to live more dependently on their family units. Kichwa communities in the same region, however, have more opportunities and mechanisms through which to empower themselves and gain influence in resource management and decision-making in their households and communities.

The primary difference observed between colonist families and Kichwa communities in the study area in relation to the participation of women in resource management becomes a question of alternatives, opportunities and flexibility in relation to time, economic activities and economic resources, in addition to having a voice and being able to participate in decision-making related to resource management. While both Kichwa and colonist women may prioritize the sustainability and wellbeing of their families and may be aware that the conservation of forest resources are critical to ensuring both, the situations of each is distinct in how these women can influence decision-making in their home or community. Kichwa women often have a support network and/or a certain degree of respect at the household and community levels, allowing them some degree of participation in decisions related to natural resource use, as well as greater flexibility of time and resources to be able to participate and advocate sustainability. Colonist women, on the other hand, do not have the time, resources, opportunity or support needed to incorporate activities that promote forest conservation. Rarely do they have a voice in their family's decisions regarding resource management, and thus their prioritization of sustainability is not often reflected in the household economy.

Therefore, it is essential that initiatives for forest conservation and reforestation take the needs and characteristics of each type of community and family into account. Instead of requiring families to simply stop certain destructive activities, there must be a viable alternative that, economically, is either the same or better and sustainable for the

household economy. In addition, support networks between women should be encouraged as a way to exchange and share resources, responsibilities and ideas to ensure that all women have the necessary flexibility of time, resources and self-confidence to participate in conservation and reforestation activities. What is most important, however, is to be sure that the policies and programs put into place do not jeopardize the families' food and economic security.

# Appendices

## Appendix 1. Change in land cover in continental Ecuador

Table A. Change in land cover in continental Ecuador between the periods 1990 to 2000 and 2000 to 2008

| Cobertura del Suelo | 1990 | 2000 | 2008 | Cambio Anual Promedio 1990-2000 (km2) | Cambio Anual Promedio 2000-2008 (km2) | Tasa Anual de Cambio 1990-2000 (%) | Tasa Anual de Cambio 2000-2008 (%) |
|---|---|---|---|---|---|---|---|
| Bosque | 147358.5 | 134443.1 | 128411.7 | -1291.5 | -753.9 | -0.88 | -0.56 |
| Vegetación Arbustiva y Herbácea | 25569.4 | 24639.2 | 24794.6 | -93.0 | 19.4 | -0.36 | 0.08 |
| Agricultura y Ganaderia | 70763.9 | 83340.0 | 88199.4 | 1257.6 | 607.4 | 1.78 | 0.73 |
| Plantacion Forestal | 267.9 | 583.8 | 555.6 | 31.6 | -3.5 | 11.79 | -0.60 |
| Infraestructura | 809.6 | 1186.3 | 1776.2 | 37.7 | 73.7 | 4.65 | 6.22 |
| Otros | 3587.8 | 4164.9 | 4619.7 | 57.7 | 56.9 | 1.61 | 1.37 |
| TOTAL | 248357.2 | 248357.2 | 248357.2 | | | | |

Source: Sierra (2013: 4).

## Appendix 2. Summary of Gender Roles for Men and Women of Different Age Groups, Compared Between Shiripuno and Pununo

Table A. Gender Roles of Women of Different Age Groups in Shiripuno

| FEMALE GENDER ROLES - SHIRIPUNO | | | | |
|---|---|---|---|---|
| | **Productive roles** | **Reproductive roles** | **Roles in transmission of knowledge** | **Socio-organizational roles** |
| **Young girls** | Help clear land and harvest rice, herbs, cacao; studies | Help with domestic chores | Learn about ancestral knowledge; learn kichwa | Dance in community tourism project; school |
| **Teenage girls** | Collect firewood; studies | Begin having children around 15 years old; help take care of younger siblings; help with domestic chores and cooking | Learn about ancestral knowledge and female roles; learn kichwa | Learn about membership and being tour guide in AMUKISHMI Women's Association; dancing in community tourism project; school |
| **Adult women** | Work in chakra (clearing land, planting, weeding, harvesting), especially plantain, peanuts, cacao, manioc; fishing with husband; carrying firewood; artisan crafts | Cook, clean and other domestic chores; take care of children | Teach children how to clear land, weed, plant, harvest in chakra and machete use; teach daughters about manioc and chichi; teach daughters artisan crafts; speak/teach children kichwa | Community meetings and government (secretary), *mingas*, membership in AMUKISHMI Women's Association and community tourism project; sell artisan crafts; tour guide |
| **Elderly women** | Work in chakra (clearing land, planting, weeding, harvesting), especially plantain, peanuts, cacao, manioc; fishing with husband; artisan crafts | Cook, clean and other domestic chores; help take care of grandchildren | Teach granddaughters artisan crafts; share ancestral knowledge and skills with children and grandchildren; speak/teach grandchildren kichwa | Community meetings, *mingas*, membership in AMUKISHMI Women's Association and community tourism project; sell artisan crafts |

Source: Prepared by author.

Table B. Gender Roles of Men of Different Age Groups in Shiripuno

| MALE GENDER ROLES - SHIRIPUNO | | | | |
|---|---|---|---|---|
| | **Productive roles** | **Reproductive roles** | **Roles in transmission of knowledge** | **Socio-organizational roles** |
| **Young boys** | Help clear land and harvest rice, herbs, cacao; studies | Help with domestic chores | Learn about ancestral knowledge; learn Kichwa | School, *minga* |
| **Teenage boys** | Collect/cut firewood; carry materials and harvest; studies | Help take care of younger siblings | Learn about ancestral knowledge and male roles; learn kichwa | School, *minga*; help with projects and construction in community tourism project |
| **Adult men** | Help with chakra (clearing land), work outside of home (canoe drivers, tour guides, etc.); help fix and build houses, cabins and traditional roofs | Cooking, cleaning and other domestic chores; taking care of children | Teach sons about male responsibilities, hunting, traps, fishing, etc.; speak/teach children kichwa | Community meetings, *mingas*, help with projects and construction in community tourism projects; community government (President and Vice President) |
| **Elderly men** | Help in chakra with harvesting | Help with taking care of home and grandchildren | Teach sons about male responsibilities, hunting, traps, fishing, etc.; speak/teach children kichwa | Community meetings, *mingas* |

Source: Prepared by author.

Table C. Gender Roles of Women of Different Age Groups in Pununo

| FEMALE GENDER ROLES - PUNUNO | | | | |
|---|---|---|---|---|
| | **Productive roles** | **Reproductive roles** | **Roles in transmission of knowledge** | **Socio-organizational roles** |
| **Young girls** | Help milk cows, harvest fruit and cacao | Help with domestic chores | | School |
| **Teenage girls** | N/A | N/A | N/A | N/A |
| **Adult women** | Take care of cattle (milk, feed, move to new pastureland); cheese production; plant, harvest, weed, harvest crops; sell products to intermediaries; clear land/prepare hay (machete; sometimes with weed cutting machine) | Cook, clean and other domestic chores; take care of children | Teach young children about agricultural activities (harvesting, milking, etc.), seasonal agricultural activities, in some cases medicinal plants | School meetings |
| **Elderly women** | N/A | N/A | N/A | N/A |

Source: Prepared by author.

Table D. Gender Roles of Men of Different Age Groups in Pununo

| MALE GENDER ROLES - PUNUNO | | | | |
|---|---|---|---|---|
| | **Productive roles** | **Reproductive roles** | **Roles in transmission of knowledge** | **Socio-organizational roles** |
| **Young boys** | Help milk cows, harvest fruit and cacao | Minor domestic chores | | School |
| **Teenage boys** | N/A | N/A | N/A | N/A |
| **Adult men** | Clear land, prepare hay and new pastureland (weed cutting machine, chainsaw); salaried work (agricultural day laborer, rent out chainsaw and other machines); manage bank credits/land and major purchases; plant, harvest, fumigate crops | Limited help with washing clothes and domestic work (depending on family) | Teach teenage son about agricultural work (clearing land, chainsaw, etc.) | Bank/legal activities and paperwork |
| **Elderly men** | Plant, harvest, fumigate crops; milk cows, move cows to new pastureland; feed animals; planning/organizing farm activities | Minor domestic chores | Teach grandchildren about agricultural activities | |

Source: Prepared by author.

## Appendix 3. Complete list of interviews conducted by author

| Date | Code | Name | Location | Actor(s) | Interview Structure | Topic |
|---|---|---|---|---|---|---|
| March 22, 2015 | MG03222015 | Marjory Grefa | Kitchen of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Young adult of Shiripuno, young member of AMUKISHMI Women's Association | Open questions | Youth perspective on community and association |
| March 31, 2015 | PR03312015 | Petronio Rivadeneyra | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Community Shaman | Open questions | History of community, role as shaman |
| March 31, 2015 | MG03312015 | María Grefa | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Mother/wife of Shiripuno's founding family (one of first residents) | Open questions | Roles of women, changes in community before and now, agricultural activities |
| April 6, 2015 | SC04062015 | Soledad Chimbo | Community of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Current President of AMUKISHMI Women's Association | Walk-through of Community, informal, open questions | Geography, organization, uses and practices, roles in community |
| April 15, 2015 | FG04152015 | Lourdes Janeth Rivadeneyra Grefa; Félix Fredy Rivadeneyra Grefa; María Celia Grefa Aguinda; Gonzalo Leonardo Grefa Cerda; Soneida Soledad Chimbo Tanguila; Alfredo Petronio Rivadeneyra Grefa; Humbertho Bernardo Vargas Ceilapucha | School building of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Women and men of Shiripuno | Focus Group – Open questions | Gender relations |
| April 17, 2015 | SC04172015 | Soledad Chimbo | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Current President of AMUKISHMI Women's Association | Semi-structured questions | Association, goals, achievements, changes in women and community |
| April 17, 2015 | JR04172015 | Janeth Rivadeneyra | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Former President of AMUKISHMI Women's Association (my host) | Semi-structured questions | Association, goals, achievements, changes in women and community |
| May 5, 2015 | RL05052015 | Rolando López | City of Tena (provincial capital), Province of Napo | Official from MAGAP, Forestry Matters | Semi-structured questions | Agricultural, logging and farming activities in region, relationship with deforestation |
| May 6, 2015 | MT05062015 | Official | Provincial Office, City of Tena (provincial capital), Province of Napo | Official from Ministry of Tourism | Open questions | Impacts of tourism on the environment |
| May 7, 2015 | FG05072015 | Soledad Chimbo, Mercedes Aguinda, Blanca Grefa, Cleidy Grefa | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Women, members of the AMUKISHMI Women's Association of Shiripuno | Focus Group - Open questions | Female perspective, relationships, beliefs |
| May 11, 2015 | PG05112015 | Patricio Guevara | GAD Parroquial, Misahuallí, Canton Tena, Province of Napo | President of the GAD Parroquial | Semi-structured questions | Economic and territorial information in the region, land, problems, achievements |
| May 11, 2015 | VA05112015 | Vicente Andi | City of Tena (provincial capital), Province of Napo | Co-owner of Cabañas Atuny, in Pano, Tena | Informal - Open questions | History of the region, experience as indigenous resident, relationship with colonists, government, indigenous organization, |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | start of conservation and nature tourism |
| May 12, 2015 | JR05122015 | Janeth Rivadeneyra | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Former President of AMUKISHMI Women's Association (my host) | Semi-structured questions | Community's beliefs, relations with territory and nature, external and internal community relations |
| May 12, 2015 | AG05122015 | Aníbal Gómez | City of Tena (provincial capital), Province of Napo | Technical Consultant from the Cooperación Técnica Alemana (German Technical Cooperation), GIZ-GESOREN Program, located operating within the Ministry of the Environment | Semi-structured questions | Impact of local economic activities on forests, regulations on forests, role of MAE, participation of women, trends and participation in logging |
| May 14, 2015 | RP05142015 | Rocío Pazimiño | City of Tena (provincial capital), Province of Napo | Director of the Escuela de Liderazgo Ambiental (School for Environmental Leadership, ELA), Provincial Office of MAE | Informal – Open questions | Purpose and history of ELA, Role and participation of women in ELA, Participation of women in Napo in general (indigenous and colonist) |
| May 18, 2015 | IS05182015 | 2 community members | Ilayaku Sardinas, Parish of Misahuallí, Canton Tena, Province of Napo | Men, 1 from community (member of founding family) and 1 from nearby community. | Informal – Open questions; Walk-through of community | History, structure, beliefs, roles in kichwa community of Ilayaku Sardinas |
| May 19, 2015 | CVA05192015 | Christian Velasco | City of Tena (provincial capital), Province of Napo | Official from Rainforest Alliance | Open questions | General introduction to deforestation, colonization and agriculture in Napo and Amazon in general |
| May 19, 2015 | CVB05192015 | Christian Velasco (Rainforest Alliance) and Aníbal Paspuel (external consultant) | City of Tena (provincial capital), Province of Napo | Official and consultant from Rainforest Alliance | Semi-structured questions | Agricultural and cultural differences between colonists and kichwa, role of women in agriculture, causes of deforestation, logging |
| June 8, 2015 | MG06082015 | Marjory Grefa | Dining cabin of AMUKISHMI Women's Association of Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Female community member | Semi-structured question (converted from focus group) | Relationship and values with nature and territory, Perspective, definition and causes of deforestation, Future and sustainability of community |
| June 8, 2015 | AR06082015 | Alfredo Rivadeneyra | Shiripuno, Parish of Misahuallí, Canton Tena, Province of Napo | Male community member | Semi-structured questions (converted from focus group) | Relationship and values with nature and territory, Perspective, definition and causes of deforestation, Future and sustainability of community |
| June 8, 2015 | TR06082015 | Teodoro Rivadeneyra | City of Misahuallí, Canton Tena, Province of Napo | Member of community of Shiripuno, Former community President | Semi-structured questions | Community's beliefs, relations with territory and nature, external and internal community relations |
| August 6, 2015 | LI08062015 | Laura Izurieta | City of Quito (capital), Province of Pichincha | MAGAP - Actividad de Plan Tierras | Informal, Open questions | Brief history of land ownership and Agrarian Reform in Napo, Rights and Differences of "Global Land Titles", Changing roles and attitudes of Women in Indigenous communities in Amazon |
| August 6, 2015 | FH08062015 | Fernando Hidalgo | City of Quito (capital), Province of Pichincha | MAGAP – Plantaciones Forestales con Fines Comerciales (Forest Plantations for Commercial Purposes) | Informal, Semi-structured questions | "Plantaciones Forestales" |

| | | | | | | |
|---|---|---|---|---|---|---|
| August 6, 2015 | JF08062015 | Jimena Falconí | City of Quito (capital), Province of Pichincha | MAGAP - Agenda de Transformación Productiva Amazónica (Agenda for the Transformation of Amazon Production, ATPA) | Informal, Open and Semi-structured questions | Program for improving agricultural production in the Amazon, Conditions of Amazon, Impact of poor management on forests |

Source: Prepared by author.

**List of Acronyms**

**AgroCalidad.** *Agencia Ecuatoriana de Aseguramiento de Calidad del Agro* (Ecuadorian Agency for Quality Assurance in Agriculture).
**AMUKISHMI.** *Asociación de Mujeres Kichwas de Shiripuno-Misahuallí* (Association for Kichwa Women of Shiripuno-Misahuallí).
**ATPA.** *Agenda de Transformación Productiva de la Amazonia* (Agenda for Productive Transformation of the Amazon).
**DINAPEN.** *Dirección Nacional de Policía Especializada para Niños, Niñas y Adolescentes* (National Office of Police Specialized for Children and Teenagers).
**ELA.** *Escuela de Liderazgo Ambiental* (School of Environmental Leadership).
**GAD Municipal.** *Gobierno Autónomo Descentralizado Municipal* (Municipal Descentralized Autonomous Government).
**GAD Parroquial.** *Gobierno Autónomo Descentralizado Parroquial* (Parish Descentralized Autonomous Government).
**GIZ.** *Gesellschaft für Internationale Zusammenarbeit* [*Cooperación Técnica Alemana*] (German Technical Cooperation).
**INEC.** *Instituto Nacional de Estadística y Censos* (National Institute for Statistics and Censuses).
**MAE.** *Minsterio del Ambiente* (Ministry of the Environment).
**MAGAP.** *Ministerio de Agricultura, Ganadería, Acuacultura y Pesca* (Ministry of Agriculture, Livestock, Aquaculture and Fishing).
**USAID.** United States Agency for International Development.

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